

Economy and Authority:

A study of the coinage of Hiberno-Scandinavian Dublin
and Ireland

Volume 1: Text



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This dissertation is the result of my own work and includes nothing which is the outcome of work done in collaboration except where specifically indicated in the text.

The following does not exceed the word limit (80,000 words) set out by the Division of Archaeology and Anthropology degree committee.

Abstract

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The aim of this thesis is to investigate the relationship between political authority and economic change in the tenth to twelfth centuries AD. This is often interpreted as a period of dramatic economic and political upheaval; enormous growth in commerce, the emergence of an urban network and increasingly centralised polities are all indicative of this process. Ireland has rarely been considered in discussion of this sort but analysis of Ireland's political economy has much to contribute to the debate. This will be tackled through a consideration of the coinage struck in Ireland between c.995 and 1170 with focus upon the two themes of production and usage. In analysing this material the scale and scope of a monetary economy, the importance of commerce and the controlling aspects of royal authority will each be addressed. The approach deployed is also overtly comparative with material from other contemporary areas, particularly England and Norway, used to provide context. Ultimately, in seeking to analyse these questions within this comparative context, the issue of where economic agency behind changes in the European economy will be considered.

Chapters 1 and 2 situate the research within the wider scholarly debate and precise historical context respectively. Chapters 3 to 6 are a consideration of the manner in which the Hiberno-Scandinavian coinage was produced and administered. This reassesses questions of the scale of production, administration and the role of royal authority in the production of the coinage based upon a comprehensive re-categorisation and re-dating of the material. Chapters 7 and 8 concern the use of coins in the urban environment of Dublin and across the entirety of Ireland, with coinage analysed within its archaeological contexts. Ultimately, this thesis suggests that monetary economy and levels of commerce were substantial, variable and yet relatively geographically constrained. When considered in relationship to contemporary political contexts, the importance of royal authority in directing the economy is determined to be minimal with agency behind economic change seen to rest with an urban, mercantile community.

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Chapter 1 – Introduction

1.1 Objectives

This thesis addresses the issue of the political economy of Ireland in the period c.995-1170, with a particular focus upon the Hiberno-Scandinavian coinage struck in the largest town, Dublin. It will place this analysis within the wider context of contemporary north-western Europe, drawing contrast and comparison, in order to engage with and reshape discussion of a period of enormous economic and political change. This will primarily consider Ireland in comparison with England and Scandinavia in the belief that these comparisons allow meaningful details to be drawn from the Irish case-study in addition to providing contemporary context. Through a contextualised analysis of the coinage, this thesis will address the issues of the shifting scale and scope of economic, specifically commercial, activity in Ireland and question the extent to which these changes can be attributed to political authority.

In this thesis, the terms ‘Hiberno-Scandinavian’ and ‘early medieval’ will be utilised. ‘Hiberno-Scandinavian’ refers to the tenth- to twelfth-century period in Dublin and other Irish towns.¹ It is a distinctive archaeological phase and will be used when analysing the towns and the coinage produced in the largest, Dublin.² The term ‘early medieval’ will be used when referring to Ireland as a whole. In an Irish context, it is seen to date from the fifth to the twelfth century but the following will only focus upon the latter part of that chronology, the tenth to twelfth centuries.³

¹ For discussion of terminology ‘Hiberno-Scandinavian’ as opposed to older terms ‘Hiberno-Norse’ or ‘Hiberno-Danish’ see Sheehan *et al.* 2001, 93–4.

² Wallace 1992a; Boyd 2009, 273.

³ Edwards 1990, xiii; Kerr *et al.* 2010a.

1.2 Economy

The fact that north-western Europe underwent fairly fundamental economic changes during the medieval period is probably uncontroversial although the mechanics of these changes – how, when and why – are much more contentious. There are clearly traceable shifts in agricultural practice,⁴ pronounced demographic change,⁵ the emergence of an ‘urban network’⁶ and fundamental alterations in patterns of exchange.⁷ It is the latter two of these changes that this thesis will consider in detail.

It has been argued that one of the two major trends in shaping that economic change is ‘the degree to which markets...enabled towns and regions to develop complementary specialisms in manufactures or in handling primary goods’.⁸ Focusing more upon the materials of exchange themselves, Barrett has characterised economic change in medieval Europe as one which was based upon a ‘shift in emphasis from (non-market) trade of light prestige goods to (market) trade of bulky staples’.⁹ Market trade in bulky commodities certainly came to dominate the trading patterns of Europe by the end of the medieval period.¹⁰ Tracing the beginning of significant market, or commercial, exchange in Europe has been an important element within much previous scholarship with most points between the eighth and thirteenth century suggested.¹¹ Much of this difference of opinion is likely to reflect varying evidential bases and a degree of ebb and flow to the economy. It is difficult to sustain an argument for an inexorable move towards market exchange, with economic collapse in the fourteenth

⁴ Fossier 2004, 35.

⁵ Moore 2000, 30; Russell 1972, 37–41.

⁶ Sindbæk 2007b, 307; Keene 2004.

⁷ Barrett 2012, 4; Barrett *et al.* 2004; Andrén 1989, 594; Sindbæk 2007b, 312.

⁸ Keene 2004, 84–5.

⁹ Barrett 2012, 4; *cf* McCormick 2001, 794.

¹⁰ Gaimster 2011, 342.

¹¹ Barrett 2012, 4; Skre 2008; Moreland 2000; Sindbæk 2007b; Moore 2000, 30–9; Barrett *et al.* 2004; Andrén 1989; Spufford 2002, 12–59; Britnell 1995; McCormick 2001.

century illustrating that arguments of simple, linear growth over the *longue durée* are unsustainable.¹² Similarly, the dramatic growth suggested by McCormick for the Mediterranean economy in the late-eighth and early-ninth century suggests rapid change could occur within short periods.¹³ Awareness of this ebb and flow, ‘boom and bust’ in modern terms, of the medieval economy is therefore necessary.¹⁴ As Barrett notes, rather than looking for a chronological point at which Europe began to engage in significant commercial activity, seeking the spark for a ‘commercial revolution’, that it is ‘a matter of assessing the *degree* of market trade’ which is potentially more useful as a means of interpreting the economy of medieval Europe.¹⁵

The perception of continuity, rather than a contrast, between market and other forms of exchange is one which is informed by theoretical shifts.¹⁶ The early medieval economy could at one stage be considered within ‘formalist’ terms with the terms of modern economic thought applied to a past economy which was fundamentally similar to the present.¹⁷ This was challenged by a range of authors, broadly grouped together as ‘substantivists’, who stressed the socially embedded nature of exchange, highlighting the importance of status, gift and non-commercial exchange.¹⁸ This drew upon the work of Marcel Mauss with Philip Grierson influenced by Mauss’ ideas in producing his seminal ‘Commerce in the Dark Ages: a critique of the evidence’.¹⁹ Elements of this school of thought have been adopted in many studies of the early medieval economies.²⁰ There have been some attempts to move beyond this dichotomy with suggestions of considering all exchange as, to a degree, ‘embedded’

¹² Campbell 2005; Harvey 1991.

¹³ McCormick 2001, 788.

¹⁴ Barrett 2012, 4.

¹⁵ Barrett *et al.* 2004, 619.

¹⁶ Williams 2007, 178–85; Gaimster 2007; Gaimster 1991; Oka & Kusimba 2008; Moreland 2000.

¹⁷ Pirenne 2001; Lyon 1962; Latouche 1981; *cf* Moreland 2000 3-5;

¹⁸ Polanyi 1968; Finley 1973.

¹⁹ Mauss 1990; Grierson 1959.

²⁰ For example, Hodges 1983; Samson 1991.

within a web of social relationships.²¹ This is based upon Sahlins' suggestion of transactions ranging from neutral exchange, purchase or barter, through a variety of other interactions where there may exist a stronger social element.²² There exists no entirely 'neutral' exchange and concepts of 'symbolic capital' in addition to economic capital have also been used to suggest that even within highly-embedded exchange there remained the possibility for individual benefit.²³ Furthermore, it has been suggested exchange should not be interpreted in isolation but as one element within a more rounded view of the economy.²⁴ The following will follow these lines of thought. While exchange will be the primary focus, this study will not attempt to determine presence or absence of 'commerce' but will instead question the extent to which exchange was neutral and balanced or, as Skre has formulated it, a consideration of the 'level of embeddedness' of the economy.²⁵ This will be conducted within a broader context with exchange analysed in relation to both production and consumption.

In an early medieval Irish context, the role of market exchange has rarely been considered. To a certain extent this is because of an interpretation of the early medieval economy of Ireland which has characterised it as a 'tribute/contribution system...grounded in agriculture...and a limited handicraft industry', largely a view based upon seventh- and eighth-century law texts.²⁶ Increasingly, an awareness of profound change is being recognised with fundamental shifts in agricultural production, particularly a move from a largely dairy to an arable economy, visible in

²¹ Skre 2008, 334; Granovetter & Swedberg 1992.

²² Sahlins 1972, 185–230.

²³ Bourdieu 1990, 115; Skre 2008, 335.

²⁴ Moreland 2000; Barrett 2012, 4-5.

²⁵ Skre 2008, 334.

²⁶ Comber 2008, 167; Doherty 1980, 67; Comber 2001.

settlement patterns and the construction of large numbers of mills.²⁷ The economic landscape of Ireland was also fundamentally altered by the emergence of towns.²⁸ Dublin, Waterford, Limerick and Cork were all sizable and permanent features within the landscape and economy of Ireland from the tenth century. Dublin, where evidence is strongest, was a centre of production, exchange and consumption on a scale which is likely to have dwarfed every other site in Ireland.²⁹

However, even allowing for this, the perception remains that the economy was highly socially ‘embedded’ with little emphasis placed upon market exchange.³⁰ Much of the debate about levels of market exchange has revolved around a discussion of ‘monastic towns’.³¹ Doherty has suggested that some of the major ecclesiastical centres can be regarded as urban on the basis of their having markets, industry, streets, houses, public buildings and a large, socially differentiated population.³² However, other scholars have questioned whether the evidence for manufacture and trade is sufficient to classify them as towns. Valante and Etchingam have been vocal critics suggesting that manufacturing was limited and exchange generally of a local, and largely non-market, character.³³ Some of these arguments can be resolved chronologically with evidence for some economic intensification, and market exchange, from the eleventh century onwards.³⁴ Similar arguments have been advanced for secular settlement where, in a survey of ringforts, Comber found that evidence for market exchange was variable but on the whole fairly limited.³⁵

²⁷ McCormick & Murray 2007, 103–15; McCormick 2008, 216–17; Kerr *et al.* 2009, 2870; Comber 2008, 203.

²⁸ Wallace 1992a; Hurley 1997.

²⁹ See chapter 2.

³⁰ Comber 2008, 203; Gerriets 1981.

³¹ Doherty 1985; Valante 1998a; Doherty 2000; Bradley 2008; Etchingam 2010.

³² Doherty 1985; Etchingam 2010, 4.

³³ Valante 1998a; Etchingam 2010.

³⁴ Bradley 2008; Soderberg 2003, 636–7; Valante 1998a, 7–12; Doherty 1985, 67; *ATig* 1134; Etchingam 2010, 14; see also Section 8.6.2.

³⁵ Comber 2008, 203.

Discussion of the shape of the early medieval Irish economy, and the role of commerce within it, are often problematic as difficulties of quantification and chronology making drawing clear conclusions challenging. The role of market exchange has proved elusive when working from often qualitative sources as the textual evidence that is generally deployed is seldom unambiguous.³⁶ Even where the evidence is more straight-forward it is often extremely limited.³⁷ Moving beyond these issues, the following study will utilise new methods and material to investigate the importance of commercial activity, or the degree of market exchange, in Ireland between c.995 and 1170. Emphasis will be placed upon determining its scale, scope and chronology.

The question of the scale of commerce within the Ireland's economy in the eleventh and twelfth centuries will be considered through an analysis of coinage. A fairly direct link is often drawn between the usage of coinage and market exchange.³⁸ In certain studies of early medieval coinage a greater emphasis is placed upon more socially-embedded uses of coinage, the oft-cited 'gift economy'.³⁹ It is clear that coinage was not exclusively indicative of commercial activity, the presence of coins in Scandinavian church floors or mounted onto jewellery highlights this fact.⁴⁰ Furthermore, other materials could function as money to be used in market exchange; *vadmal* (a form of standardised textile), cattle, butter and fish all played important roles as money in medieval European contexts.⁴¹ However, recent studies have emphasized that coinage in the early medieval period had a discernible commercial

³⁶ Etchingham 2010.

³⁷ For example, there are 15 fragmentary documents recording the transfer of land in pre-1170 Ireland which can be contrasted with the several hundred charters from contemporary Anglo-Saxon England; Naismith 2012b; see also section 8.2.2.

³⁸ Bolton 2012, 305; Lunden 1999, 261; Spufford 1988, 90; cf Naismith 2012a, 276–84.

³⁹ Grierson 1959; Samson 1991; Wickham 2010; cf Naismith 2012a, 260–7.

⁴⁰ Williams 2007, 183, 187; Coupland 1985, 20; Lunden 1999, 264; Gullbekk 2012.

⁴¹ Skre 2011; Gullbekk 2011c; Skre 2008, 330–2.

character.⁴² Scholarship focused upon the late medieval period rarely problematises this issue, assuming that coinage is predominantly representative of neutral, commercial exchange.⁴³ Concentrations of coins in and around towns, the areas where markets and long-distance exchange are known to exist, are certainly suggestive of commercial exchange.⁴⁴ Furthermore, textual references refer to the connection between coins and markets.⁴⁵ Thus the reasonable assumptions of this thesis is that where coinage occurs it is likely to be suggestive of commercial exchange. The reverse is perhaps more ambiguous, an absence of coinage need not necessarily be indicative of an absence of commercial exchange, particularly in a period where commodity monies are known to play an important role.⁴⁶

In considering the levels of commercial activity in Ireland it is necessary to trace the extent and shape of the coin-using economy. This has been discussed in other contemporary contexts with debate framed around the extent to which an economy was ‘monetised’ in the medieval period. The ‘monetisation’ of the economy has been a recurrent theme in English scholarship and has also provoked substantial debate in Norway.⁴⁷ The concept of ‘monetisation’ has proved to be a useful tool of analysis in these contexts allowing for the combination of data concerning production and usage. Approaches have balanced the evidence of volume of production, how many coins were struck, with analysis of their use, who was using them, to give an impression of the level of ‘monetisation’. Coinage provides a means of assessing the degree of monetisation and ultimately acts as a proxy for the importance of commerce. Here a

⁴² Naismith 2012a, 276–84.

⁴³ For example, Bolton 2012.

⁴⁴ Pirie 1986; Stott 1991; Blackburn *et al.* 1983; Risvaag 2006; See chapter 7.

⁴⁵ Naismith 2012a, 282.

⁴⁶ Skre 2011; Gullbekk 2011c.

⁴⁷ Mayhew 1995; Allen 2001; Allen 2006b; Bolton 2012; Gullbekk 1998; Lunden 1999; Gullbekk 2005; Gullbekk 2011a.

similar approach is applied to the numerous economies of eleventh- and twelfth-century Ireland, with a particular focus on Dublin.

1.3 Authority

Paralleling, and inextricably linked, to economic change is the issue of a general trend towards political centralisation. On a European scale, Wickham has divided political organisation in the first millennium into three broad sections.⁴⁸ The dominance of the Roman Empire, largely ending in the fifth century in the West, was the first which was usurped in the west by Merovingian Francia, Visigothic Spain and Lombard Italy.⁴⁹ The third, toward the end of the first millennium, saw the emergence of the Franks as the dominant power in the west. Only in the tenth century did other significant polities emerge in the areas of northern Europe that are the subject of the current study. These significant central polities influenced the emergence of more coherent kingdoms to their north. *Romanitas* was a powerful and enduring element, with a strong connection to Anglo-Saxon kingship for example.⁵⁰ Similarly, there were connections between the Carolingian court, north-western Europe and beyond.⁵¹ Coinage illustrates these issues with early medieval iconography frequently reflecting the emerging political ambitions of kings seeking to replicate larger polities overseas.⁵²

This is a very broad view as there were clearly some centralised polities before the tenth century; there is evidence for a southern Danish kingdom in the eighth century with the economic surplus and power to construct monumental earthworks.⁵³ However, the period from the tenth century witnessed the transformation of

⁴⁸ Wickham 2009.

⁴⁹ Wickham 2009, 557 *et passim*.

⁵⁰ Hunter 1974.

⁵¹ Ganshof 1971.

⁵² See Section 6.1; Naismith 2011a; Garipzanov 2011; Williams 2007; Gannon 2003.

⁵³ Skovgaard-Petersen 2003, 172–5; Roesdahl 2008, 654–6; Sindbæk 2008b.

fragmentary northern kingdoms into more coherent entities; the replacement of various Anglo-Saxon polities with the ‘united kingdom of England’ being a prime example.⁵⁴ This is a process which is particularly apparent within Scandinavia where the ‘unification’ of the various polities under a single king has been argued to occur in the tenth and eleventh centuries.⁵⁵ In cross-cultural terminology, this represents a change from ‘chiefdom’ to ‘archaic state’.⁵⁶

Ireland underwent similar processes of centralisation to other areas of contemporary Europe. The tenth to twelfth centuries saw the evolution of both a concept of ‘high-kingship’ – authority over the whole of Ireland – and also the political and economic means to attempt to back up a claim of this sort.⁵⁷ Before this period, there had been no notion of a ‘high-king’ within the ideology of Irish kingship.⁵⁸ This altered in the eleventh century and is visible in annalistic references such as the title ‘high-king with opposition’ given to Tairdelbach ua Briain upon his death in 1086.⁵⁹ The ‘with opposition’ description is perhaps an accurate one as the kings of Ireland never claimed direct control over the whole of Ireland. ‘High-kings’ did not attempt to remove the various smaller kings and kingdoms but increasingly focused upon having authority over them. Hierarchy gradually replaced a concept of first amongst equals.⁶⁰ Alongside the ideological shift the period also saw potential ‘high-kings’ involved in military activity over an increasingly wide area. To impose their authority over other kingdoms required ‘circuits’ of Ireland. The wide-spread raiding patterns of the high-kings is exemplified by Figure 1.1, detailing Muirchertach ua Briain’s (King of Munster, 1086-1119) raiding. Based in Munster, he raided

⁵⁴ Campbell 2000, 31–54.

⁵⁵ Lindkvist 2003a; Krag 2003; Lindkvist 2003b; Skovgaard-Petersen 2003.

⁵⁶ Johnson & Earle 1987, 281–315.

⁵⁷ Byrne 1973, 268–9; Flanagan 2005. See section 2.1.1.

⁵⁸ Ó Corráin 1972, 28.

⁵⁹ Ó Cróinín 1995, 279; Flanagan 2005, 907; Duffy 1992, 103–4.

⁶⁰ Byrne 1973, 270–1.

significant areas to the North and East of his powerbase forcing submissions of kings in these areas. Similar patterns are observable for most other ‘high-kings’, in contrast with earlier periods.⁶¹

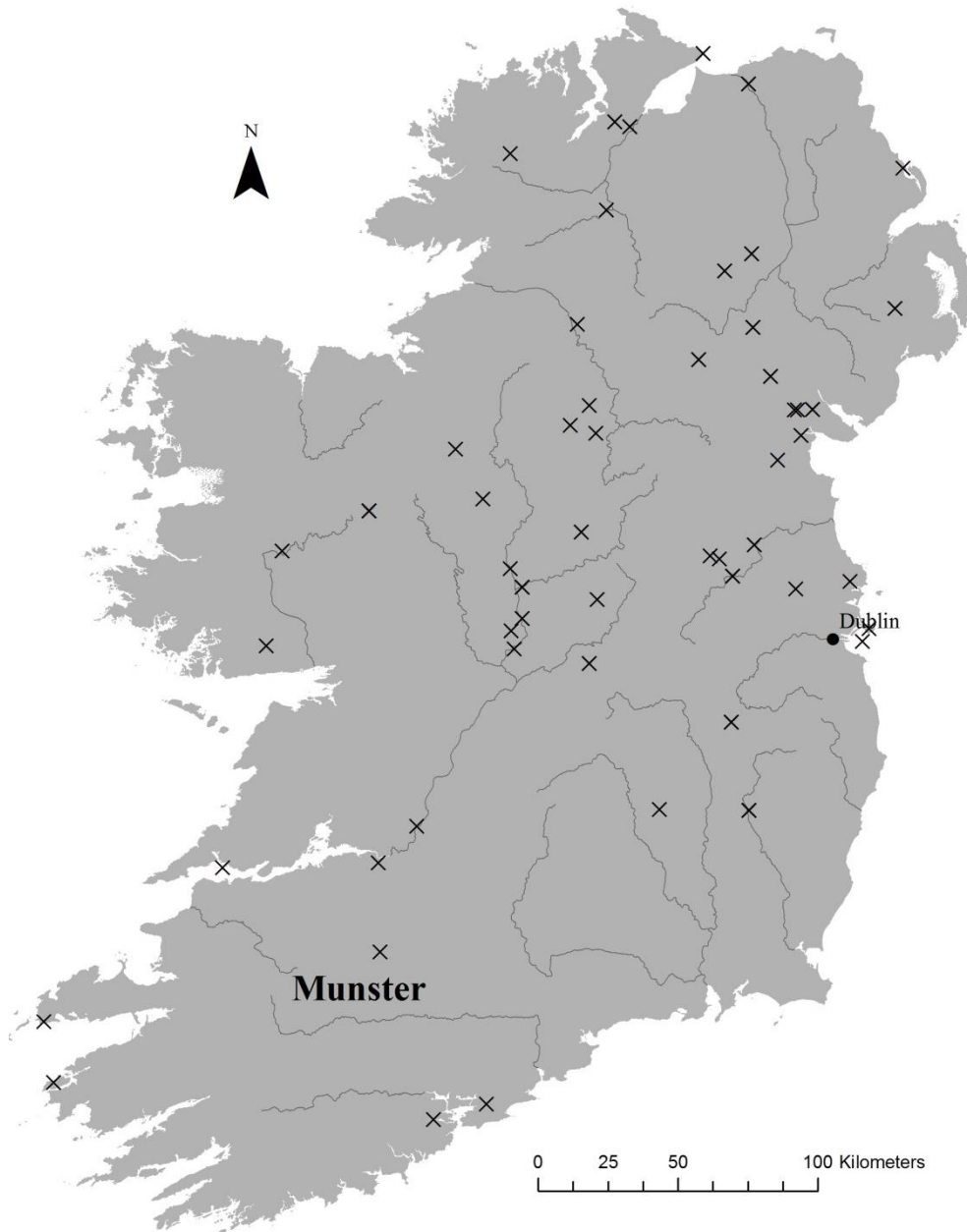


Figure 1.1 – Map of Muirchertach Ua Briain’s (king of Dublin 1089-90, 94-1114) recorded raids

Coinage has often been interpreted in the context of political power.⁶² At the most basic level, coinage requires a level of authority to mark the bullion rendering it

⁶¹ See section 2.1.2.

‘official’.⁶³ This ability to strike coinage was a highly symbolic act and one which was usually reserved to kings for much of the medieval period.⁶⁴ The symbolic potential of coinage was likely known to kings with decisions to begin striking coinage motivated, in part, by ‘a desire to conform to a broader European pattern of kingship’.⁶⁵ The iconography of coins could certainly be a powerful tool with imagery frequently utilised to convey an array of often complex political and religious messages.⁶⁶ The effective and extensive administration which is thought to accompany the striking of coinage in some cases is also seen as evidence of effective royal power.⁶⁷ The striking of coinage, indicative of both a regal mentality which envisaged its authority extending to controlling the means of exchange and with a sufficiently extensive administration to ensure that this was achieved, can thus be connected with patterns of political centralisation. This is particularly the case in medieval Scandinavia where ‘regal’, in contrast to previous ‘imitative’, coinages began to be struck in the tenth and eleventh centuries.⁶⁸ This phenomenon has been associated with other evidence for political centralisation in Scandinavia.⁶⁹

The coinage of Hiberno-Scandinavian Dublin has seldom been utilised in discussions of political authority in Ireland.⁷⁰ To a certain extent, this is because the eleventh- and twelfth-century period, when the coinage was struck, has been largely ignored. Duffy describes it as a ‘snappy epilogue or a lengthy prologue’ to other

⁶² Amongst many examples the following recent studies highlight the range of approaches pursued. Williams 2007; Blackburn 2009; Gullbekk 2009; Gullbekk 2011c, 96–7; Naismith 2012a.

⁶³ Gannon 2003, 195; Naismith 2012a, 47. See Chapter 6.

⁶⁴ Blackburn 2004, 333.

⁶⁵ Williams 2007, 189.

⁶⁶ Gannon 2003; Gannon 2006; Naismith 2011a; Gooch 2013, 43–109; Garipzanov 1999; Garipzanov 2011. See section 6.1.

⁶⁷ Blackburn 2008, 126–8; Campbell 2000, 32; Gullbekk 1992; Skaare 1976, 106–7.

⁶⁸ Jensen 1995; Skaare 1976; Gullbekk 1992.

⁶⁹ Williams 2007; Williams 2011, 359–61.

⁷⁰ The political dimension of the coinage has been touched upon; Blackburn 2008; Williams 2007, 202.

events, deemed more important in traditional historical narratives.⁷¹ The absence of coinage from these discussions is in some ways also understandable on a technical level as the coins are largely anonymous, making simple links with political figures difficult.⁷² The political position of the town of Dublin is also far from straightforward as, from 1052 onwards, it represents a polity which was frequently under the authority of Irish kings.⁷³ Simple correlation between political authority and coinage is quite challenging with the Hiberno-Scandinavian coinage. One of the central aims of this thesis is thus to discuss the relationship between political authority and coinage, particularly questioning the extent of administration and who was the ultimate authority behind its striking. In doing so, the extent to which coinage can be connected with political centralisation will be illuminated.

1.4 Authority over economy?

Accepting that, in broad terms, the economy of north-western Europe was significantly more commercial, and much more monetised, by the end of the medieval period than it was at the beginning it is appropriate to consider *why* these changes occurred. In a cross-cultural context, determining the extent of political agents in causing, shaping and/or controlling economic change has been argued to be of critical importance as the economy has been described as central to the creation and maintenance of power.⁷⁴ The role of political, usually royal, authority has been argued to be of central importance for certain elements of medieval Europe's transformation, particularly in the emergence of centres of trade, towns. Debates about the cause of urbanism are lengthy with the Vikings seen as important agents within an English

⁷¹ Duffy 2009, 285.

⁷² See section 3.2.2.

⁷³ See section 2.1.

⁷⁴ Earle 1997, 12.

context.⁷⁵ In a broader context, debate has varied but there has been suggestions that towns, and peaceful trade, required institutional political authority in either an organisational or protective capacity.⁷⁶ This is not uniformly accepted for the early medieval period, but it is perhaps less controversial to suggest a significant role for royal authority in towns for the period at the beginning of the second millennium.⁷⁷ This thesis will seek to question the scale of royal involvement in the growth of commerce and monetisation. Coinage represents an appropriate way to consider this given the close links frequently postulated between coinage and towns. Strong correlation exists between coinage and the *wics* of the seventh/eighth centuries, the northern (proto-)towns of the ninth and the larger towns of the period around the millennium.⁷⁸ Ultimately, through an analysis of coinage the issue of the extent to which royal authority can be seen as taking a shaping or controlling role within the shifting medieval economy will be sought.

The Hiberno-Scandinavian coinage provides a means of considering this relationship. The decision to begin striking and then maintain a coinage over nearly two centuries suggests both political and economic significance. Yet the authority behind the coinage is uncertain. It could be either Irish over-kings or the local Dublin elite.⁷⁹ The rationale behind why it was struck is even less clear. Considering where authority for the coinage stemmed from and assessing the reasons behind its striking (what was the political and economic rationale for its production) will be central to this thesis. Ultimately, determining why the Hiberno-Scandinavian coinage was

⁷⁵ Richard 2000, 78-108; Hadley 2006; ten Harkel 2010.

⁷⁶ Hodges 1982; Clarke & Ambrosiani 1991, 88-9; Skre 2007; Skre 2008.

⁷⁷ Sindbæk 2008a, 155; Sindbæk 2009; Dyer 2003, 187-96; Moore 2000, 34-6.

⁷⁸ Naylor 2013; Blackburn 2003; Feveile 2008; Hodges 1983; Skre 2008; Weichmann 2007; Gullbekk 2003; Risvaag & Christophersen 2004; Risvaag 2006.

⁷⁹ For over-lapping kingship in an Irish context, see section 2.1.1.

produced and used will be analysed in the context of a discussion of the agency behind wider economic changes.

1.5 Questions and organisation

To address economy and authority, as outlined above, both production and usage of coinage will be considered. To contextualise this analysis, the archaeological and historical background is briefly summarised in chapter 2. This provides a political and economic framework for the analysis of coinage in later chapters. Specifically, it considers the position of Dublin (where coins were struck) within the shifting political geography of Ireland. Chapter 2 then progresses to a detailed examination of the archaeological evidence for economy and authority within the town itself.

Having provided a summary of background information, chapters 3 to 6 focus upon production. There are two main elements to this; the practicalities of production and the administration of the coinage. Taking the first of these points, the questions of chronology and scale – how many and when – are of primary importance. This requires that the building blocks of chronology and typology be addressed in the first instance. These are considered in chapter 3 where the coins are re-classified, with a greater degree of chronological precision than has been achieved previously. The purpose is to provide a solid foundation, creating a framework for further analyses. In doing so, this thesis draws upon a systematic study of all extant coins dating between *c.*1060 and 1170 and the dies used in their striking.⁸⁰ To this is added previously collected data for the coins struck between the inception of the Hiberno-Scandinavian coinage in *c.*995 and *c.*1060. Primary analysis of all of this earlier material is beyond

⁸⁰ These number 998 and are listed in Appendix B.

the scope of the current study but much of it has been published by other scholars.⁸¹ The pre-1060 data have lacunae for the periods *c.*1009-17 and *c.*1040-60 but otherwise provide a complete time series. Overall, combining the new material analysed specifically for this thesis with previous studies, there are die-studies, and the publication of known hoards, for almost all of the period between *c.*995 and 1170.

Having established a typological framework, the volume of coinage is analysed in chapter 4. This considers the issue of ‘monetisation’, how much coinage there was and how common-place it may have been. There are three approaches to this issue. The first concerns absolute size, with the aim being to assess the number of coins that were being struck. Considering the magnitude of the coinage has implications for the extent of commercial exchange. The second considers how the volumes of coinage alter through time. Assessing whether they grew, shrunk or remained steady will help to gain an insight into the ebb and flow of the economy on the relatively tightly-defined timescale that coinage permits. The third approach is to compare Ireland with other Northern European areas to get an impression of comparative scale.

Moving from an economic emphasis towards a political reading, chapters 5 and 6 consider the administration of the coinage. Central to this is an examination of the extent, and form, of control over the coinage. These issues are analysed with reference to silver and weight standards in chapter 5. Here the focus is on mint practice, the mechanics of the coin-producing process and the extent of effective oversight. The broader administrative and political nature of the coinage is considered in chapter 6. It examines the monetary system in which coins were produced, specifically *renovatio monetae* (renewal of the coinage) and the exclusion of foreign currency, with

⁸¹ Dolley 1966a; Seaby 1984; Dolley 1973a; Blackburn 1990; Blackburn 1996; Blackburn 2011a; To these can be added two unpublished die-studies of the coinage of Group B (phase Ib, Long Cross Imitations) and Group F (phase II, Long Cross imitations with pellets) conducted by Kristin Bornholdt-Collins in collaboration with the author which are to be published in forthcoming *Sylloge of Coins of the British Isles* volumes.

reference to implications for perceptions of political authority. Chapter 6 also considers the symbolic iconography of the coinage, evaluating the diverse imagery in the context of representations of authority.

In drawing the production side of the analysis together, the guiding questions are as follows:

- How many coins were struck?
- How effective was control over their production?
- Where did authority rest for their striking?
- To what extent were coins depicting an image of royal authority?
- Why were Hiberno-Scandinavian coins struck?

When considering the usage of coinage, the concept of ‘monetisation’ will be deployed. This is based upon two comparative studies. The first considers circulation in Dublin, where coins were struck, and the second widens the focus to examine the whole of Ireland. How widely coinage was used, where, by whom and for what purpose will all be considered. The study will seek to examine which elements of the Irish economy were monetised.

Chapter 7 focuses upon the use of coinage within the urban environment of Dublin. There are several strands to the analysis, with the focus initially upon the types of buildings and areas where coin-use appears to have been common. This analysis attempts to determine how widespread coin-usage was within the town, and also the factors that dictated the likelihood of using coinage. Chapter 7 also pursues a chronological approach, comparing the growth of the town and its monetary economy. The relationship between coinage, commerce and manufacturing is assessed to interpret what was driving the economic growth of the town.

This micro-level analysis of Dublin is expanded greatly in chapter 8 where the extent of coin-usage across the whole of Ireland is discussed. Initially, the focus of this endeavour is on the textual evidence with a brief summary of how coinage and silver were described in contemporary written accounts. This historical background contextualises the archaeological information with the evidence of hoards, and particularly single-finds from excavations, used to consider the geographical and chronological extents of coin usage. Where coins were used on a regional level, and the extent to which this was consistent through time, are of central importance. Similarly, the types of sites that coins are found on, and the routes by which silver flowed from Dublin out into other areas, will be considered.

When considering the use of coinage the following questions will be addressed:

- How common/restricted was the use of coinage?
- How consistent was the use of coinage across the time and space of early medieval Ireland?
- Who, or what, determined the use of the Hiberno-Scandinavian coinage?

Chapter 9 provides conclusions, drawing the various elements of the analysis together. These initially focus upon the empirical themes of production and usage, considering the nature of mint practice, administration and monetisation across Ireland. Moving beyond this, the themes of economic and political change will be considered by comparing coinage with a broader range of evidence and seeking to present an analysis of Ireland's political economy. Ultimately, the conclusions will seek to discuss the relationship between political authority and economic agency, considering the extent to which royal figures can be interpreted as important for economic change during the medieval period.

Chapter 2 – Early medieval Dublin: a political and economic framework

Much of the focus below is upon interpreting the coinage of Dublin but this can only be understood through a consideration of it within its historical and archaeological context. The following is composed of two parts. The first is a brief summary of the current evidence for the place of the town within the political system of Ireland in the eleventh and twelfth centuries. It draws largely upon the historical evidence and plots out the shifting political geography of the town and its relationships with various Irish kings. The second part examines the archaeological evidence from the town. It primarily considers the evidence related to the variety of economic outputs but there is also a consideration of the manifestations of royal power in the urban environment. Both sections provide background for comparison with coin finds in subsequent chapters.

2.1 Political framework

When considering the dynastic and political interactions of early medieval Ireland the annalistic record provides the sturdiest framework. In the eleventh and twelfth century there are seven main annals and these are summarised in Table 2.1. All of the annals provide an unusually detailed record of the early medieval period but they are not perfect sources. They are orientated towards the upper elements of society, particularly the actions of kings and events within monasteries. There are also significant geographical biases with local events more likely to be featured within an annal. There is also potential for political biases with kings described favourably, or not, depending upon their patronage of specific monasteries. In terms of transmission,

some annals – the *AFM* and *AClon* – were much later versions and thus their accuracy must be questioned somewhat. These also suffer from occasional removal of material. For example, the Jesuit translator of the *AClon* removed some of the more salacious material.⁸² There are also lacunae at certain points, particularly in the mid-twelfth century, which presents a problem through absence of evidence. To a certain extent this is off-set by a tendency to gradually include more material over time, twelfth century entries tend to include more material than those of the eleventh, even if they are more frequently missing. With these problems in mind, it is nonetheless possible to build up an impression of the shifting political geography of the period. The following is a cautious reading of the evidence focusing upon the types of kingship that are visible in the annals and then upon a more precise analysis of exactly who ruled Dublin at various points.

Northern Annals	
Annals of Ulster	<i>AU</i>
Annals of Inisfallen	<i>AI</i>
Clonmacnoise Group	
Annals of Tigernach	<i>ATig</i>
Annals of Clonmacnoise	<i>AClon</i>
Chronicum Scottorum	<i>CS</i>
Connacht Annals	
Annals of Loch Cé	<i>ALC</i>
Others	
Annals of the Four Masters	<i>AFM</i>
Miscellaneous Irish Annals	<i>MIA</i>

Table 2.1 – Summary of Irish Annals⁸³

2.1.1 Layers of authority in Dublin

Dublin is often conceptualised as a ‘Hiberno-Norse’ or ‘Viking’ town in the early medieval period. Yet, from the mid-eleventh century, the town was rarely politically independent of the leading Irish dynasts. From the conquest of the town by Diarmait mac Máel na mBó in 1052, the annals record that, for much of the period to

⁸² *Pers. Comm.* Denis Casey

⁸³ McCarthy 2008.

the Anglo-Norman conquest in 1170 Dublin had a ruler who was also king of one of the kingdoms of Ireland. Any idea that Dublin had a single ‘king’ is probably false as it appears that there were different forms of kingship. This is emphasized by Figure 2.1 which provides a summary of the historical evidence for the kingship of Dublin between 989 and 1170, drawing upon annalistic references and shaped by the analysis of a number of historians.⁸⁴ It highlights the fact that, at a number of points, the annals name more than one person as the ‘king’ of Dublin. This often manifests itself as an Irish ‘over-king’ appointing someone – often a son – to rule Dublin on his behalf. In the 1050s, Diarmait mac Máel na mBó appointed his son Murchad as ruler of Dublin, a pattern that is repeated by Tairdelbach ua Briain.⁸⁵

In the twelfth century a Dublin dynasty, the Mac Turcaill, seem to maintain a fairly consistent control over the town.⁸⁶ This is in spite of the changing political circumstances of the Irish ‘over-kings’ of Dublin. Whilst the family name is first recorded in the late-eleventh century, their connection to Dublin becomes apparent in 1124 when Thorfinn Mac Turcaill is described as ‘principal young lord’ (*prímh oig tigem*) of the foreigners of Ireland in his obit of 1124.⁸⁷ A similarly non-royal title is attached to Ragnall Mac Turcaill in his obit of 1146 where some annals name him ‘king’ (*rí*) whilst others describe him as ‘steward’ (*mormaer*).⁸⁸ Between the 1120s and 1170 a number of Mac Turcaill dynasts can be connected with powerful roles within Dublin. Armies were led by Turcall mac Turcaill and Diarmait mac Turcaill in

⁸⁴ Ó Corráin 1972; Duffy 1992; Duffy 2006; Hudson 2005.

⁸⁵ Hudson 2005, 142; Duffy 1992, 103.

⁸⁶ Duffy 1992, 122–3.

⁸⁷ *ALC*; *AU* 1124.

⁸⁸ Duffy 1992, 122–3.

the 1130s.⁸⁹ Similarly, Brodar mac Torcaill was recorded as king of Dublin in his 1160 obit.⁹⁰

The evidence of the annals suggests that it is unhelpful to think of one king of Dublin. It is much more appropriate to consider a model of overlapping, and not necessarily competing, systems of power. Irish kings could be ‘over-kings’ of the town, as they could with other kingdoms in Ireland, but this did not mean that the local Hiberno-Scandinavian king of Dublin was of no importance. Byrne has described the kings of Dublin as coming to have the status of *Ríg Tuaithe*, which was a king of the second rank commanding a petty kingdom but often subservient to a *Ríg Túath*.⁹¹ Considering the exact nature of this relationship is beyond the scope of this summary but it seems likely that it involved the payment of tribute – both to and from the town – as well as serving in the armies of the over-king.⁹²

⁸⁹ *AFM* 1133, 1137, 1140; *ALC* 1133, 1137; *AClon* 1136.

⁹⁰ *AFM*; *ATig*; *AU* 1160.

⁹¹ Byrne 1973, 268; Comber 2008, 185.

⁹² Duffy 1992.

Irish over-kings	Irish sub-kings	H/S Kings	Kings of the Isles
		Sihtric Silkenbeard (989-1036)	
			Echmarcach (1036-38)
		Imar mac Arailt (1038-46)	
			Echmarcach (1046-52)
		Imar mac Arailt? (1052-4)	
Diarmait mac Máel na mBó (1052-72)	Murchad (1054?-69)		
	Domnall? (1069-72)		
Tairdelbach ua Briain (1072-86)	Domnall (1075)		Godred (1072[69?]-75)
	Muirchertach Ua Briain (1075-86?)		
Donnchad Mac Domnall Remair (1086?-9)			
Muirchertach Ua Briain (1089-90)			
			Godred Crovan (1091-4)
Muirchertach Ua Briain (1094-1114)	Domnall Ua Briain? (??-1114?)		
Diarmait mac Enna mic Murchada (1115-17)			
	Domnall Ua Briain (1118)		
Tairdelbach ua Conchobair (1118-1127?)	Enna mac Donnchad (1118-26)	Thorfinn Mac Turcaill? (1119?-1124)	
	Conchobar Ua Conchobair (1126 -?)	Turcaill Mac Turcaill? (1124?-?)	
Diarmait Mac Murchada (1134? - 41?)			
Conchobar Ua Briain (1141-2)		Ragnall Mac Torcaill (?-1146)	
Conchobar Ua Conchobair (1142?-1143)			Ottar (1142-8)
Muirchertach Mac Lochlainn (1149)	Diarmait Mac Murchada (1149-50)		
Tairdelbach Ua Briain (1150 -54?)		Brodar Mac Turcaill (1148?-1160)	
Muirchertach mac Lochlainn (1154-1165?)	Diarmait Mac Murchada (1154-60?)		
	Diarmait Mac Murchada (1162-66)		Godred (1162)
Ruaidri Ua Conchobair (1166-1169)	Diarmaid Ua Maelseachlainn? (1166?-69)	Ragnall Mac Torcaill (1166?-?)	
Strongbow (1170-)	Diarmait Mac Murchada (1169-)	Ascall Mac Turcaill (?-1170)	

Figure 2.1 – Summary of the rulers of Dublin, c.989-1170

2.1.2 Defining political geography

Defining the political geography of Ireland is not a simple task but, fortunately, the annalistic record provides a relatively detailed description of the political interactions of the period. The following will consider the relationship of elite authority and Dublin, primarily in the eleventh and twelfth centuries. For much of this period, the kingship of Dublin was claimed by, or at least attributed to Irish kings with extensive territorial claims beyond the town. Considering the changing political geography is not a simple process but the following present a brief summary with the focus upon delineating who was the ruler of Dublin in the period of investigation.

Before moving to the specifics of dynastic politics it is worth exploring the geographic extent of Hiberno-Scandinavian settlement in Ireland. Much work has been carried out in this area by John Bradley who has combined administrative records, place-names and church dedications to suggest a limited area of Scandinavian settlement within Ireland.⁹³ This would accord with other forms of evidence which suggest a fairly limited scale of settlement in Ireland, especially when the evidence is contrasted to what is found in England.⁹⁴ The Scandinavian settlement in Ireland was predominantly an urban phenomenon with settlement generally confined to coastal hinterlands. This can be seen in almost complete absence of Scandinavian building forms from rural areas, a contrast to towns where they are commonly found.⁹⁵ This point must be emphasized as finds of Scandinavian material culture in inland areas can generally be taken to be indicative of contact between urban Hiberno-Scandinavian communities and inland Irish.⁹⁶

⁹³ Bradley 1988; *cf* fig. 2.2.

⁹⁴ McAvoy *et al.* 2006; Hadley 2006; Richards 2000.

⁹⁵ Boyd 2009.

⁹⁶ *Cf* Gerriets 1985a.

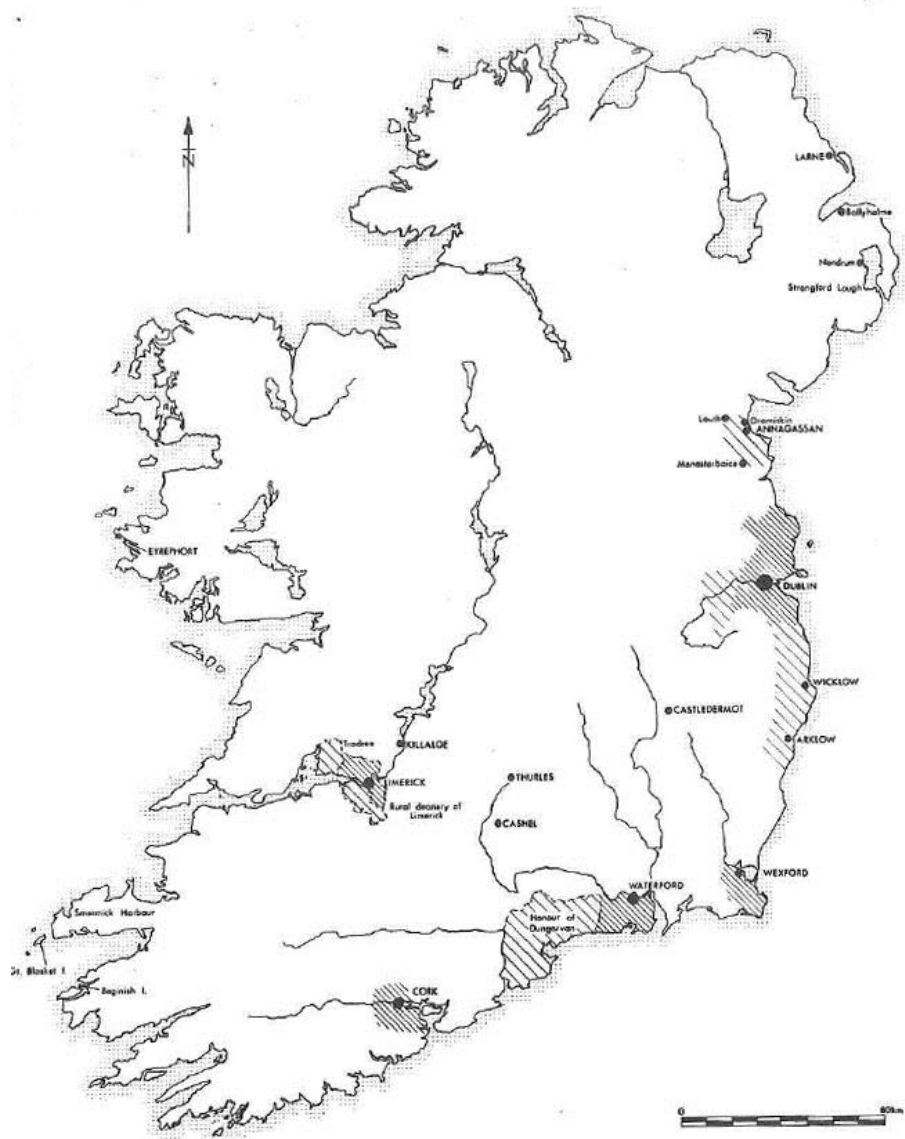


Figure 2.2 - Extent of Scandinavian settlement in Ireland (Bradley 1988)

Moving to the evolving dynastic politics of Ireland, while the tenth century is not the primary focus of the current work it is important for its interpretation. It is during this period that Hiberno-Scandinavian Dublin became more permanently established.⁹⁷ Following the expulsion of the Hiberno-Scandinavian ruling elite from the town in AD 902, they returned to the town in 917.⁹⁸ The ruling dynasty was much more firmly entrenched upon their return, governing a kingdom which spanned both

⁹⁷ See section 2.2.2.

⁹⁸ AU 902, 917.

sides of the Irish Sea and encompassed both York and Dublin.⁹⁹ The Hiberno-Scandinavian dynasty descended from Ivarr intermittently ruled both kingdoms through to the 950s when they were expelled from York.¹⁰⁰ Before this point the dynasty were powerful actors within the Irish Sea world with kings such as Olaf Cuaron involved in the political life in both England and Ireland.¹⁰¹ After the kingdoms of York and Dublin were divided, the Hiberno-Scandinavian rulers of Dublin continued to play an important role within the dynastic politics of Ireland. They had an on-going conflict with the kings of Waterford and were intermarried into some of the most powerful families within Ireland and across the Irish Sea.¹⁰² In the current context, it is important to note that several of the kings who ruled the combined kingdoms of Dublin and York had coins struck in the latter. Coins naming Olaf Cuaron or Sihtric Uí Ivarr were produced in York while the kingdom of Dublin continued to utilise a hacksilver economy.¹⁰³

In the late tenth-century Dublin came to be ruled by Sihtric Silkenbeard who was one of its most successful kings. He reigned for a long period of time, from 989 to 1036, although there were short periods where he was expelled from the town.¹⁰⁴ The power of the king may have been somewhat limited within Ireland but a role within the affairs of the Isle of Man is probable.¹⁰⁵ The battle of Clontarf, often viewed as of great importance in Irish historiography, bisected Sihtric's reign. It was not the national struggle that it has often been portrayed as and nor did not have an enormous impact upon the town of Dublin.¹⁰⁶

⁹⁹ For a summary see Downham 2007, 29; *cf* Smyth 1975 and Smyth 1979

¹⁰⁰ Downham 2007, 43-51.

¹⁰¹ Woolf 2002.

¹⁰² Downham 2007, 35-62; Duffy 2006.

¹⁰³ Blackburn 2004; Blackburn 2007; Williams 2007, 202.

¹⁰⁴ Ó Corráin 1972, 129-30; Valante 2008, 114.

¹⁰⁵ Ó Corráin 1972, 130; Duffy 2006, 52-3.

¹⁰⁶ Ó Corráin 1972, 130; Valante 2008, 115-16.

In the 1030s, Sihtric lost three sons weakening his hold over the town.¹⁰⁷ He was overthrown from the kingship in 1036, retiring to Iona.¹⁰⁸ He was replaced on the throne by Echmarcach Ragnallsson. The precise background of Echmarcach is uncertain; he may be a king of Waterford or possibly derive from the Isles.¹⁰⁹ He exchanged the kingship of Dublin with Imar mac Arailt, likely a nephew of Sihtric Silkenbeard, in the 1040s.¹¹⁰ The contested kingship of Dublin at this point continues previous patterns of dynastic contests between several leading Hiberno-Scandinavian families.¹¹¹

In 1052, Diarmait mac Máel na mBó, the king of Leinster raided into Fingal and took Dublin, removing Echmarcach, after a series of skirmishes with the inhabitants.¹¹² In the immediate aftermath of 1052, Diarmait may have made Imar mac Arailt the king of Dublin but soon asserted more direct control by giving his son, Murchad, authority over the town.¹¹³ Murchad was deeply associated with Dublin, using their forces to raid to the North and West and, on his death, being buried in Dublin.¹¹⁴ Diarmait mac Máel na mBó began what was, with hindsight, the start of a new era within Dublin's political life. Where it had generally functioned as an independent entity until this point it was only sporadically so afterwards. Never before had an Irish king directly assumed the kingship of Dublin, even when it had been defeated as it was in 980, 989 and 999.¹¹⁵

At the height of Diarmait mac Máel na mBó's power he was able to influence a wide area across the Irish Sea. He was involved in dynastic affairs in Man, Wales

¹⁰⁷ Duffy 2006, 55.

¹⁰⁸ Duffy 2006, 55.

¹⁰⁹ Hudson 2005, 128–9.

¹¹⁰ Duffy 1992, 96.

¹¹¹ Downham 2007b.

¹¹² *ATig*; *AFM*; *CS*; *AU* 1052.

¹¹³ Hudson 2005, 142; Duffy 1992, 96–7; *AU*; *ALC* 1054.

¹¹⁴ Duffy 1992, 100–1; His death in Dublin is noted in *ATig*; *AI* 1070; Burial in the town is noted in *ALC*; *AU* 1070.

¹¹⁵ Duffy 1992, 94–5.

and England.¹¹⁶ Within Ireland, his power was based in the Uí Chennselaig heartlands in southern Leinster but his influence was widespread.¹¹⁷ He led extensive raiding expeditions to a number of areas of Ireland, primarily Meath and Munster, as is visible in Figure 2.2. Many of these raids were to the West, into Munster, but with Tairdelbach ua Briain's accession to the throne of Munster in the 1060s these lessened. Diarmait was able to indirectly influence events there due to his patronage of Tairdelbach. Thus the obits that list Diarmait as ruling 'Leith Mogha' – the southern half of Ireland – indicate that they saw him as having influence over this area even if he directly controlled a much smaller area.¹¹⁸

¹¹⁶ Candon 1988, 402; Hudson 2005, 147–9, 151–2, 168–9; Hudson 1979; Duffy 1995, 157–9.

¹¹⁷ MacCotter 2008, 130–1, 249–54.

¹¹⁸ *AFM*; *CS*; *ATig* 1072.

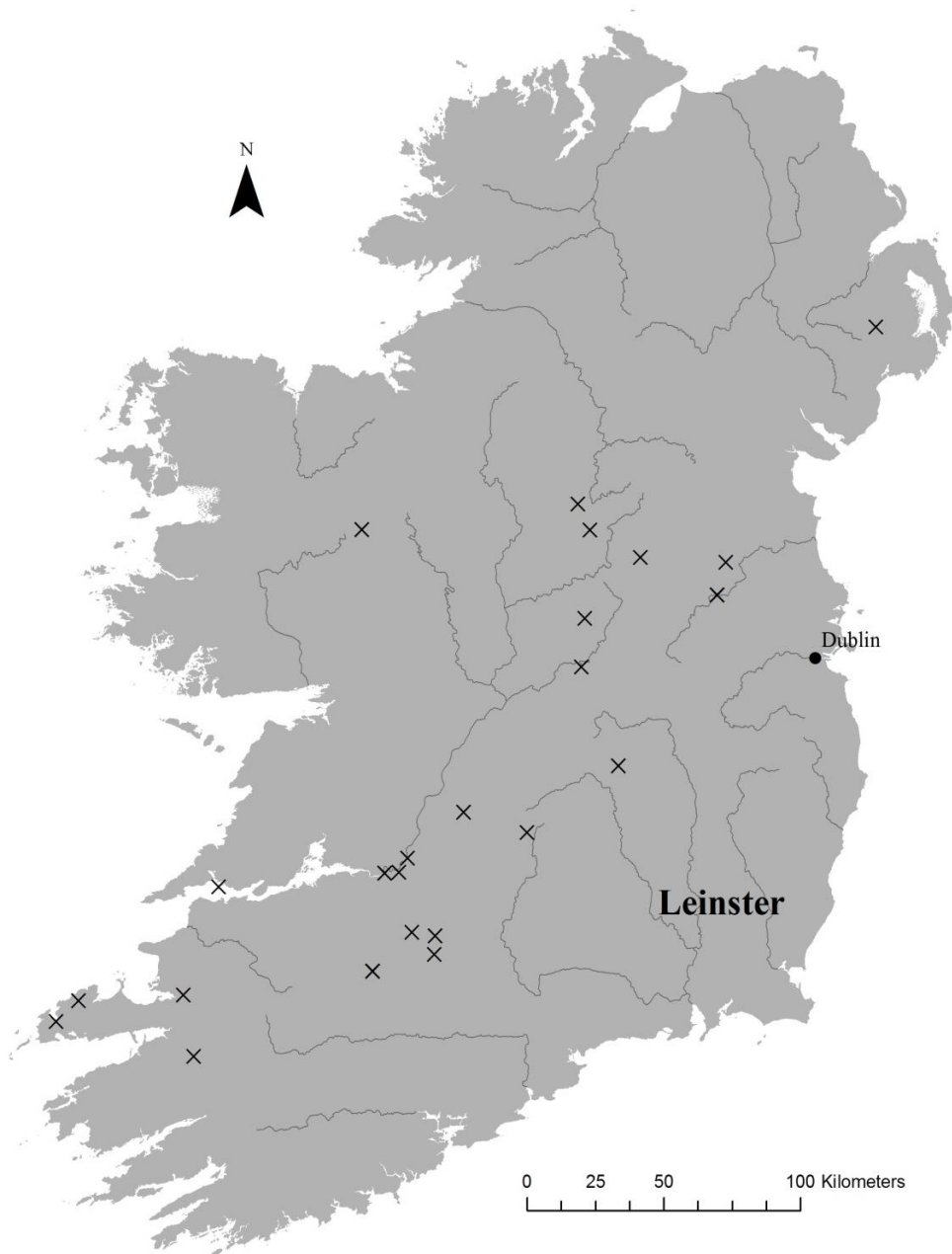


Figure 2.3 – Map of Diarmait mac Máel na mBó's (king of Dublin 1052-72) recorded raids

This extensive empire began to crumble towards the end of Diarmait's reign. In 1069/70 he lost two of his sons, Murchad and Gluniarn, who had acted as his deputies.¹¹⁹ Following Diarmait mac Máel na mBó's death in 1072, Tairdelbach Ua

¹¹⁹ Duffy 1995, 162; *ATig* 1068; *AI* 1069; *ALC*; *AClon*; *AFM* 1070.

Briain assumed the kingship of Dublin, uniting the town with his kingdom based in Munster. Godred, king of Dublin, is recorded as submitting to him.¹²⁰ Exactly who this was is uncertain but it is possible that he was a local, Hiberno-Scandinavian king who may have ruled Dublin between 1069, Murchad's death, and 1075, when Tairdelbach expelled him from the town.¹²¹ Tairdelbach replaced him, briefly, with Domnall, son of Murchad, before installing his son, Muirchertach as king of the town.¹²²

¹²⁰ *AI* 1072.

¹²¹ Duffy 2006, 57; Duffy 1995, 162.

¹²² Duffy 1992, 103; *AClon* 1074; *AFM*; *CS*; *AU*; *ALC*; *AI* 1075.

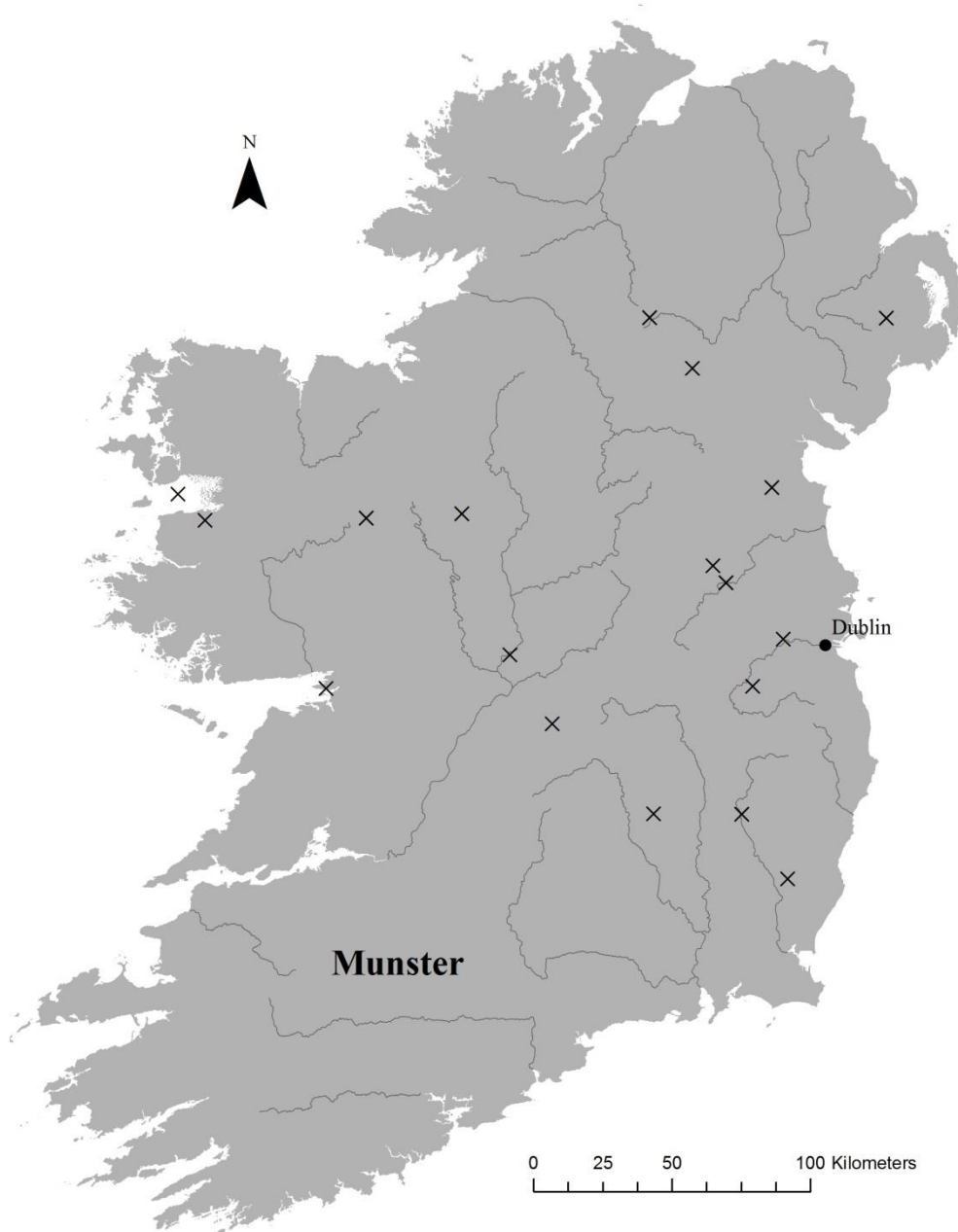


Figure 2.4 – Map of Tairdelbach Ua Briain’s (king of Dublin 1072-86) recorded raids

The heart of Ua Briain lands was around Limerick and they raided frequently to the north and east of this, as is visible in Figure 2.3.¹²³ Areas under his fairly direct control may have extended as far to the East as the river Barrow.¹²⁴ Both Ulster and Connacht were beyond Tairdelbach’s direct authority but very much under his sway.

¹²³ Ó Corráin 1972, 142.

¹²⁴ Duffy 1992, 103.

Ó Cróinín describes him as something of a ‘king-maker’ in Ulster, while in Connacht, Tairdelbach succeeded in playing off three rival elements for the kingship, ensuring they represented little threat to his power.¹²⁵ He was able to control the kingship of areas well beyond his traditional heartlands in Munster and this is reflected in his 1086 obits where he is described as ‘King of Ireland’, although an annal adds ‘with opposition’.¹²⁶

Following Tairdelbach’s death, Dublin passed from Munster’s control, probably into the hands of the king of Leinster, Donnchad mac Domnall Remair.¹²⁷ However, within three years, Muirchertach ua Briain regained control of the town. This period of instability was exploited by Godred Crovan (Gofraid Meranach) in 1091.¹²⁸ Muirchertach was involved in a struggle with his brother Diarmait and the forces of Connacht, allowing Godred to take control of Dublin.¹²⁹ Godred was descended from the Dublin dynasty of Olaf Cuaran and his father, Echmarcach, had briefly united the kingship of Dublin and the Isles in the 1040s. However his success, in rejoining the kingdoms of Man and Dublin, was only fleeting. It largely rested upon the major Irish kings being distracted by internal power struggles.

In 1094, Muirchertach ua Briain regained control of Dublin, driving Godred overseas. He appears to have maintained a fairly effective control over Dublin. He frequently utilised troops from the town to facilitate raids into the north including in 1100 and again in 1103 where they were defeated at Magh Coba.¹³⁰ He also placed his son, Domnall, on the throne of Dublin. The precise date of this is uncertain as it is

¹²⁵ Ó Cróinín 1995, 278.

¹²⁶ Ó Cróinín 1995, 279; Flanagan 2005, 907; Duffy 1992, 103–4.

¹²⁷ Hudson 2005, 178; Duffy 1992, 104.

¹²⁸ Hudson 2005, 179; Duffy 2006, 62; Candon 1988, 400; Duffy 1992, 107.

¹²⁹ *ATig* 1091.

¹³⁰ Candon 1988, 400–1.

only known from his eventual downfall in 1114. This action may have helped to secure control of the town during his reign.

Muirchertach had fairly extensive contacts, entering marriages alliances on the other side of the Irish Sea and providing a regent for the Isle of Man in 1095.¹³¹ He was also able to negotiate with Magnus Barelegs when he entered the Irish Sea in 1098 and 1101, possibly securing a marriage settlement of his daughter to Magnus' son.¹³² His kingdom was again based in Munster but his raids suggest that he spent much time campaigning in the northern half of Ireland. This suggests that, at the height of Muirchertach's power, he was able to control much of the southern half of Ireland, either directly or through patronage.

Following an illness in 1114 and his death in 1118, Muirchertach's empire rapidly crumbled. The king of Leinster, Diarmait mac Énna mic Murchada, took control of Dublin, using Dublin's troops in 1117. His obit describes him as king of Leinster and the foreigners.¹³³ Following Diarmait's death, control of the town appears to have passed back into the sphere of Munster with Domnall ua Briain, the son of Muirchertach, capturing Dublin. He was expelled from the city in 1118 and his 1135 obit lists him as one-time lord of the foreigners.¹³⁴

In 1118 Tairdelbach ua Conchobair, the ruler of Connacht, marched into Leinster and removed Domnall Ua Briain from Dublin.¹³⁵ As suggested by O Corráin and Downham, he may have allowed Énna mac Murchada, the king of Leinster, to become king of Dublin, acting as its overlord.¹³⁶ This is also the period in which the Mac Turcaill dynasty begins to become historically visible with Thorfinn mac

¹³¹ Candon 1988, 411-12; Ó Cróinín 1995, 280-1.

¹³² Duffy 1992, 111-13.

¹³³ *AI*; *AFM*; *CS*; *ATig* 1117.

¹³⁴ *ATig* 1118; *AFM* 1135.

¹³⁵ *AFM*; *ALC*; *CS* 1118.

¹³⁶ Ó Corráin 1972, 152; Downham 2007, 39. *MB* 1119; *AU ALC* 1122 *MB* 1123; *ATig* 1125.

Turcaill's death described in 1124.¹³⁷ Following Énna's death in 1126 Tairdelbach ua Conchobair installed his own son, Conchobar, as the ruler of Leinster and Dublin.¹³⁸ However, Conchobar did not remain as the ruler for more than a year. In 1127 he was faced with rebellion from within Leinster and the threat of Mac Carthaig from Munster.¹³⁹

The authority of Connacht was focused upon the North and West of Ireland. Tairdelbach focused much of his energies upon Munster, destroying Kincora in 1118 and successfully partitioning the kingdom of Munster.¹⁴⁰ He raided extensively over the southern half of Ireland, as is visible in Figure 2.4, with only the kingdom of Connacht, fairly directly under Tairdelbach's control spared from raiding.

¹³⁷ see section 2.1.1; *AU*; *ALC* 1124.

¹³⁸ *AFM*; *CS* 1126.

¹³⁹ *ALC*; *AU* 1127; *MIA* 1126.

¹⁴⁰ Ó Corráin 1972, 153.

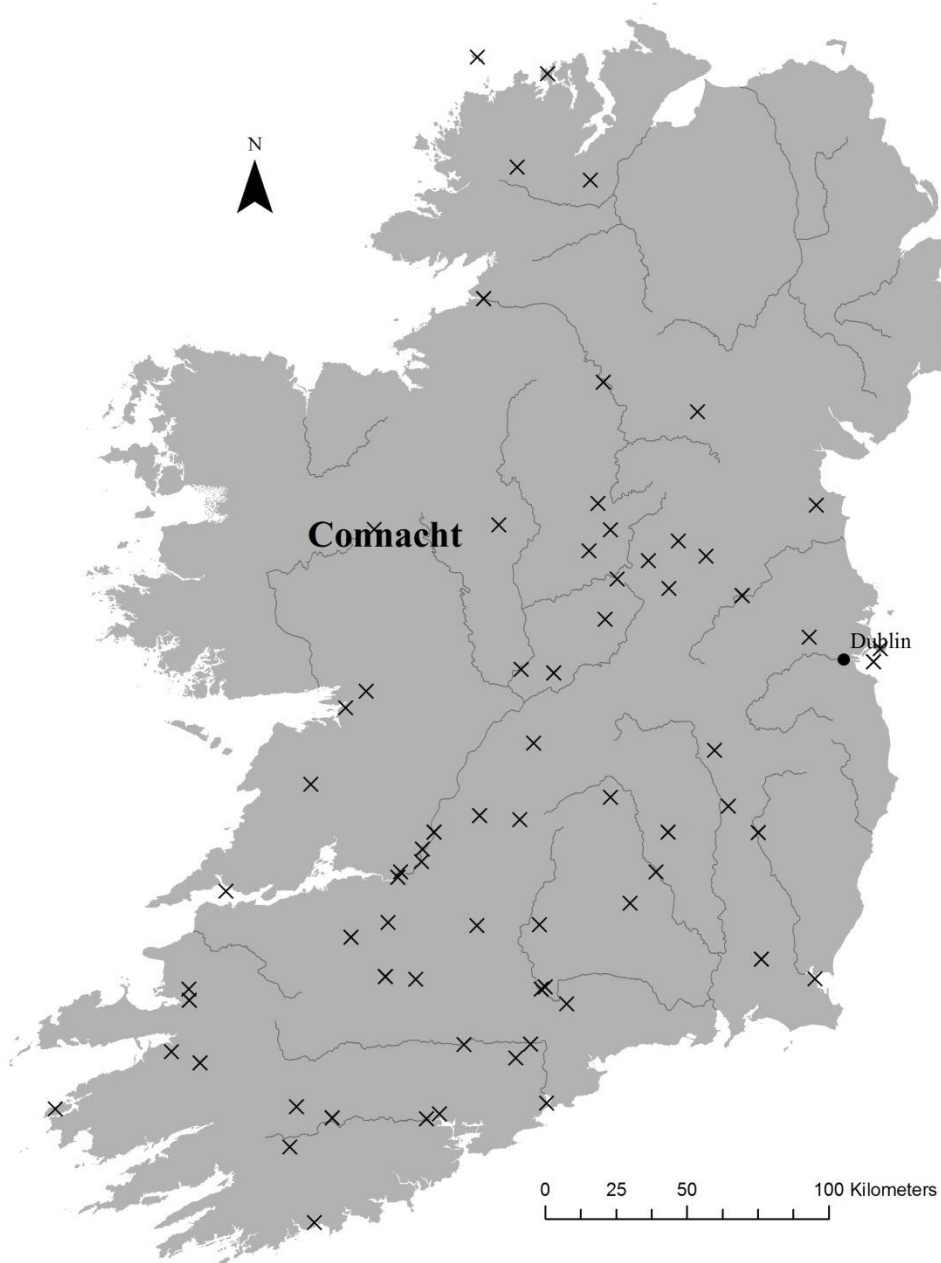


Figure 2.5 – Map of Tairdelbach Ua Conchobair’s (king of Dublin 1118-27) recorded raids

Between Conchobar’s expulsion from Dublin in 1127 and 1133 the issue of who controlled Dublin is uncertain. It might be suggested that Dublin was back under the control of Leinster as, in 1134, Diarmait mac Murchada, king of Leinster, was at the head of an army containing Dublin soldiers.¹⁴¹ What is apparent is that the dynasty

¹⁴¹ Duffy 1992, 120.

of the Turcaills remained in Dublin with Turcall mac Turcaill leading a Dublin army in 1133.¹⁴² Diarmait ruled into the early 1140s, utilising Dublin's troops in 1137, 1139 and 1140.¹⁴³

However, Diarmait's rule of Dublin was interrupted in 1141 when the town was seized by Conchobar Ua Briain. This once again brought the town into the sphere of the kings of Munster. However his reign was very brief as he died the following year to be replaced as king of Munster by his brother, Tairdelbach.¹⁴⁴

Tairdelbach's reign was also short-lived as Dublin sought a ruler to replace him, looking to the Isles in 1142 and finding Ottar.¹⁴⁵ He appears to descend from a leading family within the kingdom of Man and the Isles.¹⁴⁶ Details regarding the rule of Ottar and Dublin's actions during this period are elusive as many of the annalistic records have lacunae at this point.¹⁴⁷ However, it appears from Welsh sources that a significant force of Irishmen from Dublin were campaigning there in 1144.¹⁴⁸ Amongst this force were a 'Mac Turcaill' and a 'son of Ischerwulf' led by 'Ottar son of the other Ottar'. This suggests that the Mac Ottir and Mac Turcaill dynasties were capable of working with one another. This harmony should not be overstated as Ottar was assassinated in 1148 by the Mac Turcaill.¹⁴⁹

It appears that this event allowed Diarmait Mac Murchada to assert a more active role in Dublin, utilising their troops again in 1149.¹⁵⁰ It would appear that Diarmait, while king of Dublin, had a relatively small area of authority. As can be seen from Figure 2.5, his raiding was relatively small in its scale, largely constrained

¹⁴² *AFM*; *ALC* 1133.

¹⁴³ Downham 2007a, 39.

¹⁴⁴ *AFM*; *CS*; *ATig*; *MIA* 1142.

¹⁴⁵ *AFM* 1142.

¹⁴⁶ Duffy 1992, 121.

¹⁴⁷ *AClon*, *ALC*, *AU* and *AI* all have significant lacunae at this point.

¹⁴⁸ Duffy 1992, 122.

¹⁴⁹ *CS*; *ATig* 1148.

¹⁵⁰ Downham 2007a, 39; Duffy 1992, 123; *AFM* 1149.

to the areas immediately around Leinster, particularly Meath. The picture that emerges is of limited and quite local authority.

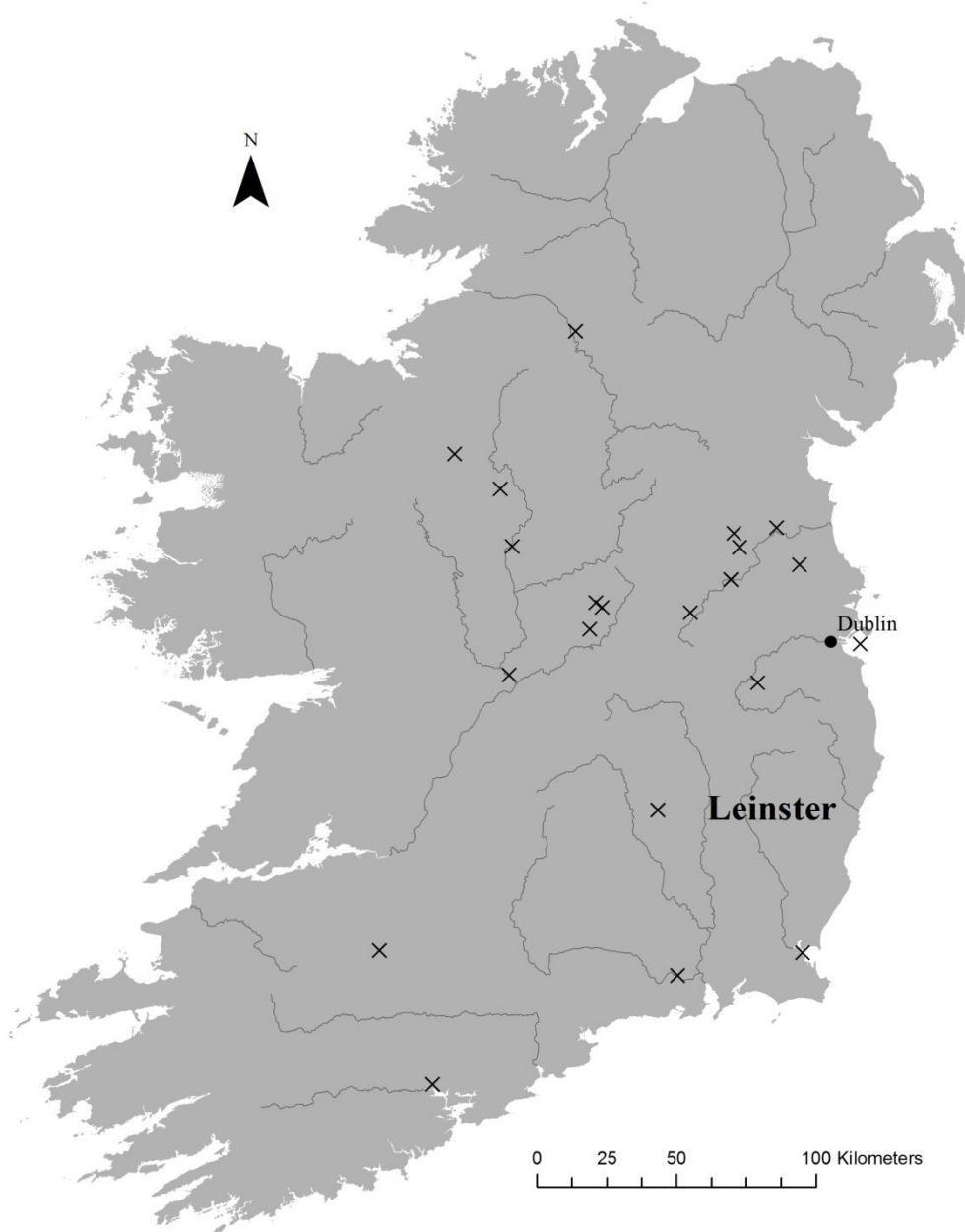


Figure 2.6 – Map of Diarmait mac Murchada’s (king of Dublin 1134?-41?) recorded raids

In the late 1140s Muirchertach mac Lochlainn united the competing factions of the north of Ireland. He was able to raid south in 1149 and force Diarmait mac

Murchada to submit to him.¹⁵¹ This symbolic event happened at the walls of Dublin and in hyperbolic terms secured ‘complete peace between the Irish and the foreigner’.¹⁵² This action drew a response from Tairdelbach ua Briain as he marched to Dublin the following year and forced the town to submit to him.¹⁵³

Over the following four years Tairdelbach ua Conchobair, Conchobar Ua Briain and Muirchertach Mac Lochlainn engaged in a series of skirmishes, primarily contesting supremacy in the Irish midlands.¹⁵⁴ It is difficult to be certain but it seems probable that Dublin was briefly under the authority of mac Lochlainn before passing to Tairdelbach Ua Briain between 1150 and 1154. In 1154, Muirchertach mac Lochlainn attempted to gain control over Dublin by marching there and giving them a tribute of 1200 cows.¹⁵⁵

In 1156 Muirchertach Mac Lochlainn was powerful enough to force Diarmait mac Murchada to give him hostages and acknowledge his authority.¹⁵⁶ It would appear that this was an acknowledgement of the *status quo*. Muirchertach had ultimate authority over Dublin but Muirchertach, in turn, recognised Diarmait’s traditional rights over it.

During the early 1160s it is similarly difficult to determine the exact political rule of Dublin. The king of Dublin, and leading Mac Torcaill dynast, Brodar died in 1160.¹⁵⁷ The precise chronology following this date is uncertain. An entry in the *Manx Chronicle* describes how Godred was invited by the Dubliners to reign over

¹⁵¹ *AFM* 1149.

¹⁵² Duffy 1992, 123.

¹⁵³ *AFM* 1150.

¹⁵⁴ Ó Corráin 1972, 161–2.

¹⁵⁵ *AFM*; *MIA* 1154.

¹⁵⁶ *AFM*; *AClon*; *AU* 1156.

¹⁵⁷ *AFM*; *ATig*; *AU* 1160.

them.¹⁵⁸ Duffy dates this event to 1162 as it matches with a recorded cavalry victory that took place in that year.¹⁵⁹

One interpretation of the chronology might be that following the death of Brodar, Diarmait used the opportunity to extend his power over Dublin. This was subsequently challenged by the Dubliners themselves who invited a man of the Isles to rule over them in 1162. Upon Godred's fairly swift defeat Diarmait was able to re-establish his authority over the town and, in the words of the AU, 'great sway was obtained [*by him*] over them, such as was not obtained before for a long time'.¹⁶⁰

Such an interpretation is bolstered by the 1162 grant of lands by Diarmait to Christchurch cathedral. These were of lands in the Mac Turcaill lands to the north of Dublin.¹⁶¹ This may have been a retaliatory act for disloyalty or potentially an attempt to weaken the powerful Dublin dynasty.

Muirchertach mac Lochlainn's power was based in Ulster, in the northern Uí Neill lands far to the north of Dublin. His authority may have extended over these Ulaid lands to the eastern coast of Ulster, although this is uncertain. He was engaged in a fairly wide-spread pattern of raiding, as is visible in Figure 2.6, which attest to his extensive power and territorial claims.

¹⁵⁸ Goss 1874.

¹⁵⁹ Duffy 1992, 127–8; AU 1162.

¹⁶⁰ AU 1162.

¹⁶¹ Downham 2007a, 40.

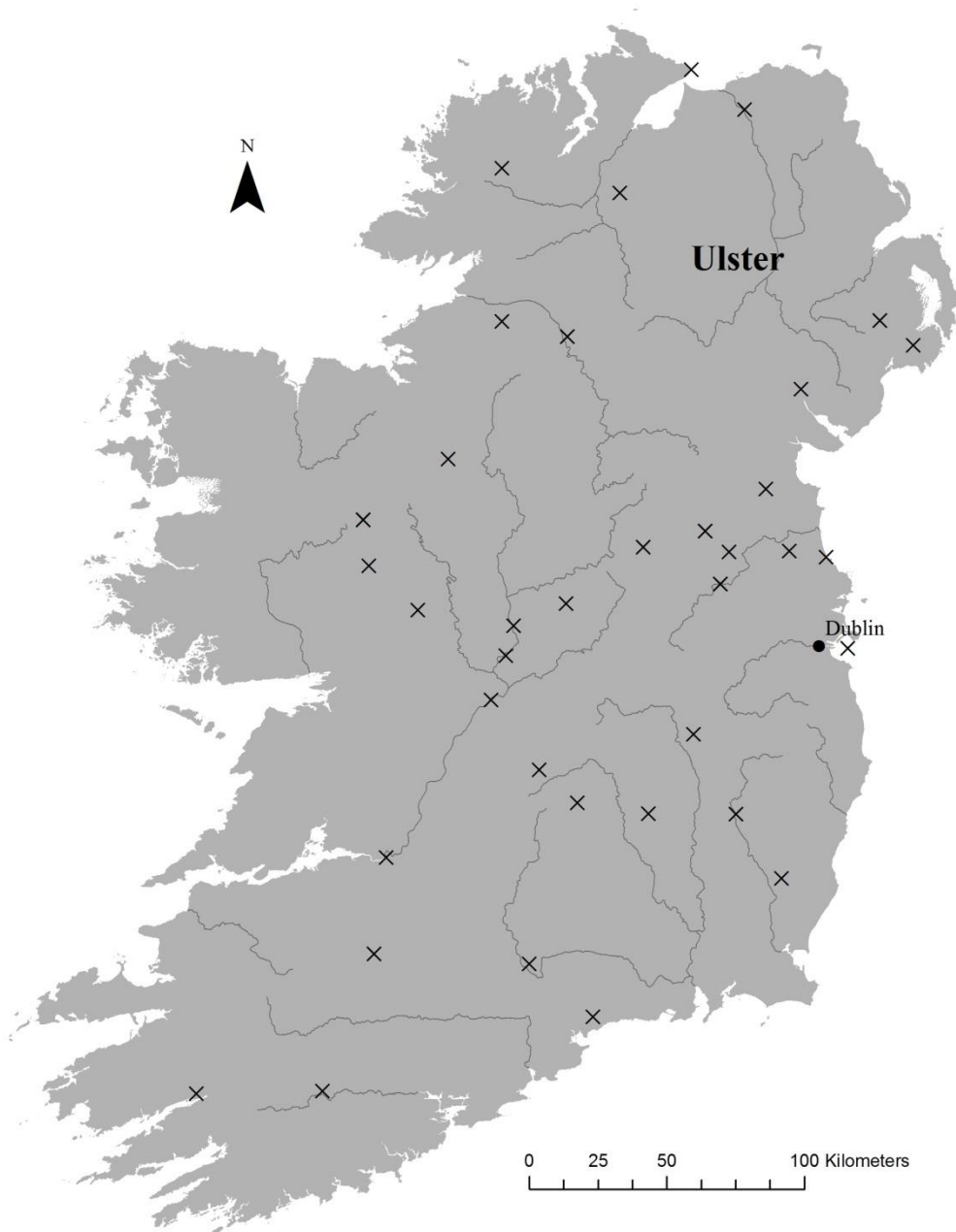


Figure 2.7 – Map of Muirchertach mac Lochlainn (king of Dublin 1149, 1154-65?) recorded raids

Muirchertach mac Lochlainn died in 1165 and the king of Connacht, Ruaidrí ua Conchobair, used the opportunity to expand his power across Ireland. He marched to Dublin where he was acknowledged as its king, but also probably as *de facto* high-

king.¹⁶² To facilitate the process Ruaidrí gave the Dubliners a significant payment of cows.¹⁶³

Ruaidrí's growth in power also saw Diarmait Mac Murchada expelled overseas in 1166.¹⁶⁴ The *ATig* adds that the Leinstermen and Dubliners had revolted against Diarmait before he was driven overseas by the combined forces of Ruaidrí and Leinster.¹⁶⁵ The revolt by the Leinstermen against Diarmait is also visible in the *AI* and the *Deeds of the Normans in Ireland*.¹⁶⁶ Dublin appears to submit to Ruaidrí as they attend his councils and are paid tribute in 1166 and 1167.¹⁶⁷ At the council, Dublin was represented by Ragnall, son of Ragnall who is titled 'king of the foreigners' (*Tigerna gall*). He was probably a part of the Mac Turcaill dynasty, a son of Ragnall - the former king of Dublin - and a relation of the later Dublin king, Ascall.¹⁶⁸

In 1169, Diarmait mac Murchada, deposed from his Leinster domain, allied with Anglo-Norman elements in Wales and reinvaded his Uí Chennselaig heartlands. In 1170 Strongbow and Raymond le Gros attacked Waterford and then marched to Dublin.¹⁶⁹ The Dubliners initially remained loyal to Ruaidrí but switched sides during the course of the battle. They were slaughtered by the Anglo-Normans, although Ascall mac Turcaill managed to flee the defeat. There were fleeting attempts to restore Ascall or a Manx ruler to the Dublin kingship but these proved ultimately unsuccessful.¹⁷⁰

¹⁶² *AFM; ATig; AU; AI* 1166.

¹⁶³ 4000 cows are recorded in *AFM; ATig* 1166.

¹⁶⁴ *AFM; ATig; AU; AI* 1166.

¹⁶⁵ *ATig* 1166.

¹⁶⁶ Mullaly 2002, 138–9; *AI* 1166.

¹⁶⁷ *ATig; AFM* 1166, 1167.

¹⁶⁸ Duffy 1992, 131.

¹⁶⁹ Duffy 1992, 131.

¹⁷⁰ *AFM; ALC; ATig; AU* 1171.

2.2 *The economy of Dublin*

The following is a summary of the economy of early medieval Dublin. It is largely based upon the published archaeological information but also includes historical references where appropriate. Where possible, discussion is considered on a precise spatial level, to allow for comparison with coin finds in chapter 7 below. Where sites are mentioned by name they are followed by a number in parentheses which corresponds to their position on Map 1 of Appendix E. A full listing of the sites and references is provided in Table 1 of Appendix E.

The approach followed below is to consider what is known about the development of the town from the ninth century through to the Anglo-Norman conquest. Each century is treated in turn with emphasis on the topographic and economic changes that occurred. There is also a range of material that defies precise spatial/chronological analysis, much of which is related to exchange. These include textual references and occasional finds which can be informative of aspects of Dublin's economy, but which are difficult to either assign to a specific area or period within the life of the town. These will be combined with the more precise archaeological data to present a more rounded view of activity within the town.

2.2.1 Ninth-century Dublin

The earliest developments of the town, occurred to the south of the later town, and are traced in Figure 2.7. It has been surmised that there was pre-Viking, monastic activity in Dublin and this has been confirmed archaeologically where an early road and graveyard have been traced.¹⁷¹ The Viking *longphort* (ship camp) attested to in annalistic writing is likely to have been in the east of the town, focused upon the

¹⁷¹ Clarke 1990, 62; Simpson 2000, 15–19.

‘black pool’, where evidence for early activity has been found at Temple Bar West (37), George Street (52) and Ship Great Street (50).¹⁷²

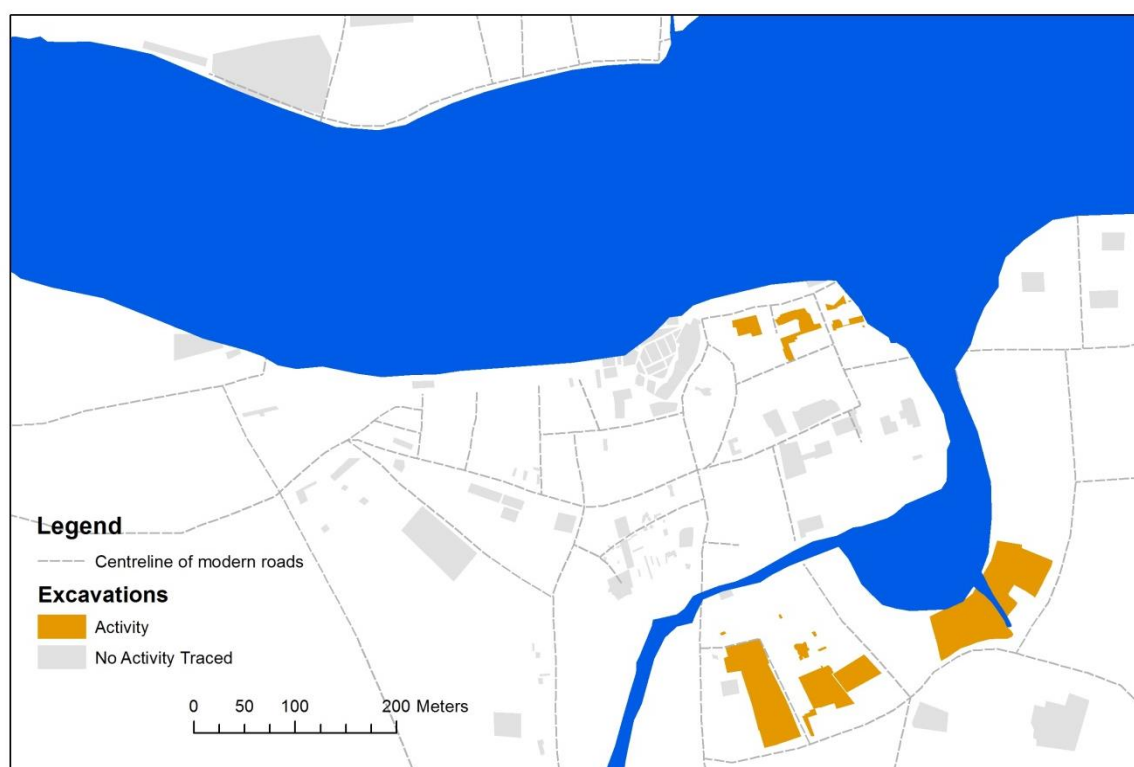


Figure 2.8 – Archaeological sites with evidence of ninth-century activity

The economy of this phase of activity in Dublin is obscure as the archaeological evidence is ephemeral. There is a strong temptation to suggest that in this stage it was one based upon raiding but contemporary parallels from England suggest that this would be an oversimplification.¹⁷³ Evidence from Torksey suggests Dublin may have had significant craft and exchange roles in this early period but in the absence of published reports, attempts to characterise the ninth century economy are difficult.

2.2.2 Tenth-century Dublin

The town expanded substantially during the tenth-century, as is visible in Figure 2.8. A series of banks were erected to encircle the town and these extended much

¹⁷² Simpson 2011, 22–32; Simpson 2004; Simpson 2005; Simpson 2010.

¹⁷³ Blackburn 2011b.

further to the west than the ninth-century settlement.¹⁷⁴ Determining when these were erected within the tenth century is difficult but there seems no clear distinction to suggest that the historically recorded expulsion of the ‘foreigners of Dublin’ in 902 and their subsequent return in 917 is matched in the archaeological record.¹⁷⁵ Buildings at Fishamble Street (27), Christchurch Place (32) and Werburgh Street (34) show that there were numerous buildings and that the town was quite crowded.¹⁷⁶ Most of this activity is to be connected with domestic occupation but there is also some evidence for both production and exchange within the town.

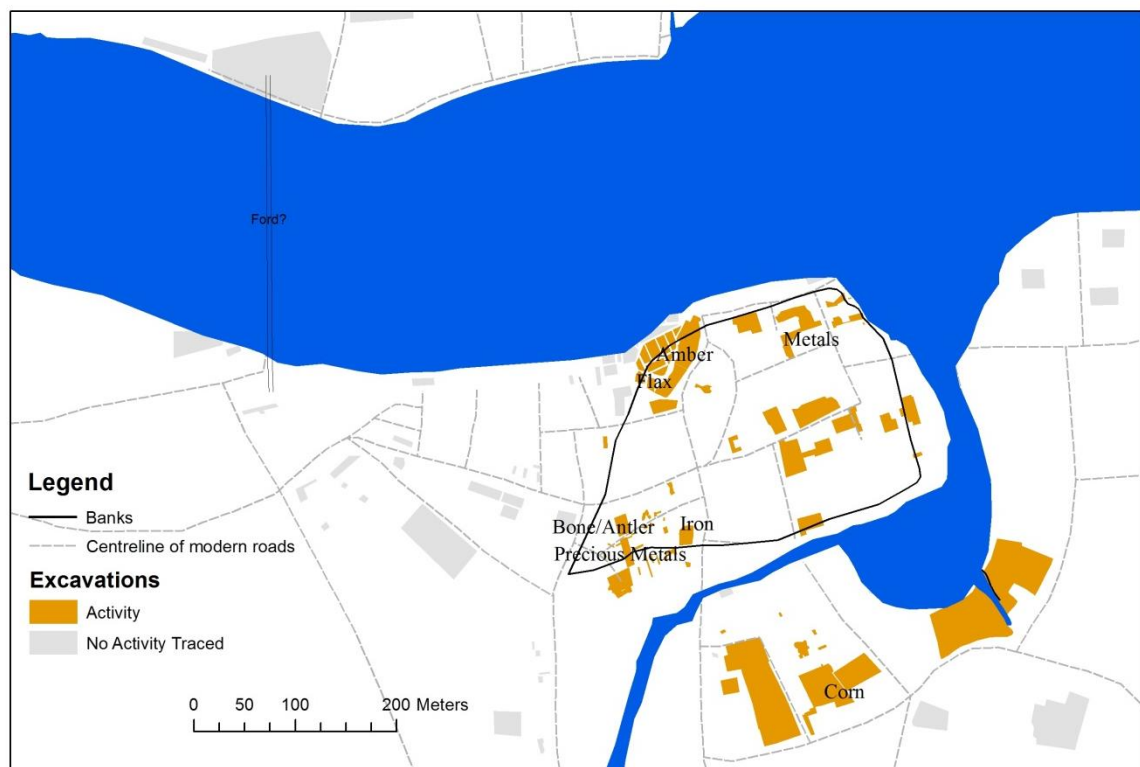


Figure 2.9 – Archaeological sites with evidence of tenth-century activity

The most common activity was the working of metal, which was present at a number of sites. The evidence from Christchurch Place (32) was strong enough to be

¹⁷⁴ Walsh 2001, 98–107; Scally 2002, 15–21; Wallace 1992a, 44–7; Wallace 1985, 114–15; Simpson 1999, 16; Hayden 2002, 46–7.

¹⁷⁵ Downham 2007b, 27–32.

¹⁷⁶ *cf* Wallace 1992c, 36.

interpreted as a ‘metal-working quarter’ by Ó Ríordáin.¹⁷⁷ It appears this was on the strength of hearths and moulds for the casting of silver ingots.¹⁷⁸ The number and quality of trial pieces suggest that this was an area which actively involved in producing silver objects. Nearby, at Werburgh Street (34), evidence was found for the working of iron in the form of trough and furnaces whilst at Ross Road (33) there was a crucible associated with a sheltered hearth.¹⁷⁹ The tenth century also saw the production of a distinctive Dublin shield boss and it must be imagined that manufacture of this object may have occurred in the vicinity of Christchurch Place (32).¹⁸⁰

This period also saw linen production in the town. Botanical evidence suggests that there was linen production at Fishamble Street (28), but the extent of production is uncertain due to limited sampling.¹⁸¹ The production of textiles is also suggested from a number of textual references. Clothes merchants from Dublin are recorded in Cambridge in the late-tenth century and Sihtric Silkenbeard is recorded rewarding a poet with a gift of clothes.¹⁸² The importance of clothing to Dublin is suggested by the fact that it was prized across the northern world, with references to them preserved in hagiographic writing.¹⁸³ Whilst the evidence for production of this sort is strongest in the tenth-century it is highly likely that clothing, if not necessarily linen, production continued into a later period.

Similarly, there is good evidence for the working of antler/bone in the area to the west of Christchurch Place (32). This is on the strength of the number of finds in square 2 (the more southern) at Christchurch Place (32) and in certain sections of the

¹⁷⁷ Wallace 1986, 212.

¹⁷⁸ Ó Ríordáin 1984, 140.

¹⁷⁹ Hayden 2002, 49–53; Walsh 2001, 101.

¹⁸⁰ Harrison 2001, 70.

¹⁸¹ Geraghty 1996, 8–10, 29.

¹⁸² Hudson 2005, 42.

¹⁸³ Hudson 2005, 89.

Ross Road (33) excavation.¹⁸⁴ This may have been in the vicinity of High Street (21 and 24) where ‘abundant evidence of this craft was discovered’.¹⁸⁵ This is clearly detectable in the archaeological record but could also be inferred from the combs themselves. Dunlevy classes F2 and F3 (Ashby type 7) are likely to have been mass-produced in the town in the tenth and eleventh centuries.¹⁸⁶ The evidence suggests that production was also present in the same area in the eleventh century although it may be over-taken by leather production along High Street in the twelfth century.

On a more limited scale, there is evidence for the working of amber. This occurred at Fishamble Street (28) where FS 20, a house in Plot 2 at building level 5 of the Fishamble Street excavations, produced evidence for being an amber-jeweller’s workshop.¹⁸⁷ There is concentration of amber offcuts in that plot as well as lignite.¹⁸⁸ At this building level and several others of near-contemporary date there is also evidence of small amounts of amber being walked into the house floors on nearby plots.¹⁸⁹

The tenth-century witnessed an expansion of, and perhaps more importantly, a consolidation of the town. Plots were laid out and an encircling bank was added. The economy is difficult to compare to the previous period, where little evidence survives, but it would appear that by the end of the century there were significant amounts of manufacturing occurring in the town perhaps with a degree of specialisation in different areas. Production was an important aspect of Dublin’s economy from an early point and must be considered alongside significant, if unquantifiable, exchange as a driving force behind the town’s economy.

¹⁸⁴ Walsh 2001, 95, 104.

¹⁸⁵ Ó Ríordáin 1984, 142; Wallace 1987a, 238.

¹⁸⁶ Dunlevy 1988, 368; *cf* Ashby 2011.

¹⁸⁷ Wallace 1992b, 133.

¹⁸⁸ Wallace 1985, 136.

¹⁸⁹ Geraghty 1996, 21.

It also important to note that excavation has uncovered a significant volume of lead bullion weights from tenth-century contexts.¹⁹⁰ This is unsurprising given the existence of a metal-weight or ‘dual economy’ across much of Ireland at the time.¹⁹¹ Pat Wallace has argued that these weights closely conform to a fairly tight weight standard of 26.6.g.¹⁹² He has also argued that, based upon the precise maintenance of the standard and Anglo-Saxon parallels, that there was likely to be a ‘controller’ of weights within Dublin.¹⁹³ The first of these points stands unchallenged although it would be interesting to compare variation amongst the weights, upon their full publication, with that of the coins described in section 5.2 below. The second issue, of the control of weights, is perhaps more debatable. Wallace highlights the similarities of Dublin’s standard to a number of other areas, both within Ireland and overseas.¹⁹⁴ The similarity of standards in these cases is not connected to enforcement by any form of ‘controller’ but is likely to ease economic transactions. While a strong role for authority could be suggested from the evidence of the weight I do not think that this is necessarily so.¹⁹⁵ Indeed, in re-evaluating this material in a recent publication Wallace discusses ‘personal weights’ and their relationship with a ‘likely agreed standard’ rather than stressing centralised control.¹⁹⁶

2.2.3 Eleventh-century Dublin

The expansion of the town continued during the eleventh century, as is shown on Figure 2.9. The banks which were in place during the tenth century were replaced by a significantly larger circuit in the eleventh and buildings were in use much further to

¹⁹⁰ Wallace 1987a, 212-15; Wallace 2013. *cf* Kruse 1998a for warnings about the precision of weight standards.

¹⁹¹ Blackburn 2007, 126-30.

¹⁹² Wallace 1987a, 212.

¹⁹³ Wallace 1987a, 214.

¹⁹⁴ Wallace 1987a, 212-14.

¹⁹⁵ See discussion in section 7.4.4.

¹⁹⁶ Wallace 2013, 304.

the west.¹⁹⁷ Similarly, two suburbs emerge during the eleventh century. A trans-pontine suburb on the north of the river Liffey, later called ‘Oxmantown’, and a southern suburb to the south of the Poddle.¹⁹⁸ This was also the period at which the town became an overtly Christian environment with a number of churches being erected over the course of the century.

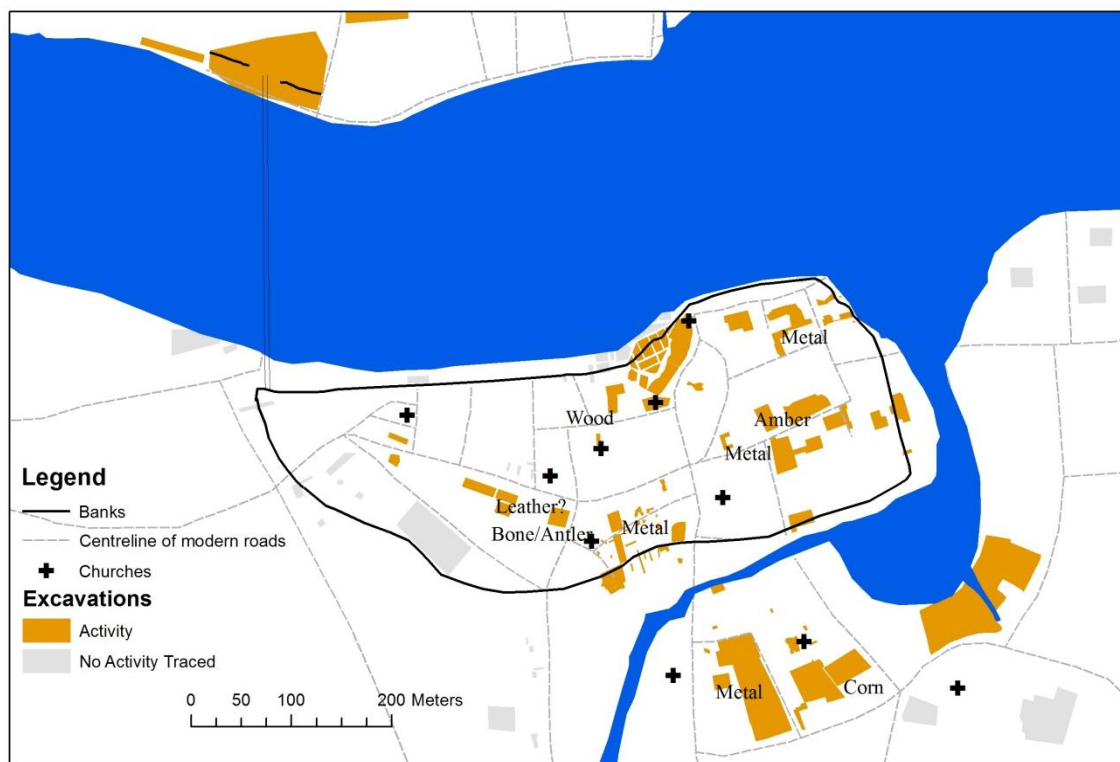


Figure 2.10 – Archaeological sites with evidence of eleventh-century activity

The period is the most archaeologically visible in early medieval Dublin and, as such, highlights the varied aspects of the town’s economy. There is a broad continuation of some activities from the tenth century. Metals, combs and clothing are all known, or are very likely, to have continued into the eleventh century. However, whilst there is evidence of significant metal-working in the tenth century it appears that the number of areas involved in the working of metals expanded between 1000 and 1100. There is continuity at both Christchurch Place (32) and Werburgh Street

¹⁹⁷ Scally 2002, 21–5; Wallace 1992a, 44–7; Walsh 2001, 102–7; Walsh 1997, 92–3; Hayden 2000.

¹⁹⁸ Simpson 2011, 51; Cryerhall 2006; Meenan 2004; Gowen 2001, 29–31.

(34) but evidence also survives from Bride Street (47) and Golden Lane (49).¹⁹⁹ Similarly, a motif piece has been recovered from Ship Street (45), between Christchurch Place (32-4) and Bride Street (47).²⁰⁰ This is across the Poddle from Christchurch Place (32-4) and might perhaps hint towards specialisation of metal-working in this southern area. However, a series of large hearths, that could be associated with metals, have also been found at the eastern end of Temple Bar West (37) and at Exchange Street (39), showing that metal working was common across a number of sites.²⁰¹ The objects produced in these sites are uncertain, but there is a strong possibility that ringed pins may have been amongst them. Whilst not exclusively an eleventh century phenomenon, there are a significant number of pins that have been dated to the eleventh century.²⁰² The distribution of this object, across a number of Irish and European areas, indicates the extensive international aspect to Dublin's trade in metals.²⁰³

Evidence is also quite strong in this period for the working of wood. It has been traced specifically at Winetavern Street (30) where unfinished wooden objects were found.²⁰⁴ The wood that was being worked in this area seems to have been for both domestic usage – bowls and plates – but also for the production of barrels.²⁰⁵ To the evidence of wood carving can be added the probability of ship manufacture in the town. Fleets are recorded as being an important element of Dublin's economic and political life in the *Lebor na Cert*.²⁰⁶ That they were constructed in Dublin is suggested by the Skuldelev 2 ship, a large warship found in Roskilde fjord. Dendro-

¹⁹⁹ McMahon *et al.* 2002.

²⁰⁰ Simpson 2004, 44–9.

²⁰¹ Scally 2002.

²⁰² Fanning 1994.

²⁰³ Fanning 1994.

²⁰⁴ Ó Ríordáin 1984, 142.

²⁰⁵ Johnson 2001; Comey 2010.

²⁰⁶ Swift 2004.

chronological work on the wood from the ship has suggested that it was constructed in Dublin in AD 1042.²⁰⁷ There are also traces of amber-working at Castle Street (41) in this period, where it had previously been conducted at Fishamble Street (27).²⁰⁸ This suggests the economy was not static but could alter on a relatively short timeframe.

The evidence of the eleventh century would suggest that the period was one of dynamic growth for the town. The defended area within defensive embankments doubled, domestic occupation moved much further to the west and ‘suburbs’ emerged. The economic vitality of the city is also suggested by something akin to mass-production of metals and possibly combs in this period both of which may have occurred in specific areas of the town, suggestive of a degree of specialisation. This activities presumably produced significant surpluses as the emergence of a number of churches – each requiring an independent income – would have been a sizable investment.

2.2.4 Twelfth-century Dublin

The twelfth century is more difficult to assess as it is far less extensively excavated than the previous two hundred years.²⁰⁹ However, certain features can still be determined. The most obvious of these is the erection of a large stone wall around the exterior of the town early in the twelfth century.²¹⁰ Whilst the central area was fortified, expansion appears to have been largely confined to the areas beyond this. The northern suburb expanded and was served by a newly-constructed bridge whilst to the south structures have been found some 300m south of the walled town.²¹¹

²⁰⁷ Crumlin-Pedersen & Olsen 2002, 5.2.

²⁰⁸ M. Byrne, *pers. comm.*.

²⁰⁹ See section 7.2.1.

²¹⁰ Simpson 2000, 38–41; Halpin 2005, 109; Simpson 2011, 58–64; Scally 2002, 25–7; Walsh 1997, 92–3.

²¹¹ Simpson 2011, 46–51; Phelan 2010; Gowen 2001, 37–9; Ó Néill 2004.

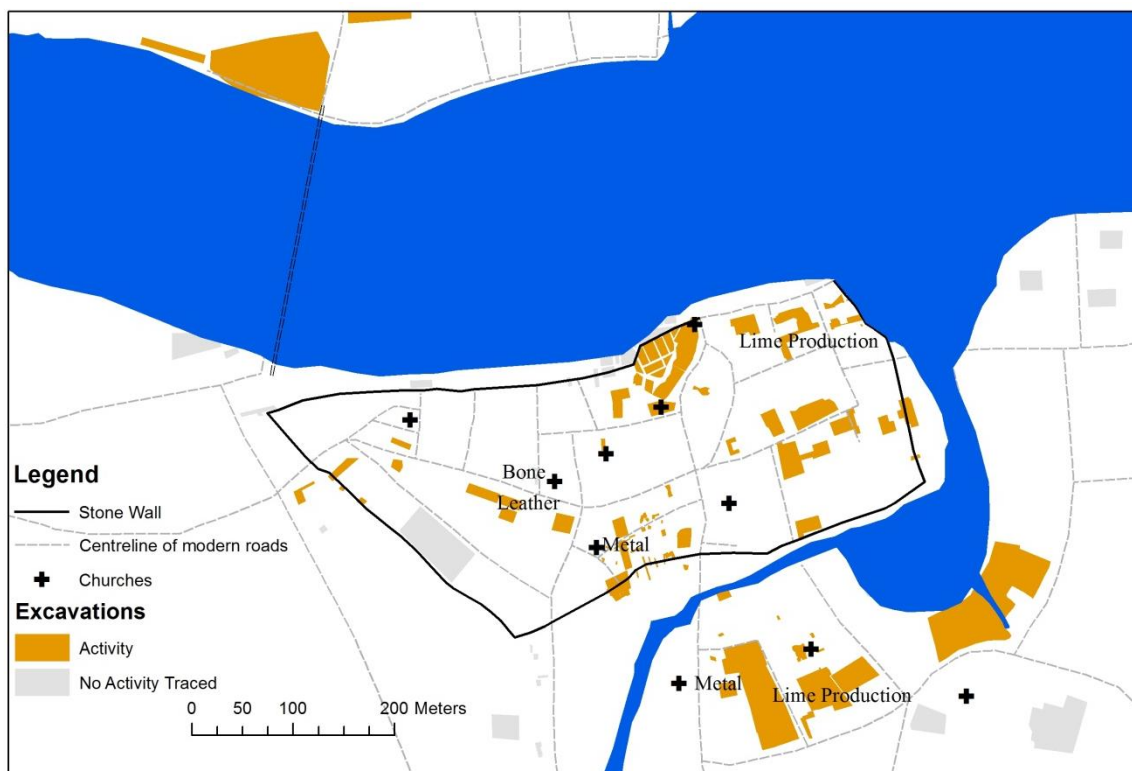


Figure 2.11 – Archaeological sites with evidence of twelfth-century activity

This period also witnessed some economic changes within the town. Where metals had been the most obvious material produced in Dublin previously, leather-working assumes an importance in the twelfth century. Evidence for this can be found at High Street (21 & 24) where a thick layer of leather offcuts was excavated.²¹² This extended over much of the site and can also be traced on sites on the northern side of High Street (23).²¹³ The general absence of buildings suggests that this area may have formed the rear or ‘backyards’ associated with this craft. A large number of scraps were illustrated by Ó Ríordáin and he described the area as a ‘cobbler’s workshop’.²¹⁴ This activity replaced what appears to be domestic habitation, or possibly some working of bone/antler of the site in the late eleventh century.

The production of lime also became an important process and this mirrored a change of building material in the town. Stone churches, and the vast stone encircling

²¹² Ó Ríordáin 1984, 142–3.

²¹³ Gowen 1991; Hurley 1994; Murtagh 1990.

²¹⁴ Ó Ríordáin 1984, 142.

wall, were built and these would have required significant amounts of mortar. The undertaking to build a stone wall would have required both a significant amount of time and a skilled workforce. This may explain the 20 year discrepancies in dating as it would have been a significant investment in resources, perhaps taking some time to build.²¹⁵ Its construction may have spurred the production of large amounts of lime but is also likely to have required skilled, presumably specialist, stone masons.

The twelfth century is more difficult to interpret than previous centuries as the evidential basis is much smaller. It appears that there is some continuity; the working of metal in some areas and a continually growing population. However, production within the town also alters somewhat. Leather goods were the most visible objects being manufactured, crafted on a significant scale over a large area. Similarly, areas which previously worked metal became centres of lime production. This may simply indicate metal was worked elsewhere or, perhaps, that some of the wealth previously channelled into the consumption of metal objects was transferred to the erection of the encircling wall or the building of stone churches.

2.2.5 Dublin's inferred economy

The above has sketched the topographical and economic development of the town. This has, due to the nature of the evidence, focused largely upon the production of certain types of material, ignoring other objects and exchange almost entirely. However, a number of other types of evidence can be adduced to give a fuller picture of the economy of the town. The following is a brief summary of economic activity for which evidence is less precise but which can usefully diversify the image of Dublin's economy.

²¹⁵ Simpson 2011, 58–64.

A neat summary of some of this activity is provided in a passage from the eleventh-century *Lebor na Cert*. The text is a listing of dues to and from Armagh. In the version contained within the *Book of Uí Maine*, describing what is owed from Dublin, it lists several objects:

‘A comb from every comb-maker

A shoe from every shoe-maker

A vessel from every glorious silversmith

A scruple from every moneyer

A cowl from every merchant ship’²¹⁶

The text is of significance as it suggests that there are several crafts which were associated with the economy of medieval Dublin. The first three of these crafts – comb-making, shoe-making and silver/metal-smithing – are the three most visible crafts described above and it would appear that their obvious presence within the archaeological record reflects their importance to the town, rather than merely good preservation. It also suggests that these were reasonably lucrative, certainly valuable enough to warrant being ‘taxed’ by Armagh. Similarly, the various craftspeople mentioned are deemed to be visible enough to be defined by their profession. This visibility might imply a degree of specialisation as it is unlikely someone would be referred to as a ‘comb-maker’, or any of the other professions, if this was only a cottage industry. This would accord with the view of the archaeological evidence which suggest that certain activities were conducted within specific areas of the town, also implying some specialisation.

²¹⁶ Ó Corráin 1997; Etchingam 2010.

The archaeological evidence is less clear for both moneyers and merchants than it is for the other three professions mentioned in the *Lebor na Cert*.²¹⁷ However there is strong evidence that exchange, both local and international, occurred within the town. A number of texts refer to Dublin's trade and/or its traders. 'Foreigners', presumably Dublin traders, were recorded at the fair of Carmen.²¹⁸ Similarly, the king of Dublin may have had an oversight role over trade more widely as he was granted the right to take a toll from all those involved in trading within Ireland.²¹⁹ There is some evidence of Dublin communities abroad with sections of the York, Chester and London waterfronts bearing evidence to their presence, either naming Dublin directly or with churches named after Irish saints.²²⁰ Similarly, it seems likely that there may have been a Chester community in Dublin as St. Werburgh's church was named after a king of Mercia whose remains had been translated to Chester.²²¹ Mentions of Dublin traders are fairly common across a wide area of northern Europe; for example, those recorded in Cambridge in the tenth century or the trade with an Icelander described in the *Laxdæla saga*.²²² Trade to the south is mentioned by Gerald of Wales where the trade of skins for wine in Poitou is discussed.²²³ The importance of trade to the Hiberno-Scandinavian town can also be inferred from the Irish loanword *margadh*, borrowing from the Norse *markaðr*, meaning market.²²⁴

Finds of material culture within the town would also point towards exchange relationships. Amber, jet, walrus ivory, silk and soapstone would all have needed to be imported.²²⁵ The long trade networks associated with some of these items can be

²¹⁷ See section 7.1.

²¹⁸ Hudson 1999, 42.

²¹⁹ Valante 1998b, 256–7.

²²⁰ Wallace 1987a, 224–5; Valante 2008, 127.

²²¹ Clarke 2002.

²²² Hudson 2005, 42; Valante 2008, 131.

²²³ O'Meara 1982, 35.

²²⁴ Larsen 2001, 145.

²²⁵ Wallace 1987a, 211; Heckett 1987.

witnessed in an Arabic description of Dublin as a town where amber can be bought.²²⁶ Dress accessories of English production, including brooches and strap-ends have been found as well.²²⁷ Although unattested by the archaeological record, there is also good evidence from the eleventh and twelfth century for a flourishing trade in skins from Dublin.²²⁸ The ‘merchant ships’ mentioned in the *Lebor na Cert* would thus have been an important part of the economy.

The chronology of much of this exchange is difficult to pin down. Short textual references and occasional finds of unusual objects do not allow any kind of quantification. It is difficult to be certain whether trade was of greater importance in the tenth or twelfth centuries from this material. The only material that really allows for estimates of quantification is pottery. Ireland produced only a very limited range of ceramics before the Anglo-Norman invasion and thus most pottery pre-dating this is imported.²²⁹ While the pre-Norman pottery, in contrast to that post-1170, has not undergone very extensive study there appear two main strands to it. Firstly, it appears that pottery was imported to the town, in relatively visible quantities, from England from, at least, early within the tenth century. Chester and Stamford wares are known from amongst the earliest levels at Fishamble Street (28).²³⁰ There was a change in the twelfth century, with the import of quite substantial amounts of northern French wares imported into the town.²³¹ This material suggests mercantile contact with England at an early date. This continued throughout the period and there has been a suggestion that the French wares may have come via English ports.²³² The types imported are varied including storage wares but also cooking pots, suggesting pottery was imported

²²⁶ James 1978, 5–6.

²²⁷ Wallace 1987a, 219.

²²⁸ Valante 2008, 159; Hudson 2005, 43.

²²⁹ McCutcheon 2006, 36, 59.

²³⁰ Wallace 1987a, 217.

²³¹ Wallace 1987a, 217–18.

²³² Wallace 1987a, 217–18.

as a commodity as well as being an archaeologically-visible marker of other forms of invisible trade.

International trade, whilst highly visible, was not the only form of exchange that occurred in Dublin. We can be confident that the town was a part of a regular and, presumably, largely short-distance provisioning network that saw it fed from areas beyond its immediate control. A population estimate of 4500 has been advanced for eleventh-century Dublin and this group of people would have required food from a large rural hinterland.²³³ Provisions are listed as a part of the spoils collected in the eleventh-century *Cormac Eigeas* and it seems very likely that the town would have had significant stores.²³⁴ Archaeobotanical information indicates that significant amounts of wood, fruits and nuts were consumed within the town.²³⁵ The largest sources of food for the town would have been served by the production of crops and meats. A large area, over 4000 hectares, would have been required to feed Dublin.²³⁶ This sort of area was probably beyond the immediate control of Dublin, outside of *Dyflinarski*, and thus would have required reliable and consistent exchange relationships with arable areas beyond this. A similar pattern is visible when the faunal remains are considered. They suggest that cattle produced 90% of the total meat within the town, with an age pattern that suggested that they were driven into the town from the countryside when the cattle had reached maturity.²³⁷ Furthermore, a twelfth-century account records that Dublin may also have exported some of this food, acting not just as a consumer but also a centre of trans-shipment.²³⁸ The provisioning of the town suggests that it was involved in consistent and reliable

²³³ Geraghty 1996, 59.

²³⁴ O'Donovan 1841, 47–54.

²³⁵ Geraghty 1996, 63.

²³⁶ Geraghty 1996, 65.

²³⁷ Wallace 1987a, 203.

²³⁸ Harris 2003, 13–16; Taylor 1912, 21–3, 44, 65.

exchange relationships, both to feed itself and also to sell overseas, with a large area somewhat removed from the town.

The people that are mentioned in a number of texts as being ‘taken’ from Dublin must be interpreted as slaves.²³⁹ Indeed, the *Cogadh* describes how ‘there was not a winnowing sheet...that had not a foreigner in bondage on it, nor was there a quern without a foreign woman.’²⁴⁰ While the *Cogadh* was a clearly propagandist and at times fantastical text that it mentions slavery is likely to reflect reality. The slave trade was not unique to the Norse towns but it was a part, quite possibly an important part, of their economy in the period. Holm has suggested that the eleventh century saw a boom in slave trading and this coincides with growth within the town.²⁴¹ Whilst unquantifiable, the fact that hundreds of captives could be taken at once suggests that the slave trade would have been a significant, if irregular, portion of Dublin’s economy.²⁴²

That market trade occurred within the town is known as Brian Boru is described as plundering the town, including its market, in the aftermath of the battle of Glen Mama.²⁴³ It has been argued that the market was outside of the town walls as the text implies that the town and market are separate entities and an old market is described to the south and west of the town walls in the Anglo-Norman period.²⁴⁴ Whilst a large-scale market may have existed outside the boundaries of the town, as was common in other Irish towns, there is evidence for exchange within the walls themselves.²⁴⁵ Modern-day Christchurch Place and the southern end of Fishamble Street were known as ‘Booth Street’ in the later medieval period implying that goods were bought and

²³⁹ CS 999; *Cogadh* p. 113 and 115.

²⁴⁰ *Cogadh* p. 117.

²⁴¹ Holm 1986, 340–1.

²⁴² Holm 1986, 334–7.

²⁴³ *Cogadh* p. 113.

²⁴⁴ Clarke 2002.

²⁴⁵ Hudson 2005, 88. Cf Map 2 in Appendix E.

sold in booths on the street.²⁴⁶ This would accord well with the perception of eleventh-century Sigtuna where street-front booths were also postulated.²⁴⁷ Near to this area, at the crossroads of High Street and Werburgh Street, there was a market cross suggesting that there was a definite market function for this area in the Anglo-Norman period.²⁴⁸ To the north of Christchurch, the merchant's guild was positioned near to the centres of riverine trans-shipment. The Anglo-Norman town certainly had a mercantile area focused around the site of Christchurch Cathedral. It is impossible to be certain that this can be back-projected into the Hiberno-Scandinavian period but it may well reflect earlier practice.

2.3 Authority and administration

There are various aspects within the town that suggest the importance of a Hiberno-Scandinavian ruling elite. The consistency of plot through time has led to the suggestion that it was administered by a central, royal authority.²⁴⁹ At Fishamble Street (28) there is remarkable consistency across over 130 years and up to fourteen different building phases. The divisions into plots rarely move more than centimetres between re-building events as can be seen in the overlaid boundary fences at either side of plot 3.²⁵⁰ This is less obvious in other areas although the small plot excavated at Werburgh Street (34) and eight buildings within one plot at Christchurch Place (32) also suggests something similar.²⁵¹ It has been suggested that there was a 'laying out' of Dublin into plots, early in its history, by a central authority which would explain the consistency of size of plots and their continuation through time.²⁵²

²⁴⁶ Clarke 2002, 8.

²⁴⁷ Roslund 1995.

²⁴⁸ Clarke 2002; Crawford 1911.

²⁴⁹ Wallace 2004, 21; Wallace 1987b, 273.

²⁵⁰ Wallace 1992c, 47; Wallace 2004, 20.

²⁵¹ Hayden 2002; Murray 1983.

²⁵² Wallace 1985, 112–13.

The presence of a number of substantial and sequential defensive works might also suggest elite control. The early earthen banks were small and it is hard to envisage that they had a serious defensive function. Perhaps less ambiguous is the large stone wall of c.1100. Interpretation of it has often suggested a fairly strong central authority as the resources needed to undertake a wall of this magnitude would have been significant.²⁵³ In addition to being able to command sufficient resources to build a large wall, elite authority is also suggested by the wall's delineating role. Medieval walls have been interpreted as a means of royal authority controlling an economy.²⁵⁴ This is based upon their ability to extract tolls from those entering and leaving the town. The ability to charge tolls on all traders is noted in an eleventh-century text where a toll for trade must be paid 'to the Lord' of Dublin.²⁵⁵

There is more direct evidence of a royal, governing presence within the town as there are at least two centres of governance known to have existed. The *Thingmot* (meeting place) is known to have existed at the east of the town.²⁵⁶ It would have been an assembly place similar to those known from other areas of the Viking world. This went out of use at some point in the early twelfth century when a large building within the town's defences appears to have acted as a 'court'.²⁵⁷ The precise location of this building is uncertain, but it has been surmised as occurring on the site of the medieval castle in the southeast of the defended settlement.

That the authority behind many of these things was royal can be inferred from the role of those named as kings of Dublin. Christchurch Cathedral was founded by Sihtric Silkenbeard in the early eleventh century.²⁵⁸ He donated land to the church and

²⁵³ Wallace 1985.

²⁵⁴ Samson 1992.

²⁵⁵ Valante 1998b, 250.

²⁵⁶ Clarke 2002, 3.

²⁵⁷ Clarke 1993, 6.

²⁵⁸ Kinsella 2000.

it is likely that Christchurch's position, in the centre of the town and at its highest point, was as a result of the former royal control of this area.²⁵⁹ Royal patronage of the church continued into the twelfth century when Ascall mac Turcaill gave land around Bride Street to Christchurch Cathedral.²⁶⁰ Presumably this land was formerly under his control and could be interpreted as royal. The land was more certainly suburban and this was an area in which there were a number of new churches emerging over the course of the twelfth century. They might be interpreted as indicative of an elite attempting to escape conditions in the defended town that Geraghty described as somewhere between the modern 'rubbish dump and the domestic compost heap'.²⁶¹ This interpretation is speculative but the patronage of churches was real with a number emerging during the twelfth century. Christchurch, the most central, is the church with the strongest royal connection.

The evidence suggests that the town had an active authority which can plausibly be interpreted as royal. The Hiberno-Scandinavian king could maintain a 'court' and patronise churches even if he may, possibly, have lived beyond the walls. The ability to maintain building plots, presuming that their regularity does imply active maintenance, would suggest fairly extensive administration. Similarly the wall, and earlier banks, would suggest a scale of wealth and desire for monumentality. It may have also functioned, as in other areas of Europe, as a means to delineate the edge of the urban space with those entering and leaving subject to dues.²⁶²

²⁵⁹ Kinsella 2000.

²⁶⁰ McMahon *et al.* 2002, 69.

²⁶¹ Geraghty 1996, 70.

²⁶² Samson 1992.

2.4 Characterising Dublin's economy

The economy of Dublin was enormously complex with the range of activities discussed above summarised in Table 2.2. This table leaves out some economic activity such as mercenary activity which may, or may not, be viewed as 'economic' in its nature. Similarly, the exchange of commodities – hinted at in textual references – and suggested as being very important on a European scale have yet to be consistently and effectively traced in Dublin.²⁶³ Textual references to furs and foodstuffs suggest that they are an important element of the town but archaeological approaches to the town have not prioritised the establishment of this within the urban environment.

Geographically Defined	Not geographically defined
<i>Production:</i>	<i>Production:</i>
Metal-working	Skins
Leather-working	<i>Exchange:</i>
Bone/Antler working	Wine
Amber-working	Jet/lignite
Textile preparation	Soapstone
Wood carving	Slaves
Ship-building	Pottery
<i>Exchange:</i>	
Minting	
Foodstuffs? (Fish, cereals, berries)	

Table 2.2 – Summary of economic activities in the town.

In general terms, Dublin grew enormously in the Early medieval period; from essentially nothing in the eighth century to being of significant size in 1170 AD. Population estimates are difficult, but around 4500 in the eleventh century is a possibility.²⁶⁴ The town was certainly the largest in Ireland. Table 2.3 notes that, by c.1100, it was about twice the size of Waterford which had an enclosed area of 6.16ha.²⁶⁵ In a European context, Dublin was of comparable size to contemporary

²⁶³ cf Barrett *et al.* 2004.

²⁶⁴ Geraghty 1996, 59.

²⁶⁵ Hurley 1997, 10.

Trondheim, a royally-founded town with a similar history of coinage, which measured c.400 x 350m in the eleventh century.²⁶⁶ It was also similarly sized to contemporary Chester which, despite having, significantly-larger Roman defensive walls had an occupied area of similar size.²⁶⁷

Period	Area enclosed within defences (ha)	Maximum North-South (m)	Maximum East-West (m)
C10th	6	350	220
C11th	12	620	250
C12th	12	900	400

Table 2.3 – Size of Dublin, by period.²⁶⁸

It had an economic output that also made it the wealthiest place within Ireland and also ranked highly in an Irish Sea context. The concentration of churches and monumental stone architecture that Dublin was able to boast by 1170 was significant and would have required vast resources to build and maintain. These resources were presumably supplied by the economic output of specialist producers in the town – metal-workers, comb-workers and leather-workers amongst others – in addition to the profits generated from mercantile trade. At the point at which Dublin becomes archaeologically visible in the tenth-century it appears that both production and exchange played an important role within the town and it seems possible that this was the case from very early within its history. However, this is not to say that it was static as shifting patterns of production – the importance of metals and leather at different points – and exchange – the growth in importance of slaves – are known. Overall, the pattern is of gradual expansion, with something of a spurt in the eleventh century, with Dublin evolving from a small ship camp into the most significant settlement in Ireland and, arguably, the Irish Sea.

²⁶⁶ Risvaag 2006, 34.

²⁶⁷ Harris 2003, 16–33.

²⁶⁸ Maximum lengths are indications of distance from one extreme of settlement to the other. This does not necessarily mean that all of the area in between was settled.

Chapter 3 – Classifying the Hiberno-Scandinavian coinage

3.1 Introduction

Interpreting the Hiberno-Scandinavian coinage requires a coherent chronology and typology upon which analysis of production and usage can be built. The nature of the evidence in Ireland – with a series of illiterate coins largely recovered from nineteenth-century hoards – means that any chronology cannot be as precise as other contemporary areas where kings, mints and moneyers are recorded on coins from hundreds or thousands of finds. However, through a careful analysis of dies, hoards and imagery it is possible to produce a classificatory system. The following is an explanation of a typology of Ireland's early medieval coinage. It proposes a typology for the entire period c.995-1170. However, the early material – that through to c.1060 – is largely unaffected by the change in typology, it is merely renamed to ensure consistency. The later material, in particular that from the late-eleventh century, has been substantially reworked to take into account new finds and interpretations.

3.1.1 Background

Definition and classification of the Hiberno-Scandinavian series has been attempted at numerous points over the past 300 years. The series was first illustrated in 1639 in Sir James Ware's *De Hibernia et Antiquitatibus eius Disquisitiones* where a number of coins from the Glendalough hoard were pictured.²⁶⁹ The wood cut images were of sufficiently high standard for them to be matched with surviving coins in modern times.

²⁶⁹ Ware 1654.

The first classification of the coinage was that of James Simon. His *Essay towards an Historical Account of Irish Coins* was written in 1749 and reprinted with important additions in 1810.²⁷⁰ This work documented the entirety of the Irish coinage with the Hiberno-Scandinavian coins forming only a relatively small proportion of the work. Nonetheless, this is probably justifiably to be regarded as the first work on the classification of the Hiberno-Scandinavian coins. It was an important work into the nineteenth-century; an appendix was added by Thomas Snelling in 1767 and with further plates added from Matthew Duane's collection in 1810.

Simon's work was superseded by that of John Lindsay. His *View of the Coinage of Ireland*, published 1839, was able to draw upon far more material than had been available to Simon.²⁷¹ In his work he set forth a system which attributed the coinage to the Viking invaders of Ireland and divided it by the various rulers recorded in the Annals. The work also includes the first attempt towards the systematic recording of hoards. However, he was hamstrung in his attempts, in a similar manner to previous authors, by attempts to make sense of the illiterate legends on the coins. This led to a confused classification of the coinage, with often fanciful attributions.

The early twentieth century saw the publication of two works which offered differing views of the Hiberno-Scandinavian series. In 1909, Bernard Roth published a paper in the *British Numismatic Journal* entitled 'The Coins of the Danish Kings of Ireland'.²⁷² This drew upon his and several other large collections, publishing over 200 coins and discussing each in turn. The work groups the coinage by iconography and attempts discussion of the origins of the imagery. Roth included a number of Scandinavian coins and there is little in the way of an alternative chronology/grouping proposed, despite the larger corpus of material at the author's disposal.

²⁷⁰ Simon 1810.

²⁷¹ Lindsay 1839.

²⁷² Roth 1909.

Roth's article inspired the collector Harry Alexander Parsons to produce a further classificatory system shortly afterwards. He published 'The Chronology of the Hiberno-Danish Coinage' in the pages of the *British Numismatic Journal* in 1923/4.²⁷³ The work drew heavily upon the plates of Roth but presented a more systematic consideration of the prototypes for the Hiberno-Scandinavian series. However, problems placing coins in or out of the Hiberno-Scandinavian series still plague his work with many Irish coins attributed elsewhere. Parsons moved closer to a modern understanding of the series; placing its beginning to the very end of the tenth century and suggesting a more coherent chronology for the coins illustrated by Roth.²⁷⁴ However, his chronology ceased c.1100 and was quite erratic before this, relying almost exclusively upon stylistic inference.

William O'Sullivan, as curator of the National Museum of Ireland, began to work on the coinage in the mid-twentieth century. He published his handbook 'The Earliest Irish Coinage' in 1949 and it was reprinted twice in the following 12 years.²⁷⁵ The work published a number of previously unseen types and divided the material into 'Early', 'Middle' and 'Late' groups. Most of these chronological divisions have stood the test of time and are still broadly valid to this day.

Perhaps O'Sullivan's greatest achievement in this field was to inspire Michael Dolley who, in the 1960s, produced the defining work in the field.²⁷⁶ In 1966 Dolley considered the Hiberno-Scandinavian series as an entirety, dividing it into seven chronological phases. This was based upon an excellent knowledge of the coins, particularly those in the British Museum where he worked, and a systematic listing of

²⁷³ Parsons 1923.

²⁷⁴ Parsons 1923, 124.

²⁷⁵ O'Sullivan 1961.

²⁷⁶ Dolley 1966a.

the hoard evidence. Dolley altered the chronology of his phasing somewhat between 1966 and his death in 1983 but they can be summarised as follows:

Phase	Dolley 1966	Dolley <i>et al.</i> 1975
I	c.995-1020	c.997-1020
II	c.1015-1035	c.1020-1035
III	c.1035-1055	c.1035-1055
IV	c.1055-1065	c.1055-1065 or a little later
V	c.1065-1095	c.1065-1095
VI	c.1095-1110	First half of the Twelfth Century
VII	c.1110-1150	Mid-twelfth century

Figure 3.1 – Dolley’s chronologies compared²⁷⁷

Dolley’s work has stood unchallenged over the past fifty years. It has formed the basis for further research in the area and has provided a means of classifying new finds of coinage. However, when looking to classify beyond these phases the typology is very complex and often repetitive. The range of material has also expanded somewhat since 1966, with new types which do not fit into Dolley’s typology. It has thus been deemed necessary to re-evaluate the typology. While phases I to III are broadly accepted, the later parts of the coinage are quite complex and have required sub-division. Rather than reconfigure half of the typology it is suggested that a new typology of Groups A to Q be used. This is designed to encompass all of the types in the Hiberno-Scandinavian series, including the iconographic diversity of Dolley phases IV to VII.

3.2 Methodology: grouping and dating

The following section presents an alternative system for classifying the Hiberno-Scandinavian coinage with emphasis on creating a system that is flexible enough to contend with the iconographic diversity of the late-eleventh century in addition to periods of relative iconographic stability before and after this. It places the Hiberno-Scandinavian series in chronological groups. It is, due to the nature of evidence and

²⁷⁷ Dolley 1966a; Galster *et al.* 1975; Blackburn 2008, 116.

its retrieval, a somewhat complex process and the methods used for classification and dating are worthy of outline.

It is also reliant upon the hoard record, largely that from Ireland. There are some limitations to numismatic evidence, particularly when it draws from hoarded material.²⁷⁸ Hoards may be deliberately deposited, introducing selectivity to the coins that they contain. This raises the issue as to how representative the sample of coins that *survive* are of the coins that were *circulating* at the time. Furthermore, the deposition of hoards does not mirror the economy of the time and is often conditioned by chance and political circumstance.²⁷⁹ This means that there can be periods where many hoards are known and other where there are comparatively few, which may have little connection to the volumes of silver in circulation. The second of these issues exacerbates the first as the small number of surviving hoards from eleventh- and twelfth-century Ireland makes it difficult to discern, through comparison, whether a hoard is ‘typical’ of the circulating currency or not. There is no simple solution to these issues and in the discussion of grouping and other analyses below it has been noted where they may influence matters.²⁸⁰ Furthermore, greater weight has been placed upon the eleventh-century evidence than the twelfth. This is due to the fact that the greater volume of hoards, and surviving coins, mean that it is possible to be more confident that the surviving coins are reflective of the circulating currency.

²⁷⁸ These issues are discussed in greater detail below in section 8.3.1.

²⁷⁹ Blackburn 2003, 24.

²⁸⁰ For example, see section 3.3.2.

3.2.1 Grouping

The Hiberno-Scandinavian coinage has been divided into a number of groups which draws upon a more minute system of types.²⁸¹ This process has involved the assessment of the following three criteria:

- Hoard contexts
- Stylistic and die links
- Physical characteristics

The hoard context of a coin has been used as a means of classifying it. Coins from the same hoard are likely to represent a sample of coinage available to the hoarder in the period before the act of deposition.²⁸² The assumption is that coins from the same hoard are of a broadly similar date. It has also been assumed that, where they overlap in terms of type, they can be utilised to create a relative chronology. For example, a small number of types may occur in two different hoards of slightly different date, one earlier and one later. The overlapping types would be interpreted as being amongst the latest coins in the former and the earliest in the latter. As Figure 3.2 demonstrates, there are periods where this overlapping is very helpful – particularly the 1070s and the 1090s – whilst there are other periods – the 1080s and early twelfth century – where the absence of overlapping hoards makes interpretation much more difficult. The figure omits material pre-1060 where small numbers of Hiberno-Scandinavian coins are found in many Scandinavian hoards.²⁸³ These hoards included coins which had circulated for long periods, as is visible in the Juura and Store

²⁸¹ A detailed discussion of types and die-links is included in Appendix A.

²⁸² Grierson 1975, 130.

²⁸³ Blackburn and Jonsson 1981.

Frigaard hoards in Figure 3.2, and which are of only limited utility in the current context.

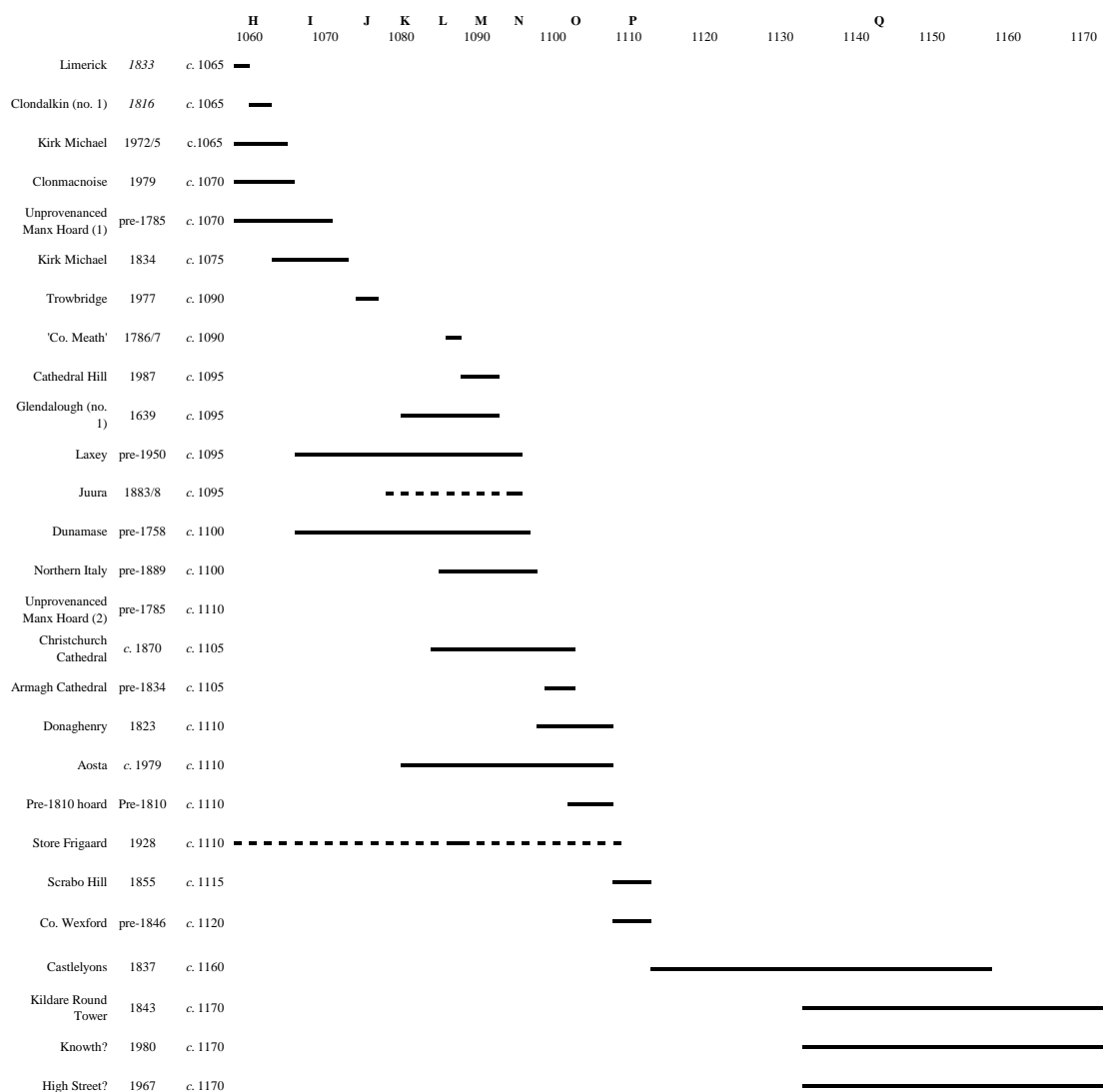


Figure 3.2 – Dates of coins in hoards containing Hiberno-Scandinavian coinage

The study of iconography has been integral to determining both relative and absolute chronology. At a simple level, it might be stated that coins which are stylistically similar are probably of broadly contemporary date. However, the imagery on the coinage of Dublin was very self-referential, reproducing earlier images on a variety of later coinages.²⁸⁴ This was particularly the case with the *Long Cross* reverse and the profile bust obverse which were utilised almost continuously throughout the

²⁸⁴ See section 6.1.2.

eleventh century and into the twelfth. Thus analysis focuses upon the style of the die engraving in addition to the imagery on the coins. Careful analysis of dies has been used to attempt to determine contemporary similarity from later imitation. This is a complicated process and thus much of the description behind this has been included in Appendix A.

The physical characteristics of the coinage, particularly its weight and size, have also been used as a means of determining grouping and chronology. Broadly speaking, it has been assumed that the coins of a contemporary period are likely to have had a similar weight standard. This does not assume that this standard remained unchanged, merely that weight was one analytical factor. However, this is one of the weaker analytical factors as there is considerable variation even among coins known to be broadly contemporary.²⁸⁵ A more useful way of characterising the coinage is through the module of the flan. It has been assumed that the thin bracteate coins (Group Q below) were likely to all have been struck in one period and that coins struck on ‘small flans’ (Group M below) probably all date to one period as well.

3.2.2 Dating

The dating of the coinage is more difficult than most other contemporary coinages as there are no inscriptions to tie the chronology into the historical record. Whilst the Hiberno-Scandinavian coinage had begun with literate legends over time these diverged from the original, with Σ ITRIC becoming a variant of NTRC and F/EREMIN rendered in a number of ways including FERENN and IFIRNEN. As Figure 3.3 demonstrates, by the mid-eleventh century all the legends were entirely illiterate and in many cases were rendered as a series of vertical strokes.²⁸⁶

²⁸⁵ See section 5.2.

²⁸⁶ Dolley 1966a, 128.



Figure 3.3 – Degradation of legend legibility

The absence of literacy has a practical implication for the interpretation of production. The simplest way to produce coherent dating for any coin series is to tie a relative sequence into known historical dates.²⁸⁷ England provides the best comparison with the king's reigns broadly coinciding with coinage issued in their name. Kings with short reigns provide the best example. It is possible to date Harold Godwinsson's *Pax* coinage to 1066. Where a king had a longer reign, such as Æthelred II, there are more problems but determining the sequence of the coin types allows for the estimation of dates of each type.²⁸⁸ The Dublin coinage does not have any of the information contained in legends of other coin series and thus dating can be quite difficult. In comparison to coin series where the numismatic evidence can be directly correlated with the historical record, the chronology produced below is significantly hazier with greater margins of error.

²⁸⁷ Grierson 1975, 141–4.

²⁸⁸ Brand 1984; Lyon 2003, 66–71.

King	Type	Date Range	Alternate Dates (where different)
Æthelred II	<i>Crux</i>	991 - 997	
	<i>Long Cross</i>	997 - 1003	
	<i>Helmet</i>	1003 - 1009	
	<i>Last Small Cross</i>	1009 - 1017	
	Cnut	<i>Quatrefoil</i>	1017 - 1023
Harold/Hathacnut	<i>Pointed Helmet</i>	1023 - 1029	
	<i>Short Cross</i>	1029 - 1036	
	<i>Jewel Cross</i>	1036 - 1038	
Harthacnut	<i>Fleur-de-lis</i>	1038 - 1040	
	<i>Arm and Sceptre</i>	1040 - 1042	
Edward the Confessor	<i>Pax</i>	1042 - 1044	
	<i>Radiate/Small Cross</i>	1044 - 1046	
	<i>Trefoil Quadrilateral</i>	1046 - 1048	
	<i>Small Flan</i>	1048 - 1050	
	<i>Expanding Cross</i>	1050 - 1053	
	<i>Pointed Helmet</i>	1053 - 1056	
	<i>Sovereign/Eagles</i>	1056 - 1059	
	<i>Hammer Cross</i>	1059 - 1062	
	<i>Facing Bust</i>	1062 - 1065	
	<i>Pyramids</i>	1065 - 1066	
Harold Godwinsson	<i>Pax</i>	1066 - 1066	
William I	type i	1066 - 1068	1066 - 1068
	type ii	1068 - 1070	1068 - early 1070s
	type iii	1070 - 1072	early/mid-1070s
	type iv	1072 - 1074	mid/late 1070s
	type v	1074 - 1077	late 1070s – early 1080s
	type vi	1077 - 1080	early/mid-1080s
	type vii	1080 - 1083	mid-1080s - ?1087
William I/William II	type viii	1083 - 1086	1087? - 1090
William II	type i	1086 - 1089	early 1090s
	type ii	1089 - 1092	early/mid-1090s
	type iii	1092 - 1095	mid-1090s
	type iv	1095 - 1098	mid/late 1090s
	type v	1098 - 1100	late 1090s-1100
Henry I	type i	1100 - 1102	
	type ii	1102 - 1103	
	type iii	1103 - 1105	
	type iv	1105 - 1106	
	type v	1106 - 1107	
	type vi	1107 - 1109	
	type ix	1109 - 1111	
	type vii	1111 - 1113	
	type viii	1113 - 1115	
	type xi	1115 - 1117	
	type x	1117 - 1119	
	type xii	1119 - 1121	
	type xiii	1121 - 1123	
	type xiv	1123 - 1125	
	type xv	1125 - 1135	
Stephen	type i	1136 - 1145	
	type ii	1145 - 1150	
	type vi	1150 - 1154	
	type vii	1154 - 1158	

Table 3.1 – Dating schemes of the English Coinage²⁸⁹

²⁸⁹ cf Allen forthcoming.

The dating of Hiberno-Scandinavian series largely rests upon links with the English coinage. English coins have been extensively categorised and ordered. The dating of the coinage remains a controversial subject with much of the precise chronology previously suggested challenged in recent times.²⁹⁰ The dates suggested for the coinage in Table 3.1 are more uncertain than might be imagined. They are, however, unlikely to be incorrect in their relative sequence. Similarly, their absolute dating is unlikely to be more than a few years out. This is variable, affecting the chronology for the long reigns in particular. Where it introduces uncertainty it has been flagged below and in Appendix A.²⁹¹

The dating of the Irish series rests upon that of the English in two ways. The first of which is when Hiberno-Scandinavian coinage is found alongside that of England. It is generally assumed that the coinage is thus probably broadly contemporary. An example of this is the Dunbrody hoard which can be dated to c.1050 on account of the English coins contained therein.²⁹² In this case, English coins are used to give an absolute date to the relative chronology of Hiberno-Scandinavian groups F and G (Dolley's phase II and III) in the hoard.

The other major way that it is possible to date Hiberno-Scandinavian coinage is through stylistic imitation. The Dublin coinage drew upon the imagery of England when looking for motifs to use upon its coinage.²⁹³ This is often quite specific with the Dublin coinage imitating all or some of the features of the English coinage. This imitative process provides a definite *terminus post quem*. However, it is impossible to trace exactly how quickly Dublin moneyers imitated English designs. It could be argued that this was a reasonably rapid process as a number of English types were

²⁹⁰ Lyon 2003; Stewart 1990; Allen forthcoming.

²⁹¹ For example, see section 3.3.6.

²⁹² Dolley 1966a, 67–8.

²⁹³ See section 6.1.2.

copied in succession despite only limited periods of validity in England. Even the *Pax* coinage of Harold II, struck for only a year in England, was copied in Ireland.²⁹⁴ This would suggest a fairly rapid transmission of iconography. The effect this has on the chronology below is that one of the assumptions is that where Hiberno-Scandinavian imitation occurs it can generally be broadly assigned to a period not too far removed from its prototype.

3.2.3 The proposed classificatory system

The following is a proposed typology/chronology for classifying and dating the Hiberno-Scandinavian coins. It draws heavily upon the detailed type and die analysis contained in Appendix A. The coinage has been divided into ‘groups’ and ‘types’. Categorisation of coins into ‘groups’ reflects the period in which they were struck, it is a chronological marker. Thus, groups can encompass iconographic heterogeneity but coins in a group – even when they look quite different – are interpreted as being broadly chronologically contemporary. Groups can thus be said to be largely chronologically accurate.

Division into ‘types’ reflects the variety of iconography that is present in the Hiberno-Scandinavian coinage. Each type is iconographically related and may encompass a number of dies. The process of dividing and grouping coins is a subjective one and decisions regarding amalgamation and division are particularly difficult in the second half of the eleventh century. The detail of this process is contained in Appendix A where an attempt to present a more precise relative chronology has been made.

²⁹⁴ For example see nos.166-183 in Appendix B.

In the catalogue (Appendix B) the group and type provide the main system of classification with dies and coin also being represented. Thus an individual coin is represented in the following manner:

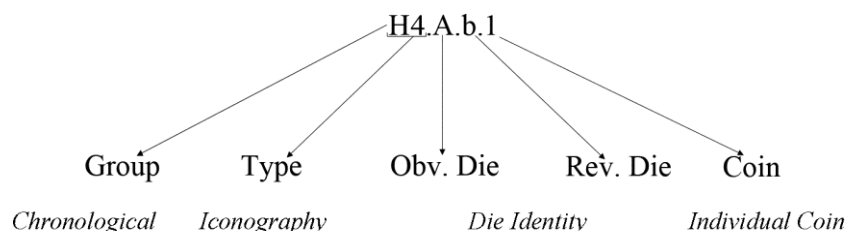


Figure 3.4 – Summary of die identity code used to identify a coin in Appendix B

The system is hierarchical meaning that, for example, in Group I there are eighteen types, numbered 1 to 18. Each type, denoted I1, I2 etc., is stylistically different but, being from the same group, is likely to be broadly chronologically contemporary. In each type there are a number of obverse and reverse dies, each of which has similar iconography but represents a different die. These are denoted with a letter, capitalised for the obverse and lower-case for the reverse. For example, in type I8 there are obverse dies *A* to *C* and reverse dies *a* to *d*, denoted as I8.A.a, I8.B.b etc. Lastly, in each die combination there are a number of coins. Each of these is struck from the same dies and the different specimens are denoted with a numeral at the end. For example, in die combination I8.B.b there are three coins (I8.B.b.1 to I8.B.b.3; nos. 184-6 in Appendix B), all of which are die-duplicates from the Kirk Michael 1834 hoard. On the unusual occasion where there are mules between types the die has been marked with an asterisk, for example die *c** in type I11 is also used in type I12.

Field	Example	Explanation
Group	I	Chronological marker (Group I dates c.1065-1075)
Type	I5	Iconographic marker (I5 is profile bust with symbols/Long Cross type)
Obv. Die	E	Obverse die code, capitalised (E denotes fifth die of this type)
Rev. Die	e	Reverse die code, not capitalised (e denotes fifth die of this type)
Coin	9	Coin number, indicating which number coin this is with this combination of dies (9, in this case, denotes this is one of at least nine die-duplicates)

Table 3.2 – Summary of explanation of die code



Figure 3.5 – Coin no. 144 with die code I5.E.e.9

Group and type, the initial letter and number, provide analytical tools whilst die and coin notations are largely for reference to the catalogue. The system is designed to be flexible so that when currently unknown types, dies or coins are found they can be inserted into the current classificatory system. The only unit that is likely to remain unchanged as new discoveries are found is the grouping which is a chronological division.

The dates given for each group are ‘round’ figures of five years (or multiples thereof) and will always be rendered with *circa* beforehand, for example Group N is dated to *c.*1095-1100. The *circa* represents the uncertainty regarding the precision of the dates. The date range is not designed to suggest that there was a periodic change of type every five years but represents an attempt to be cautiously accurate with dating. It is perhaps best understood as short-hand with ‘*c.*1095-1100’ meaning ‘the late 1090s’.

It should be noted that the division into types does not mean that each should be interpreted as being of roughly equal length. There are a large number of types that cover the late-eleventh century. This was a period of enormous iconographic variety and the large numbers of types and heterogeneous groups reflect this. A type in that period might represent only a very brief period of striking, type J2 is known from two dies for example and was almost certainly struck for less than a year. Other types represent far longer periods; O2 might cover the majority of a decade (*c.*1100-1110)

as there was far greater iconographic consistency at that point. The types are thus a construct to assess relative chronology and can only be cautiously associated with absolute chronology.

3.3 Typology

The coinage of the period before AD 1060 has been included in the classificatory system so that it is sequential and logical for the entire Hiberno-Scandinavian series. However, the main focus of the typology has been to bring order to the later material. The early sections of the coinage are reasonably well understood and thus have been omitted from the appendix and are only presented in summary below. The coinage post-1060 has been divided into 10 groups (H to Q) with two others assigned to describe coins which lie outside of the regular Dublin series. A brief discussion of each of these groups in terms of their iconography, chronology and homogeneity is included below. A summary of this grouping, their dating and a brief description is provided in Table 3.3. A full breakdown of all types can be found in

Table 3.4.

Dolley	Group	Dating	Types	Description
I	A	c.995-97		<i>Crux</i> Imitations
	B	c.997-1003		<i>Long Cross</i> Imitations
	C	c.1003-1009		<i>Helmet</i> Imitations
	D	c.1009-17		<i>Last Small Cross</i> Imitations
	E	c.1017-1020		<i>Quatrefoil</i> Imitations
II	F	c.1020-35		Long Cross with pellets reverse
III	G	c.1035-60		Long Cross with hands reverse
IV	H	c.1060-65	H1-H2	'Scatched Cross' reverse types
V	I	c.1065-75	I1-I18	Long Cross with sickles and related types
	J	c.1075-80	J1-J10	Imitation of 1070s Anglo-Norman Types
	K	c.1080-85 (a little later?)	K1-K8	'Bird' and Associated types
	L	c.1085-90 (a little later?)	L1-L13	Paxs Imitations, derivatives and related types
	M	c.1090-95	M1-M8	Small Flan
	N	c.1095-1100	N1-N7	Stylised facing and profile busts
	VI	O	c.1100-10	O1-O2
VII	P	c.1110-15	P1-P3	Profile and Quatrefoil ('Semi-bracteates')
	Q	c.1115-70	Q1-Q13	Bracteate
VII	W	c.1110-20	W1-W3	Wexford Coins
N/A	Z	Uncertain	-	Imitations/Forgeries

Table 3.3 – Summary of proposed Classification of Hiberno-Scandinavian coinage.

3.3.1 The coinage before AD 1060



Group A

Coinage was first struck in Dublin in c.995 (Group A) when the mint imitated the contemporary coinage of Anglo-Saxon England, the *Crux* type.²⁹⁵ Direct and, it is presumed, contemporary imitation of English coin types continued through the *Long Cross*, *Helmet* and *Last Small Cross* coinages of Æthelred into the *Quatrefoil* coinage of Cnut.²⁹⁶ Dolley termed these coins ‘phase I’ but these have been divided into groups A to E in the current work, reflecting the chronological and iconographic variety.²⁹⁷



Figure 3.6 – Coins of Groups A to E

Around 1020, these coins were replaced by Group F (phase II) which marked a decisive shift away from contemporary imitation of English coins.²⁹⁸ The Long Cross reverse became the archetypal form for Hiberno-Scandinavian coinage at this period. Blackburn has described these coins as ‘a coinage of national identity’ suggesting that its production represented a substantial coin reform.²⁹⁹ This description seems justified as the



Figure 3.7 – Group F coin

²⁹⁵ Dolley 1966a, 119–20.

²⁹⁶ Dolley 1966a, 119–27; Blackburn 2008, 123–7.

²⁹⁷ Dolley 1966a, 119–27.

²⁹⁸ Dolley 1966a, 128–9; Galster *et al.* 1975.

²⁹⁹ Blackburn 2008, 127.

break from contemporary imitation represented a significant shift in monetary production. The homogeneity of the coinage during Group F is also quite notable. The iconography remained very consistent between *c.*1020 and *c.*1040. The weight of the coins exhibited a gradual decline during this period but this was not uncommon in medieval coinages where the earliest coins are often struck to the highest weight.³⁰⁰



Figure 3.8 – Group G coin

The Group G (phase III) coinage was instigated *c.*1040, the Long Cross reverse remained but the small pellets were replaced by ‘branch’ hands in

one or two quarters.³⁰¹ There was also a renewal of the weight of the coinage from a low of *c.*0.65g at the end of Group F to around 1.05g at the beginning of Group G.³⁰² The period is dominated by finds from the enormous Dunbrody hoard.³⁰³ Dating the end of this phase of coinage is very difficult as it falls into a period for which there are few hoards. Dolley preferred a date *c.*1055 but based upon the various English types imitated in subsequent groups a date *c.*1060 is perhaps more likely. Evidence for a date as late as this is provided by excavations at Christchurch Place where a Group G coin has been found in a building dendrochronologically dated to *c.*1059.³⁰⁴

3.3.2 Group H

‘Scratched cross’ reverse types

*c.*1060-5, (types H1-H2, *Catalogue nos.* 1-110), Dolley phase IV

³⁰⁰ Petersson 1969, 159–61.

³⁰¹ Dolley 1966a, 130–1.

³⁰² Blackburn 2008, 132.

³⁰³ Dolley 1966a, 67–8; Blackburn & Seaby 1976.

³⁰⁴ Murray 1983, 3.

This group is formed of Dolley's Phase IV (as described in 1966 and not that subject to revision in 1975, *cf* N1-N4) and it has two distinct



Figure 3.9 – Type H1 coin

elements.³⁰⁵ The first is a series of profile busts (type H1) which form the interface between Group G and the later phases of coinage under analysis below. It is possible to trace how an obverse die was used with reverses of Group G before being coupled with a 'scratched cross' reverse - meaning a Long Cross with small incised cross in one quarter.³⁰⁶ The weight of this group of coins is high, c.0.90g, and this broadly corresponds with the late stages of Group G. The other major group of coins of this type are of facing bust form (type H2). These would appear to be the first facing bust types minted in Dublin and were probably modelled upon the type of Edward the Confessor.

The problem for interpretation of these types is that they do not really overlap in terms of their weights or their provenance. The profile bust coins have significantly higher weights compared to the facing busts and they are not found in the same hoards. The problem is compounded as there are two hoards – Kirk Michael 1972 and Clonmacnoise – which do not have any coins of either type despite containing both earlier Group G and later Group I coins. There is also a degree of overlap in terms of types represented between the Kirk Michael 1834 hoard and those of Clonmacnoise and Kirk Michael 1972. The absence of Group H coins from any of these hoards is disquieting.

The hoard evidence might suggest a transition between Group G and those of Group I below. This would leave no place for coins of Group H at this point in the

³⁰⁵ Dolley 1966a, 131–4; Galster *et al.* 1975 no. 223-45.

³⁰⁶ Nos. 1 to 3 in Appendix B.

chronological sequence. Indeed this problem led Dolley to suggest another mint for their striking.³⁰⁷ However, there is evidence that they were struck in Dublin and that they should be dated to the period immediately after Group G. A find of a lead piece, struck from official type H2 dies, in excavations at Christchurch Place in Dublin strongly suggests that the coins were struck in the town.³⁰⁸ The coins are also pseudo-literate, with 'lettering' as opposed to vertical strokes in the legends of both groups, giving an impression that they are 'early' in the chronology of the late-eleventh century. This is confirmed by the iconography of H2 which imitates Edward the Confessor's *Facing Bust* type, struck in the early 1060s. The fact that the earliest coins appear to utilise a group G reverse would suggest that they immediately succeeded that group.

Whilst not an entirely satisfactory explanation it seems most likely that this group was struck from only a small number of dies representing only a very brief period of minting. This would explain the absence of the coins from near contemporary hoards as they were struck only in small numbers. In favour of such an interpretation is the absence of coins of this group from the Dublin excavations and the high level of die-linking amongst the coins.

If this is the correct model, then there was a rapid debasement of the weight of the coinage from a high of a little under 1.0g with the initial dies of H1 to a little over two-thirds of that value in H2. As Figure 3.10 demonstrates, there is a degree of variability in type H1 with the lower weights overlapping with the higher in H2. The more stylised, and presumably later, pieces in H1 are also amongst those with the lightest weights. It is possible that during the course of striking type H1 there was a significant debasement of the weight of Dublin's coinage.

³⁰⁷ Dolley 1980a.

³⁰⁸ Galster *et al.* 1975 no. 247; see discussion in section 7.1.

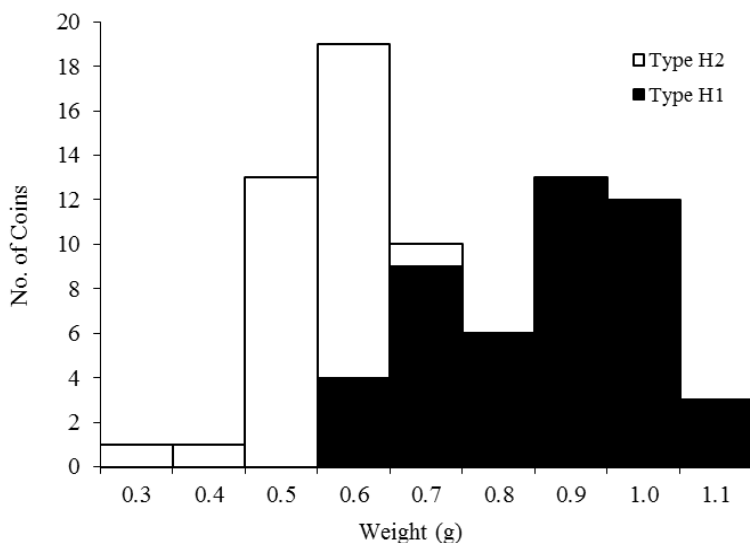


Figure 3.10 – Distribution of weights in Group H

With the above caveats in mind it seems that the coins in group H are probably to be regarded as a relatively brief minting phenomenon of the period between the Dunbrody hoard *c.*1050 and the beginning of the minting of ‘Kirk Michael’ types *c.*1065. This can probably be narrowed down to *c.*1060-5 on account of the imitation of *Facing Bust* coins of Edward the Confessor and the likelihood that the group was only a brief phenomenon.

The rapid debasement of the weights of the coins seems to contrast with periods before and afterwards where weights were far more stable and may be indicative of specific economic or political circumstance. In the absence of further finds it is difficult to be more certain than this.

3.3.3 Group I

Long Cross with sickles and related types

*c.*1065-75, (Type II-II8, nos. 111-325), *Dolley phase V*

The coinage of *c.*1065-75 is sited on the interface between two early hoards - Clonmacnoise and Kirk Michael 1972 - and the large Kirk Michael 1834 hoard. The two former hoards contain coins of earlier Groups (F and G) and were deposited

several years before the Kirk Michael 1834 hoard.³⁰⁹ The types that are not found in Kirk Michael 1834 but are in the other hoards (types I1 and I2) are thus deemed to be early, probably struck c.1065. The coins of the Kirk Michael 1834 hoard appear to span the period of c.1065-75 and thus Group I has been interpreted as having a similar chronology.

Dating evidence is provided by the copying of several English motifs. The most prominent is imitation of the *Pax* type of Harold II. This was copied as a reverse alongside several



Figure 3.11 – Type I8 coin

differing obverses (types I4, I7, I8 and I12). It dates from 1066 in England and provides a reasonably strong absolute dating point. The facing bust coins of type I2, I4 and I12 may be influenced by either the *Facing Bust* type of Edward the Confessor or William I type II. There are stylistic arguments in favour of both but the c.1065-75 dating allows room for either interpretation. The coinage towards the end of the group (I17-I18) may possibly just postdate the Kirk Michael 1834 hoard as none can be definitively traced to it. However, the point should not be made too strongly as they give the impression of being hoard coins, being highly die-linked, and thus they may well be unidentified elements of the hoard.

A variety of forms of coinage are represented in this group. The main obverse form is a profile bust left (types I3-I7, I11-I12 and I14-I15). It is often found with crosses, pellets or hands on/around the bust. The facing bust is also quite common (I2, I6 and I13). There are a number of right-facing profile busts (I8-I10) but these share many of the same reverse types as the left-facing profile busts and probably should be viewed as variants of these rather than anything unique in their own right. There are

³⁰⁹ See Appendix F.

two *Agnus Dei* imitations that probably copy coins of Scandinavia rather than England but are remarkable nonetheless as they are the only coins that depart radically from the iconography of the rest of the group.³¹⁰ The novel iconography of types I16-I18 – an unusual linear obverse – finds no obvious prototype and does not aid with dating. They are interpreted as ‘late’ in the Kirk Michael 1834 hoard as they are quite unlike any coins in the earlier Clonmacnoise and Kirk Michael 1972 hoards.



Figure 3.12 – Bust types in Group I

The reverses are of five forms; Long Cross, Short Cross, Small Cross, Jewel Cross and *Pax* imitations. The *Pax* imitations are all illiterate, rendering **PAX** as a series of vertical lines, and often include pellets above and below the central inscription. The Long Cross coins contain an array of different imagery in the quarters of the reverse and this is what is used to divide them by type. Most of the imagery is fairly consistent across the different types with annulets, sickles and hands reoccurring. A small number of other imitations occur but these are known from only a limited number of dies and were perhaps only struck on a small scale.



Figure 3.13 – Reverse types in Group I

³¹⁰ See section 6.1.2.

The weight of the coins is quite consistent around a weight of 0.90g. Both standard deviation and quartile range are low, indicating a relatively homogenous grouping. Thus whilst there is a degree of variability in the imagery of the coinage the weight remained quite stable across the period *c.*1065-75.³¹¹

3.3.4 Group J

Imitations of Anglo-Norman types of the 1070s, and associated types

*c.*1075-80, (Types J1-J10, nos. 326-375), *Dolley phase V*

The period after the deposition of the Kirk Michael 1834 hoard is one which it is difficult to be certain about. Whilst there are a large number of coins representing the different types in Group I, this is not the case for coins that date from the mid-1070s onwards. The only known hoard provenance for these coins is the Dunamase hoard but this was deposited in the 1090s and thus relatively few coins of the 1070s remained in it. Consequently, assessing patterns of production relies upon very small numbers of coins.

Dating evidence for coins of this type is not strong as it rests upon several stylistic inferences. Types J1 and J3 appear to imitate successive types of England in the mid-1070s.



Figure 3.14 – Type J3 coin

This would suggest a date of roughly similar period but the situation is somewhat complicated by the fact that J6 imitates a coin of the late 1060s. However, its absence from the Kirk Michael hoard places it firmly into the mid-1070s, at something of a chronological remove from its prototype.

Perhaps the most important element for analysing these coins is their weight. J1 has a high mean (0.72g) but also significant variability whilst the other types in group

³¹¹ See section 5.2.

J were all struck to a consistently low weight (*c.*0.65g). This can be contrasted to the period *c.*1065-75 (Group I) and *c.*1085-90 (Group L) where the weight was much higher. The iconography suggests that coins should be dated to the 1070s and it seems likely that there was a rapid debasement of the weight of the coinage in the mid-1070s.³¹² This took the weight standard from a high of *c.*0.90g in the late 1060s to something around 0.65g in the late 1070s. This debasement may be visible in the high weight of the most legible coins of J1 with the less legible, and presumably later, coins showing markedly lighter weights.

The coins again combine a series of differing obverse and reverse types. There are facing busts in addition to profile busts left and right. The facing busts are direct imitations of William I type iv including elements of the reverse as well. There are a small number of profile bust right coins which appear to form a fairly discrete unit suggesting they were perhaps struck over a relatively brief period. However, the majority of coins are the standard Hiberno-Scandinavian left-facing bust. The bust during the late 1070s was quite upright and is often found with an ear, pointed nose and some drapery.



Figure 3.15 – Bust types in Group J

There are seven different types of reverse that were utilised during this relatively brief period. These range from fairly direct imitation of contemporary English forms (type J1 or J6) to those that echo much-earlier Hiberno-Scandinavian types (J5). This is a period in which the Long Cross reverse is used only sporadically.

³¹² See section 5.2.

3.3.5 Group K

‘Bird’ and associated types

c.1080-85 (or a little later?), (Types K1-K8, nos. 376-434), Dolley phase V

Groups K and L span the 1080s and coins of these groups primarily derive from the hoards of Dunamase and Glendalough.

It is argued below (group L) that the *Paxs* imitation coinage was an important one and



Figure 3.16 – Type K8 coin

probably marked a new style and weight standard for the Dublin coinage. This change probably occurred in the mid-1080s with *Paxs*-influenced coins (Group L) post-dating this.

There are two coins that provide relatively secure dating for this period, book-ending the range of c.1080-5. The first (type K1) imitates type vi of William I and places the coins early in this group, to the early 1080s. The end of the group is probably provided by the close imitation of William I’s subsequent type, type vii (type K8). This type copied the coinage that immediately preceded the *Paxs* coinage of England, the imitation of which defines Group L. All of the coins of this Group are stylistically quite different to those of the *Paxs*-influenced coins in group L. There is some debate about the dating of the English coinage at this point, but the end of the Group is likely to be in the mid-1080s.³¹³

In this group there are stylistic threads that are common across the various types. The most notable of these is the use of birds, in various forms, on the reverses of the coins. These birds may ultimately derive from Edward the Confessor’s coinage of the 1050s. There is also a fairly distinctive bust style on many of the coins with a

³¹³ *cf* Table 3.1.

pronounced jaw line terminating in a pellet. Lastly, the pseudo-legend becomes a ‘chain’ with a series of vertical lines joined by a continuous horizontal one. The fact that the various types all share some of these features suggests that they deserve to be viewed as a whole despite the variety of weights employed in their striking.



Figure 3.17 – Iconographic elements of Group K

3.3.6 Group L

Paxs Imitations, derivatives and related types

c.1085-90 (or a little later), (Types L1-L13, nos. 435 - 531), Dolley phase V

Group L contains quite a large number of *Paxs* imitations and also an array of other types that are influenced by the imagery found on these coins. The annulet with a cross within, the X from the **PAXS** motif, is an iconographic element that is copied intensively in this Group.

The *Paxs* imitation coins are an important type. They seem to represent an attempt at ‘improving’ the coinage with superior legends, weight, obverse design and a fairly accurate rendering of the English prototype.³¹⁴ The weight of the coinage dropped off at the end of group K where the iconography can certainly be regarded as highly stylised. Group L may thus represent a renewal of the coinage at some point in the mid-1080s. The design can be interpreted as ‘successful’ as elements of it were incorporated onto a number of subsequent coinages.

³¹⁴ *cf* discussion of type L1 in Appendix A.

The dating of these coins to the late 1080s is confirmed by their presence in the large Dunamase hoard, the late Glendalough hoard but also the three very



Figure 3.18 – Type L1 coin

late hoards; Northern Italy (dep. c.1100), Christchurch cathedral (dep. c.1105) and Store Frigaard (dep. c.1110). The types that are viewed as ‘late’ in this group (types L11-L13) can be dated to c.1090, or perhaps even a little later, on account of the fact that they imitate William II type ii. The absolute chronology at this point is not completely certain as it relies upon English dating which is contentious but it is possible that Group L’s dating of c.1085-90 could be shifted two or three years later at both beginning and end.³¹⁵

The coins utilise a variety of imagery. There are a relatively sparse number of profile busts amongst the coinage beyond the initial type, L1. More common are facing busts, imitating type v of William I, or curving linear types. This is one of very few periods in the eleventh century when the profile bust motif is not central to the Hiberno-Scandinavian coinage.

The reverses are, as with much of the late eleventh century, highly variable. Type L5, represented by only one obverse die, contains coins of seven different reverse dies with at least four different forms. This is an extreme example but is broadly representative of the group. There are a number of Paxs imitations but also Long Cross, Small Cross, Crux, Bow Cross and Short Cross reverses.

A slightly disorganised picture is suggested when the weights of the coins are considered. There is a reasonably high quartile range amongst the group which reflects a period where the weights were variable. This variability is replicated by the

³¹⁵ cf Allen forthcoming. For English chronology see Table 3.1.

fact that there differing weight across die-duplicate coins. In type L9, nos. 489 and 490 are linked by their reverse die but weigh 0.86g and 0.64g respectively.

3.3.7 Group M

‘Small Flan’ Grouping

c.1090 (or a little later)-1095, (Types M1-M8, nos. 532- 581), Dolley phase V

Coins of group M are those struck on ‘small flans’, typically around 16mm. This is significantly smaller than near-contemporary coins of Dublin and they are instantly recognisable as they are also somewhat thicker. They are known from the hoards of Glendalough, Dunamase and the ‘Laxey’ hoard from the Isle of Man. They would appear to be amongst the newest coins in both the Dunamase and Glendalough



Figure 3.19 – Type M4 coin

hoards. The ‘Laxey’ hoard appears to be exclusively composed of coins of this small flan form.

There is little on the coins to provide confidence regarding dating. The three late hoards would make a date in the 1090s seem likely. This is confirmed by two coins including elements of the *Paxs* design and providing a definitive dating of later than the mid-1080s. They would appear to be significantly after this as their weight has far more in common with the late Group N coins and those of Group O than it does with the earlier coins of Group L. They have been dated to *c.1090-5* although this is perhaps too wide a range for them. They may date a little later into the 1090s, depending upon the interpretation of the dating of the English coinage. They ceased to be struck in the mid-1090s when coins of Group N replace them.

The size and weight of the coins (*c.16mm* and *0.65g*) are the defining features of the coinage. In terms of its iconography the coins all have a profile bust but this seems

quite interchangeable in terms of facing right or left. There are no facing busts or other obverse types. There are four types of reverse that undergo various incarnations during the period. There are various Long Cross designs, stylised Short Cross, Small Cross and an unusual curving (bow?) cross type. There is generally a high degree of uniformity in terms of obverse die style and the reverses are not radically different, utilising similar motifs. This gives an impression of coherence to the coinage that may suggest they were struck for only a relatively brief period.

The weight is highly consistent across the coins, nearly all are struck c.0.65g. There is little outside of this range apart from one or two anomalous coins struck to a weight almost a third more. These are found in such small numbers that they do not readily skew the mean weight.

3.3.8 Group N

Stylised facing and profile busts

c.1095-1100, (Types N1-N7, nos. 582 - 627), Dolley phase V (and elements of IV)

The coins of this group are known almost exclusively from one, apparently fairly sizable, hoard from 'Northern Italy'. Where provenance of coins of this group can be traced it tends to lead back to this hoard. However, there are also a handful of coins known from the Dunamase hoard and one from the Christchurch Place excavations. The fact that there is very little overlap between coins of this group and other hoards suggests that these lie at the very end of the century, postdating the various hoards deposited in the early 1090s.



Further dating evidence is scanty and

Figure 3.20 – Type N5 coin

reliant upon inference from iconography. It seems that the group contains coins that may imitate type ii and, more certainly, type iii of William II. The imitation of type ii is postulated for type N2 on the grounds that there is little else that can claim to be close to the unique reverse form.³¹⁶ The argument that N5 imitates type iii seems to give added weight to the dating.

Further evidence in favour of their late date is the low weight of the coins. They are struck to a weight of a little over 0.60g which places them at a very similar level to the previous ‘small flan’ coins (Group M). It is also quite similar to the subsequent coinage (Group O) which is even lighter. The similarity to Group O is also manifest iconographically on one unique coin, no. 626, which mixes an obverse of clear Group N style with a reverse that utilises sceptres that would be more common in Group O.

The style of the coins is largely consistent within two main strands. There are a series of facing bust coins that appear to evolve from type N1 which is interpreted as the earliest in the Group. These facing bust coins are highly stylised with only basic elements of the bust remaining. They are coupled with Hammer Cross, Long Cross and Short Cross reverses. The Hammer Cross reverse may draw some stylistic features from type iii of William II. There are also a range of profile busts which have a characteristically long face and a variety of symbols on the neck. These are paired with Long Cross and Bow Cross reverses in addition to a fairly direct copy of the English type iii, current in the late 1090s (no. 603).

The coins give the impression of being relatively stylistically consistent despite the fact that they were struck from quite an array of different dies. In type N6, there are nine separate obverse dies that can be fairly safely grouped on stylistic grounds.

³¹⁶ Dolley 1966a, 105–6.

Consistency in this case does not tend to suggest a particularly small coinage or short period of issue.

3.3.9 Group O

Profile bust with crook and two-sceptre reverse.

c.1100-1110, (Types O1-O2, nos. 628 - 817), Dolley phase VI

The period at the beginning of the twelfth century has an unusual concentration of hoards. There are four hoards – Armagh, Christchurch Cathedral, Aosta and Donough Henry – that contain coins of this group. There is also the possibility of another hoard which has been identified amongst the various museum trays.³¹⁷ This provides a well-mixed sample of coinage from the beginning of the twelfth century which is a contrast to much of the late-eleventh.

Dating this group of coins cannot rely upon iconographic inference as the consistency of both obverse and reverse design prevent this. The hoards provide only limited assistance on this matter. The Christchurch cathedral hoard combines coins of Group N with those of group O. The Aosta hoard is potentially more useful. It contains Hiberno-Scandinavian coins of the late 1080s with those of Group O but it also has two English coins of the early twelfth century. The coins are Henry I type iv with a t.p.q of c.1105. This provides a reasonably secure anchor for the group in the opening part of the twelfth century which is supported by the proposed dating of group N (ending c.1100). The end of this phase of coinage is far harder to judge as the chronology rests upon the interpretation of the following groups. If the interpretation of Groups P and Q is correct then the end of the phase occurred c.1110.

³¹⁷ See 'Pre-1810 hoard' in Appendix F.

The group is quite consistent in both its obverse and reverse form. The obverse is a profile bust (in all but one case facing left) with a crook before the face and generally a



Figure 3.21 – Type O2 coin

cross or sceptre on the neck. The reverse is in the form of a Long Cross with two sceptres in opposing quarters. In the other two quarters are single pellets, although occasionally there are three pellets. It is possible to note changes in style in O2, with the make-up of the obverse altering in the group. However sub-categorisation would be misleading and it is probably safest to view all of the coins of this group as a part of a coherent whole. Type O1 is a small type with coins that appear to be just struck before the main style of Group O as they lack the distinctive sceptres on the reverse. Further comment is difficult as the coins are currently untraceable and the published photographs, of incomplete coins, make their interpretation difficult.

The weights present the lightest coinage (0.45g) amongst the Hiberno-Scandinavian series until the bracteate coinage of Group Q. There is also quite a high degree of variability in this large group of coins with a relatively high quartile range. This variance may perhaps be due to corrosion and/or the lightness of the coins to begin with.

While the coins may seem variable in their weight it might be argued that there was, in fact, quite considerable consistency in the coinage of the early-twelfth century. The stability of the imagery, particularly when contrasted to that which had gone before, certainly suggests as much.

3.3.10 Group P

Profile bust coins with Quatrefoil reverse (The ‘Semi-bracteates’)

c.1110-1115, (Types P1-P3, nos. 818- 884), Dolley phase VII

Almost all of the coins of this group have been found to ultimately derive from the Scrabo Hill hoard. It seems likely that most, perhaps all, of types P1 and P2 come from this hoard. Traditionally, the coins of W1 and W2 would also have been attributed to this hoard based upon their position in the trays of the National Museum of Ireland.³¹⁸ However Lindsay's 1849 article illustrates one of these coins and connects it to a 'Co. Wexford' provenance.³¹⁹ This also explains the discrepancies between the Scrabo coins in the trays of the NMI and those illustrated in the 1855 article about the hoard.³²⁰ These Wexford coins will be discussed below as a part of Group W.

Unfortunately the hoard provenance does not help when attempting to date these coins and the iconography of the coins themselves



Figure 3.22 – Type P3 coin

is also unhelpful. Dating evidence thus rests upon when the bracteate coinage is perceived as beginning. In the discussion of Group Q below it is argued that the bracteate coinage began quite early (c.1115) and thus the semi-bracteates of this group would need to fit into this early chronology. They give the impression of being a relatively short issue with die-linking and stylistic consistency.

All of the coins in this group were struck from both an upper and lower die although on many occasions the obverse is all but obscured by ghosting from the reverse. There is a high degree of consistency of design; all the obverses have a profile bust left, often with drapery and a pointed nose. The majority of reverses are quatrefoil types with a symmetrical 'legend' outside of the field. There are three coins

³¹⁸ Allen 1942, 81–5.

³¹⁹ Lindsay 1848; *cf* Hoards Appendix.

³²⁰ Carruthers 1855.

(nos. 818-820) with a Long Cross and sceptres motif that is not dissimilar to that found on coins of Group O.

The weights of the coins are consistently higher than those of Group O. They were struck to a little over 0.65g which puts these coins on a par with those struck some 20 years earlier (in Group N). The debasement that had occurred with Group O appears to have been largely reversed with Group P.

3.3.11 Group Q

Bracteate coinages

c.1115-1170, (Types Q1-Q13, nos. 885 - 982), Dolley phase VII

Bracteate coins are known from four main hoards; Scrabo Hill, Co. Wexford, Castlelyons and Kildare Round Tower.³²¹ There are also significant numbers of bracteates from excavation contexts in Dublin and a smaller sample from Knowth. In these excavations there is the possibility that there were two small hoards although separate, but very close, single finds cannot be ruled out.³²² The 'Co. Wexford' hoard of coins will be discussed separately below as it appears that they are unlikely to have been struck as a part of the Dublin series.

The Scrabo Hill hoard contains a mixture of bracteates and other examples where the coin has been struck from two dies. This would suggest that it is an early assemblage, before bracteate-style coinage became the norm. The Castlelyons hoard has an array of types that are unknown from other sources; types Q7-Q9 seem to be almost exclusively known from that hoard. It seems to date from the middle part of the chronology of the bracteates. The late phase of the bracteates is present in the

³²¹ Cf Appendix F.

³²² Knowth and High Street hoards in Appendix F.

Kildare Round Tower hoard but particularly in the Dublin excavations where types Q12 and Q13 are common.

The dating of the coins has generally presented a problem but it may be possible to trace continued imitation of English types throughout the twelfth century. As visible in Figure 3.23, the iconography of many of the types draws upon, or directly copies, the reverse designs from English coins. This is most apparent with type xiv and Q9 where an oval with three pellets within, an image previously never used on Hiberno-Scandinavian coinage, is copied from the English reverse. A return to imitation of English types after around 15 years of conservative designs seems likely and provides an anchor for the chronology. Whilst caution must be maintained when it comes to assessing how quickly types were imitated, the bracteate coinages appear to fairly systematically copy a series of sequential English types from the mid-1110s onwards. This would suggest that they were probably copied in the relative order of the English exemplars but also at a time not too far after the English coins were struck.







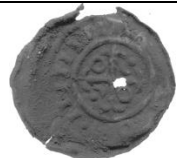












Date	English Type			Dublin Type	Proposed Dating
c.1109-11	Henry I type ix			Q3	c.1115-20
c.1113-15	type viii			-	-
c.1115-17	type xi			Q6	c.1115-20
c.1117-19	type x			Q7	c.1115-20
c.1119-21	type xii			Q9	c.1120-25
c.1121-23	type xiii			Q8	c.1120-25
c.1123-25	type xiv			Q9	c.1120-25
c.1125-35	type xv			Q10	c.1125-40
c.1136-45	Stephen type i			Q12	c.1140-55
c.1154-8	type vii			Q13	c.1155-70

Figure 3.23 – Iconographic comparison of English reverse and Irish bracteate designs

The chronology of the bracteates would appear to begin c. 1115 with conservative designs that incorporated elements of iconography of Group P. This quickly switched to the copying of a sequence of English types and this might suggest that these were struck not too long after the English coins were minted. Excavations in Dublin and Knowth provide clearer information than was previously available for the chronology of the end of the series. Dolley argued for a period of coinlessness between the end of the Hiberno-Scandinavian series (c.1150) and Anglo-Norman invasion.³²³ This is an opinion he subsequently revised in light of the excavation finds from Dublin.³²⁴ The latest coins appear to be those that imitate the coins of 1150s England (type Q13). These cannot have been struck in Ireland before 1155 and possibly slightly later. There seems no reason *a priori* to suggest that these coins would not have continued to circulate in Dublin until, at least, the invasion and sack of the city fifteen years later. Further evidence in favour of this late dating can be found amongst the excavation evidence. During the course of excavations, bracteates have been found in thirteenth century reclamation contexts as well as in the same contexts as Anglo-Norman silver pennies.³²⁵ The coinage thus seems to have continued in usage into the very late twelfth century. Indeed, the conquest of the city and expulsion of the local elite appear to provide the best explanatory point for the temporary halt in the striking of coinage in Dublin.

The bracteates are grouped together on account of the consistent method of their manufacture. They are all struck from one die on an extremely thin piece of silver. The design on these coins appear to copy ‘reverse’ designs of other coinages or those of contemporary England. Thus, there are no busts utilised on any coin (apart from a

³²³ Dolley 1966a, 141–5.

³²⁴ MS no. 625 in Fitzwilliam Museum archive of Dolley’s Papers.

³²⁵ Halpin 2000; Walsh 1997. For the find with Anglo-Irish Silver, see letter no. 376 in Fitzwilliam Museum Dolley archive. Letter from B. Ó Ríordáin to M. Dolley.

small face in the quarters of the cross of Q11) but crosses are common. This marks a major departure from the rest of the Hiberno-Scandinavian series where the obverse with profile bust was overwhelmingly the most common design for the obverse. Most coins appear to imitate, to a lesser or greater extent, the coinage of Anglo-Norman England and this has informed the chronology of their classification. This is generally supported by the hoard evidence.

The weights of these coins are very difficult to assess as there are so few coins that are undamaged. Coins of such large size and thin metal are easily broken, chipped or corroded and this leaves few to take an accurate weight from. Furthermore, the sample of coins is already small making analysis of weights even more difficult. The decline in weight is also matched by a drop in silver standards, this is visible in Q11 and becomes particularly pronounced amongst the coins of types Q12 and Q13 - where visual inspection and surface analysis suggests highly base coins.³²⁶

3.3.12 Group W

Semi-Bracteate and Bracteate coins found in the 'Co. Wexford' Hoard

c.1110-1120?, (Types W1-W3, nos. 986 - 996), Dolley phase VII

This group comprises coins probably struck at a mint other than Dublin. They all derive from the 'Co. Wexford' hoard about which relatively little is known. Dolley was confident enough to assign various coins of this type to Ferns.³²⁷ The evidence rests upon two hoards, Scrabo Hill and 'Co. Wexford'. The Scrabo Hill hoard contained a combination of coins struck from two dies and bracteates struck from only one. The 'Co. Wexford' hoard also contained a similar combination of coins and

³²⁶ Kenny 2012; see discussion in section 5.1.

³²⁷ Dolley 1980a, 124.

bracteates. This would appear to place them both on the interface between the two-die coinage and that of the bracteates, struck from only one die.

It seems unlikely that the semi-bracteates and bracteates of the two hoards could have been struck at the same time in the same mint without a degree of crossover between the dies or imagery used. There is no die-linking between them. Furthermore, coins of the two hoards have quite different iconography and are of noticeable different size and fabric.





	Scrabo Hill	Co. Wexford
Struck from two dies (‘Semi-bracteate’)		
Struck from one die (‘Bracteate’)		

Figure 3.24 – Illustrative examples of types in the Scrabo Hill and Co. Wexford Hoards

The ‘Co. Wexford’ coins seem to be geographically or chronologically removed from those of Scrabo Hill, raising the possibility that either hoard may represent evidence for another mint. However, the evidential base is not high, resting upon one poorly-recorded hoard and comparing it to another recorded in antiquarian times. In the absence of further evidence the balance of probabilities would seem to suggest that the coins of Co. Wexford hoard were probably not struck in Dublin in 1110s. Another mint or workshop seems the most likely of the options to explain this. Dolley surmised that this mint may have been in Ferns on account of the Wexford provenance and some historical evidence but, in the absence of any further finds, this

must also be regarded as unproven.³²⁸ Assuming these coins were not struck in Dublin they have been assigned to Group W (after their Wexford provenance).

The form of the coins combines semi- and full bracteates coinages in a manner very similar to that found in the Scrabo Hill hoard. That hoard has been dated to c.1120 and if the similarity between the hoards is accepted then 'Wexford' Coins might date from c.1110-20, the interface period between two and one die coinages in the main Dublin series. In favour of such an interpretation is the iconographic similarity to the Scrabo Hill coins. There is a profile bust and long cross with sceptres on the semi-bracteates. There are geometric shapes on the bracteates.

The weight is very difficult to assess due to the fragmentary nature of most of the coins. Only one is whole, it weighs 0.73g. However, the coins are noticeably smaller and thicker than most of the semi- or full bracteates of Dublin (groups P and Q above).

The coins should probably be interpreted as evidence for a possible other Irish mint of early-mid twelfth-century date, striking coins that imitated those of contemporary Dublin.

3.3.13 Group Z

(Contemporary?) Imitations

There are two coins that are of a very similar fabric and share certain stylistic affinities. They are interpreted as imitative because they are of such poor workmanship that it is difficult to accept them amongst the Hiberno-Scandinavian series. They both share the same hand upon neck motif. Visual inspection suggests they are base metal with a distinctive green patina. What they are copying and from

³²⁸ Dolley 1980a, 124.

when they date is uncertain but it is tempting to view them as similar to Group M (Small Flan types). However, it seems likely that these are modern forgeries.

3.4 Summary

The chapter has presented a typology for the analysis of the Hiberno-Scandinavian coinage. It has divided the series into 17 successive groups of coinage from Dublin in addition to two other groups which represent coins from outside of this main series. The later section of this chronology (from c.1060) has also been broken down into 84 types which reflect the iconographic diversity of the period. The detailed discussion of each of these types is contained in Appendix A. Each die and coin has also been labelled separately with their group and type forming a prefix. The full listing of all coins, with provenance and image, is provided in Appendix B.

The groups have been placed in a chronological framework. This is a somewhat imprecise process and thus five yearly periods (or multiples thereof) have been preferred. These brackets of dates reflect caution due to the difficulties of dating the series but are also units of analysis allowing for comparison across the period. They are unlikely to be significantly in error although the possibility remains for some movement of certain types represented by only a few coins or for the insertion of new types when they are found.

The dating proposed is also found to be broadly in agreement with that proposed by Michael Dolley with a few exceptions. The only radical departure is in the dating of the bracteate coinages where a number of new finds, particularly those from the Dublin excavations, have allowed for a re-evaluation of this group and the suggestion of a much later dating. A summary of this comparison is provided in

Table 3.4.

This chapter has outlined a classificatory system for Hiberno-Scandinavian coinage. It has attempted to provide a system that allows for useful units of analysis that also reflect the iconographic diversity of the coinage. To make this possible a

series of groups have been used to denote chronological periods whilst types have been created to reflect iconographic diversity. Discussion of the administration of the coinage and the implications of the seemingly chaotic iconography are below in chapter 6.

Group/Type	Woods Date	O'S No.	Dolley Dating
A	c.995-97	1 - 4	c.995±3
B	c.997-1003	6 - 9, 11	c.998-1004
C	c.1003-9	5	c.1005-10
D	c.1009-17	24	c.1010-15
E	c.1017-20	25	c.1020 might be thought to err on the late side
F	c.1020-40	10, 12 - 14	c.1015-35
G	c.1040-60	16 - 20	c.1035-55
H1	c.1060-65	21	c.1065±5
H2	c.1060-65	47	c.1063
I1	c.1070-75		
I2	c.1070-75		
I3	c.1070-75		
I4	c.1070-75		
I5	c.1070-75	15	c.1070
I6	c.1070-75	44	c.1065
I7	c.1070-75	33	c.1070±5
I8	c.1070-75	34	c.1070±5
I9	c.1070-75		
I10	c.1070-75	N/A	c.1070
I11	c.1070-75	N/A	c.1070
I12	c.1070-75	N/A	'shortly before c.1075'
I13			
I14	c.1070-75	31	End of 1060s
I15	c.1070-75	N/A	'early in the last quarter of the eleventh century'
I16	c.1070-75	59	c.1070-5
I17	c.1070-75	n/a	c.1080
I18	c.1070-75		
J1	c.1075-80	54	c.1095
J2	c.1075-80		
J3	c.1075-80		
J4	c.1075-80		
J5	c.1075-80	26	c.1080
J6	c.1075-80		
J7	c.1075-80		
J8	c.1075-80		
J9	c.1075-80		
J10	c.1075-80		
K1	c.1080-85		
K2	c.1080-85		
K3	c.1080-85		
K4	c.1080-85	35	c.1080
K5	c.1080-85	57	c.1090
K6	c.1080-85	36 and 37	c.1090
K7	c.1080-85	42	End of 1080s
K8	c.1080-85		

Group/Type	Woods Date	O'S No.	Dolley Dating
L1	c.1085-90	27	c.1090
L2	c.1085-90		
L3	c.1085-90	60	'shortly before' c.1095
L4	c.1085-90	58, 61 and 62	c.1075-80
L5	c.1085-90	50, 51 and 52	c. 1080, c.1090 and c.1095
L6	c.1085-90	63, 64	'early 1090s'
L7	c.1085-90		
L8	c.1085-90		
L9	c.1085-90		
L10	c.1085-90	N/A	c.1090
L11	c.1085-90	41	End of 1080s
L12	c.1085-90	53	c.1090-5
L13	c.1085-90	55 and 56	c.1090
M1	c.1090-95	28	c.1095
M2	c.1090-95	29	c.1095
M3	c.1090-95	30	'Just before' 1100
M4	c.1090-95	32 and 38	'very end of the eleventh century'
M5	c.1090-95		
M6	c.1090-95		
M7	c.1090-95		
M8	c.1090-95		
N1	c.1095-1100		
N2	c.1095-1100	49	c.1095
N3	c.1095-1100	48	c.1095
N4	c.1095-1100	45 and 46	'after 1095'
N5	c.1095-1100	39, 40 and 43	'last few years of the eleventh century'
N6	c.1095-1100		
N7	c.1095-1100		
O1	c.1100-1110		
O2	c.1100-1110	22 and 23	'very end of the eleventh century'
P1	c.1110-15	67	c.1120-30
P2	c.1110-15	66	c.1120-30
P3	c.1110-15	65	c.1120-30
Q1	c.1115-20	68	c.1120-30
Q2	c.1115-20	71 and 72	c.1130-50
Q3	c.1115-20	77	c.1140s
Q4	c.1115-20	78	c.1140s
Q5	c.1115-20	79 and 80	c.1140s
Q8	c.1120-25	82	c.1140s
Q9	c.1120-25	75 and 76	c.1140s
Q10	c.1125-40	73	c.1130-50
Q11	c.1125-40		
Q12	c.1140-55		
Q13	c.1155-70		
W1	c.1110-20		
W2	c.1110-20	70	c.1120-30
W3	c.1110-20	69	c.1120-30

Table 3.4 – Comparison of Woods 2013 dating with Dolley 1966³²⁹

³²⁹ O'S No. refers to O'Sullivan 1961.

Chapter 4 – The scale of Hiberno-Scandinavian coinage

4.1 Introduction

Assessing the scale of production of the Hiberno-Scandinavian coinage is of crucial importance for its interpretation. Determining whether the coinage was struck on a small scale and, by extension, only used by a relatively restricted element of society is fundamental. In Scandinavia, small levels of production have been suggested for the early medieval period, with important implications for the form of the economy in which they functioned.³³⁰ Ireland has not been subject to the same intense debate about the use of coinage but it could be possible to interpret Ireland's coinage in a similar manner based upon the relatively restricted nature of the finds and the highly stylised coinage. The following will argue that the coinage of Dublin was struck on both a locally and internationally significant level with important implications for the scale of the economy more widely.

Coinage, as one of the more readily quantifiable forms of material culture, has enormous potential to answer questions regarding scale. However, in order to interpret the volume of production, it is first necessary to understand how the monetary system was organised. This gives some context for the numbers of coins and dies and allows appropriate comparisons to be drawn, both chronologically and geographically.

There were perhaps three main coin producing systems at work in eleventh and twelfth-century northern Europe. The first, with the least implied political control, saw foreign coinage circulate alongside a small amount of locally-struck coins. There

³³⁰ Lunden 1999; Schia 1989; Nordeide 1990; Alternative points of view have come to the fore in the recent period headed by Gullbekk. Gullbekk 2005; Gullbekk 2011a; Risvaag & Christophersen 2004, 75.

was no motivation, or perhaps no ability, to exclude foreign coins with a fairly chaotic mixing of coinage visible in hoards. This type of system is seen across much of Scandinavia in the early eleventh century or the Isle of Man from the 1020s.³³¹ Interpreting why coins were produced in this context is difficult but may be connected with royal status or the conversion of bullion into a more standardised means of exchange. Ireland never had such a system and thus it is unimportant in the current context.

The second saw the reasonably effective exclusion of foreign coinage but an acceptance of older official coins. This was a system that was in effect in England through to AD 973.³³² A schematic diagram showing how it may have functioned is provided in Figure 4.1. When ‘new coinage’ was struck it may well have been silver imported (i) in unofficial – foreign or non-coin – form although very old types may also have been subject to re-minting. Losses from the volume of currency (M) can be attributed to ‘wastage’ (w), such as saving and hoarding, and exports (e) to other areas, where the coins would have been converted to other forms of silver. Such a system prevailed in Ireland at various points over the course of the eleventh century, particularly in the period c.1060-1100.

³³¹ Malmer 1997; Blackburn & Jonsson 1981; Bornholdt-Collins 2003.

³³² Blunt *et al.* 1989; Naismith 2011b.

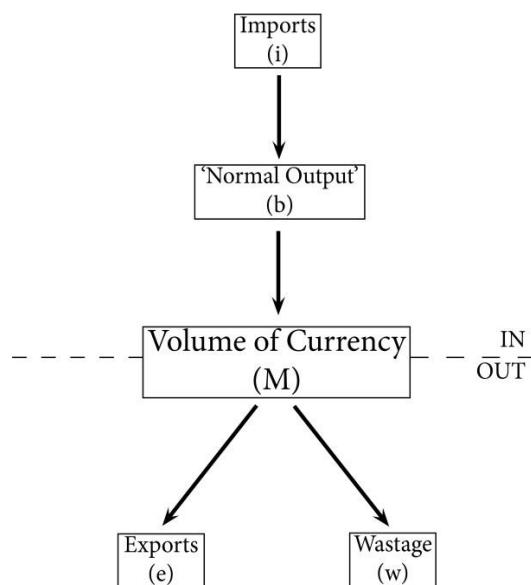


Figure 4.1 – Schematic diagram of factors affecting the volume of currency in a system without periodic coin renewals

The third, and final, system saw an ordered cycle of periodic recoinage which decommissioned old currency every few years and enforced a change of type. This system is often described as *renovatio monetae* and, although the term is generally only known from the late-eleventh century, it has been used as a term to describe earlier coin economies.³³³ It was implemented, with varying degrees of completeness, in England between the late-tenth and twelfth centuries.³³⁴ There is also evidence of it in a number of Scandinavian areas.³³⁵ How coinage is produced in such a system is more complex to model. Figure 4.2 is a model of this system with the volume of currency (M) – the money supply – formed of a composite of re-coined old silver (a) and, generally, a smaller amount of unchanged silver (u). In addition to the recoinage there was also the longer term ‘normal output’ (b), struck over the entire validity period of the coinage and associated with silver which entered from outside (i). This could be in the form of foreign coinage, bullion or the conversion of other forms of silver into currency. Dublin’s rulers were able to, reasonably successfully, enforce

³³³ Naismith 2012a, 181–3; Grierson 1962, x.

³³⁴ Dolley 1978; Allen 2012, 38–9; Brand 1984; Stewart 1990.

³³⁵ Gullbekk 1992; Jensen 1996.

recoinages at several points in the eleventh century. These are mostly in the first half of the century but there also appears to be a recoinage c.1100.³³⁶

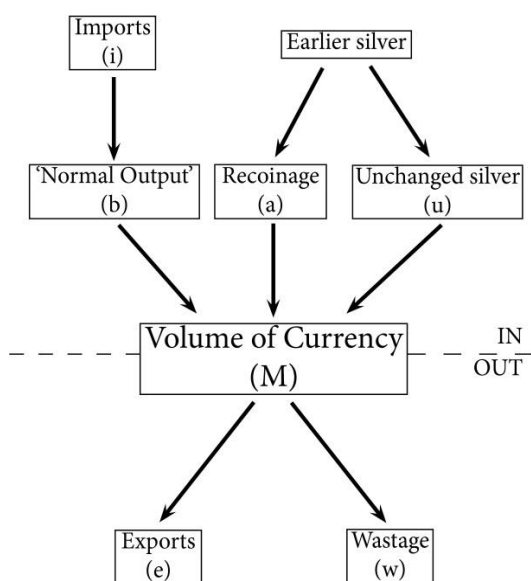


Figure 4.2 – Schematic diagram of factors affecting the volume of currency in a system with periodic coin renewals

The following will primarily focus upon a consideration of the scale of production (b in Figure 4.1 and a+b Figure 4.2) and the interpretation of this. The final section will involve a fuller consideration of the volume of currency with the proviso that calculations of this sort have methodological problems and therefore represent only an approximation.

4.2 Estimating ‘normal output’

4.2.1 Methods

Initially the focus will be upon a consideration of the levels of coin production in Ireland. This is primarily based upon the simpler of the two models above, Figure 4.1, where coin production - in a monetary economy without periodic recoinage - is considered. The main aim is to attempt to quantify the ‘normal output’ (b) as this can

³³⁶ See section 6.2.2.

give an impression of the amount of silver being imported. Quantifying the number of dies (Db) used to produce the normal output (b) is central to this.

Medieval coinage was created by placing an appropriately-sized, circular piece of silver (a flan) between two inscribed punches (coin dies) and hammering the upper of these. This produced a coin with a motif on both obverse and reverse. There were occasional divergences from this practice with coins struck on square flans or only using one die but the vast majority of early medieval coinage was produced using a fundamentally similar technology.³³⁷ The iron dies with a hardened cap were hand-engraved using specialised punches although, amongst the Irish coins, some dies may have been incised.³³⁸ The lower die, striking the obverse of the coin, was fixed into an anvil or bench with the upper die, striking the reverse, held in the hand and positioned on top of the coin. The fact that each die was hand-engraved means that no two dies were ever entirely identical. The die used to strike the coin can be identified from an examination of the coins itself and, where a sufficient sample survives, dies striking more than one coin can be noted. The links between coins with the same obverse or reverse are known as 'die links' and, where they occur, these have been noted in Appendix B.

Comparing each coin and establishing its die identity – commonly known as a die study - allows for the calculation of the number of dies that are represented in the surviving sample of coinage. Knowing that the surviving coins represent only a small sample of those that were originally struck, there have been attempts to extrapolate from the figure of the number of known dies to attempt to estimate the original numbers involved in the striking of a given coin type. A number of methods have

³³⁷ Scandinavian coins were occasionally struck on square flans. For example see Malmer 1997 no. 9175. A number of areas struck bracteate coinages including Ireland (Group Q), Norway, Gotland and Germany. Skaare 1995, 62–3; Myrberg 2008; Myrberg 2010; Kluge 1984.

³³⁸ Allen 2012, 103–14; Archibald *et al.* 1995; Fox 1909; Dolley 1966a, 131–4.

been postulated for the calculation of the number of dies used to strike coinage.³³⁹ The method developed by Esty includes an estimate of the representivity of the sample in addition to ‘confidence intervals’ within which the original number of dies is likely to fall.³⁴⁰ It has found favour amongst those working on early medieval coins, particularly as the confidence intervals reflect both the level of certainty and overcome some of the biasing in the dataset.³⁴¹

All methods of estimating original numbers of dies rest upon an assumption of randomness of the sample.³⁴² In order to calculate the total number of dies originally used, a randomly selected sample of the coins that they produced should survive. This is rarely the case as the manner of coins’ survival, generally preserved in hoards, introduces a non-random element. Hoards vary enormously but will often contain a number of die-duplicates.³⁴³ These coins are not randomly selected from a well-mixed, randomly selected pool of currency but probably represent a parcel of coins that had travelled together from the mint to the hoard.³⁴⁴ Parcels of die identical coins distort the sample and introduce an element of non-randomness.

The usefulness of this kind of analysis rests upon having adequate comparative data. Different methodologies produce quite different results, even from the same datasets.³⁴⁵ In order to allow for meaningful comparison, data will only be used where the same methodology, that of Esty 2006, can be applied. This will mean excluding data where precise numbers of coins, dies and singletons are unknown. In drawing comparisons the main comparator will be between the number of obverse dies used to

³³⁹ Carter 1981.

³⁴⁰ Esty 2006.

³⁴¹ Esty 2006; Esty 1986; Naismith 2012a, 187–8; Biddle 2012, 30–9; Blackburn 2009, 55–6; Allen 2012, 297–304.

³⁴² Esty 2006, 362.

³⁴³ An example of this is the Dunbrody hoard where runs of die-duplicates of over 18 coins exist. Dolley 1966a nos. 98-9; Seaby 1984 nos. 219-26.

³⁴⁴ Esty 2006, 362.

³⁴⁵ Esty 1986; 2013, 262–7.

strike a given type. While a number of other studies have utilised reverse dies, particularly on medieval English coinage, the following will focus upon the slightly longer-lasting and harder-wearing obverse. This leads to smaller margins of error, particularly as obverse dies are usually much easier to identify, resulting in fewer errors in the die-linking process.³⁴⁶

4.2.2 Irish data

In many ways, the Hiberno-Scandinavian coinage represents an excellent dataset for die analysis. The scale of the coinage is such that it has been possible to conduct a systematic die-study – the key to die estimation – for the period 1060 to 1170. Whilst the twelfth century data is so sparse that most is excluded from discussion below, for much of the eleventh century there is a good coverage of dies. Comparable die data is also intermittently available for the period *c.*995-1060 allowing for most of the period that Hiberno-Scandinavian coinage was struck to be considered.³⁴⁷ Because Dublin was Ireland's only mint it also means that estimates from the town approximate all of the circulating coinage in Ireland. Where studies elsewhere have needed to extrapolate outwards from small subsets – from a single mint to estimate the whole currency in England for example – this is unnecessary in an Irish context.³⁴⁸

³⁴⁶ de Catalayá 1995; The use of obverse data has been preferred in two recent studies of Early Medieval coinage. Naismith 2012a, 187; Gooch 2013, 138.

³⁴⁷ Studies of three early groups of Hiberno-Scandinavian coins are published: Dolley 1973a; Blackburn 1990; Blackburn 1996. In addition, unpublished die-studies, one conducted with Kristin Bornholdt-Collins, have been undertaken on Groups B and F.

³⁴⁸ Metcalf 1981; Allen 2006b.

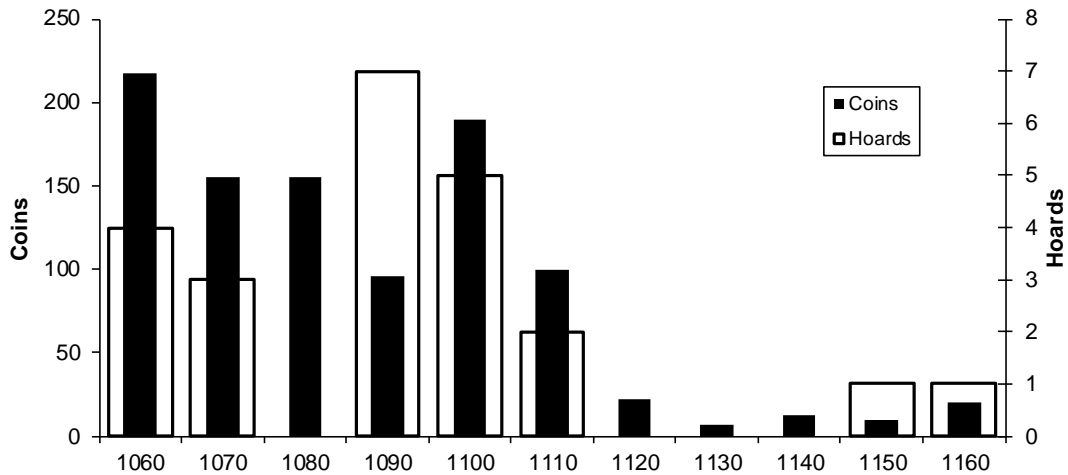


Figure 4.3 – Comparison of surviving coins and the hoards within which they were found.

However the Hiberno-Scandinavian coinage is not a perfect dataset as the majority of surviving coins are known to derive from hoards. Figure 4.3 illustrates the point that the number of coins broadly parallels the number of hoards. Amongst these hoards fairly long chain of die-duplicates are occasionally known. Some hoards, such those from Limerick or Kirk Michael (1834), dominate the coins known from certain periods.³⁴⁹ For example, a large number of coins were struck using the same obverse die in type I11 and this is connected with the fact that the coins all originate from the Kirk Michael 1834 hoard.³⁵⁰ The effect of a greater number of die-duplicates amongst the sample is to underestimate the original number of dies used to strike the coinage and also to narrow the confidence intervals of this estimate substantially.³⁵¹ How skewed the evidence is can be observed when considering the number of coins struck per die. This should, broadly speaking, conform to a negative binomial pattern with the largest number of dies striking one coin, half as many striking two and a third three etc.³⁵² Figure 4.4 suggests that the data from Ireland broadly conforms to this pattern although there are a number of dies that appear to have struck ‘too many’

³⁴⁹ Cf Appendices B and F.

³⁵⁰ Nos. 198-207 in Appendix B.

³⁵¹ Esty 2006, 362.

³⁵² Esty 2006, 363.

coins, suggesting an element of non-randomness. A similar distribution has been plotted for the coins from each group in Figures 2 to 11 in Appendix C. The figures suggest that for Groups H and I in particular, and to a lesser extent Groups K and O, there is a biasing of the sample. In each of these cases this is because many of the coins are known from large hoards where chains of die-duplicates occur. However, overall, the sample seems reasonably good with only short periods where the small evidential basis is skewed by hoards.

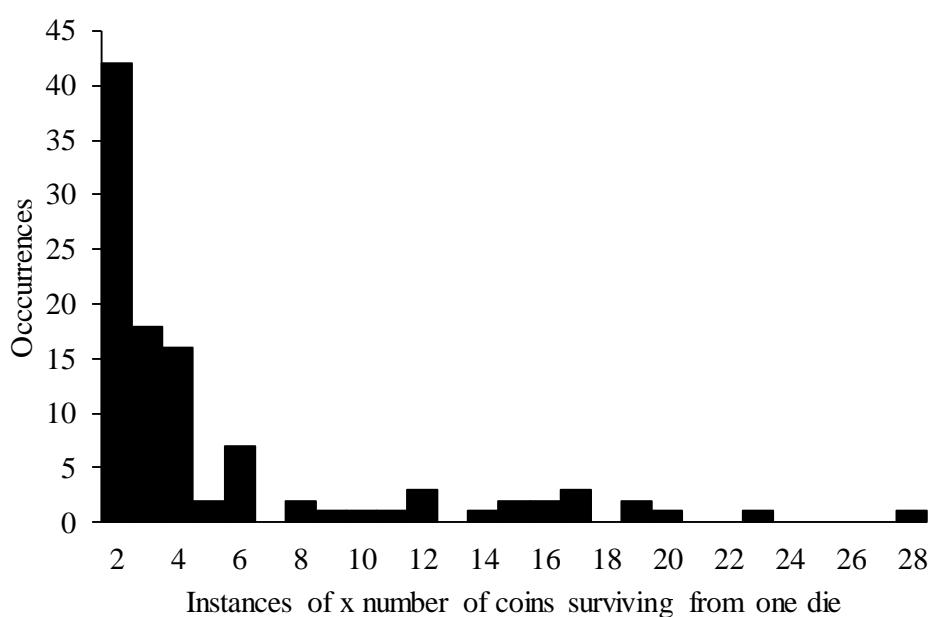


Figure 4.4 – Number of occurrences of x coins surviving from an obverse die amongst the Hiberno-Scandinavian coinage, c.1060-1110

Esty has noted that it is possible to adjust the data, removing anomalously high results.³⁵³ The adjusted data for obverse dies is included in table 3 in Appendix C. ‘Adjusting’ the data means removing the outliers from the dataset, consequently reducing both the number of coins and dies in the sample. This has been achieved by removing data that is greater than two standard deviations from the mean. The data has been considered in both its raw and ‘adjusted’ form. In appendix C, figures 12 and 13 represent the unadjusted data whilst figures 16 and 17 are from the data where

³⁵³ Esty 2006, 362.

anomalous results have been removed. The effects of removing the non-random data are minimal for most of the period in question; the general patterns are quite similar. The only major difference comes in the period *c.*1060-75 where several large hoards skew the results and suggest far greater degrees of confidence than is appropriate. When considering the Irish data in isolation the adjusted data will be used. By contrast, when comparing with other datasets, where unadjusted data is all that is available, the unadjusted Dublin data will be used. The similarities between the two datasets suggest that there is a general validity in this approach with the unadjusted dataset likely to be reasonably accurate, but with a somewhat false level of ‘confidence’. To attempt to overcome some of these problems, the 95% confidence intervals of the data will also be consistently displayed. These give an impression of how robust the data are for any given period, with the proviso that they may appear narrower than is appropriate where hoards bias the data.³⁵⁴

Analysing the production of coinage is absolutely dependent upon an understanding of the monetary system in which the coins were produced. The simplified versions of these systems, sketched above in Figure 4.1 and Figure 4.2, would have used quite different numbers of dies. It would be expected that monetary systems with frequent renewals would utilise far more dies – effectively reminting the same silver every few years – than a system without *renovatio monetae*. As is discussed in detail below, Ireland had several recoinages; *c.*995, *c.*997, *c.*1020, *c.*1040 and *c.*1100.³⁵⁵ This is visible in the hoard record where hoards of these periods are very largely made up of the ‘current’ type. Table 4.1 details the Irish hoards of the period with the evidence suggesting that the hoards are biased towards the contemporary type, which can probably be interpreted in the context of a *renovatio*

³⁵⁴ Esty 2006, 362–3.

³⁵⁵ See section 6.2.2.

system. In between several of these recoinages there were periods where other types of coinage were struck with no removal of older types.³⁵⁶ Attempts will be made to differentiate between these two systems, especially where international comparisons are concerned.

Hoard	Date	Type current at deposition	Contemporary Type	Previous Type	Older/foreign Types
Dundalk	c.995	Group A	14%	86%	
Clondalkin (no. 2)	c.995	Group A	100%?		
Knockmaon	c.1000	Group B	8%	16%	76%
Derrymore	c.1000	Group B	82%	18%	
Collinstown	c.1000	Group B	63%		37%
Fourknocks	c.1030	Group F	93%		7%
Tonyowen	c.1035	Group F	100%		
Baltinglass	c.1050	Group G	100%		
Christchurch Cathedral	c.1105	Group O	86%	14%	
Armagh Cathedral	c.1105	Group O	100%?		
Donaghery	c.1110	Group O	100%		

Table 4.1 – The survival rates of older types in quantifiable Irish hoards, c.995-1110

4.2.3 How large was the ‘normal output’?

During the late-eleventh century there was no system of enforced recoinage. However, as is discussed below, there was an effective exclusion of foreign coinage.³⁵⁷ When considering the number of dies used to strike the coinage in this period the level of production represents what can be termed the ‘normal output’ of the mint (b in Figure 4.1 above). This output was, presumably, converting unofficial silver – foreign or non-monetary – into local coin upon its arrival in Dublin. An appropriate way to consider this data is by estimating the number of dies per annum.³⁵⁸ This involves calculating the dies for a period and then dividing this by that period’s length. This creates a flattened graph, concealing some peaks and troughs of

³⁵⁶ The difference between these two types of production is noted in figures, 13, 15 and 17 in Appendix C.

³⁵⁷ See section 6.2.3.

³⁵⁸ Naismith 2012a, 188–90; Gooch 2013, 146–57.

production, but allows for the longer-term trends to be observed. These data are graphed in Figure 4.5 with fuller data provided in Appendix C.³⁵⁹

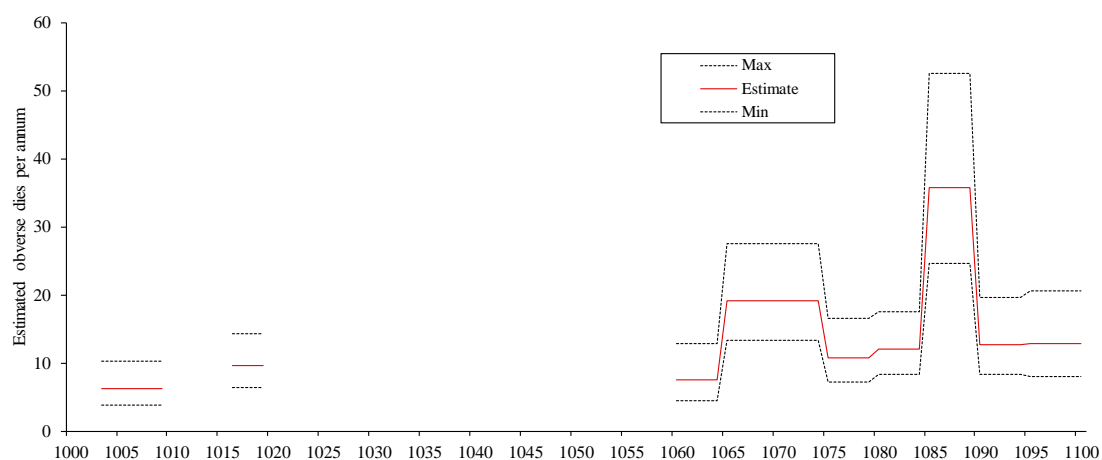


Figure 4.5 – Estimated Hiberno-Scandinavian production per annum during periods where no recoinages took place

The first point to emphasize from this data is the relative consistency of production in the late-eleventh century. Outside of Group L (*c.*1085-90), there would appear to be reasonably steady levels of production. This is generally just over 10 obverse dies per annum. The suggested grouping may conceal periods of more or less intense production but as a broad average across the period, the use of a little over 10 dies per annum would appear to be ‘normal’. This concurs well with an agglomeration of all of the data *c.*1060-1100 which suggests that around 550 obverse dies would have been used during this period.³⁶⁰ Taking into account the confidence intervals and averaged over the forty year period, it would suggest that Dublin used between 11 and 15 dies per annum in this period. This level of production is also mirrored in the slightly earlier period. Groups C and E were struck *c.*1003-9 and *c.*1018-20 with no system of recoinage at that point. That these groups also suggest a figure of around 10

³⁵⁹ Figures 12, 14 and 16, drawing on data from tables 1 to 4.

³⁶⁰ The accumulated number for all of the dies in Groups H to N yield an estimate of 543 dies with a confidence range of 461-638.

dies per annum is highly suggestive that this may have approximated the ‘norm’ for the Hiberno-Scandinavian coinage during the eleventh century.

The exception to this pattern is the late 1080s when Group L coins were struck from what would appear to be fairly large numbers of dies. It would seem that quite probably twice as many dies were used in this period as was normal for the Dublin mint in the late-eleventh century. It has been suggested above that this was a period which may have witnessed some attempt at a ‘renewal’ of the coinage with an increased weight and legibility to the coins.³⁶¹ However the, admittedly patchy, evidence of the hoards suggests that this renewal was not very successful with older coins continuing to circulate.³⁶² The increase in die usage in this period may be associated with an abortive attempt at reforming a coinage which was stylised in its imagery and debased in its weight.

4.2.4 International comparisons

Datasets have been assembled for a number of other areas that allow for comparison with Dublin in the period in question. The two case studies are England and Norway.³⁶³ These have been chosen as they represent different political and monetary areas for which there are readily accessible datasets.

In England relatively large datasets have been published for much of the period from the ninth through to the twelfth century.³⁶⁴ Different elements of this will be referred to throughout the discussion below. For Norway, a complete die-study of the *Triquetra* coinage of Harald Hardråde was conducted by Skaare.³⁶⁵ This was struck in,

³⁶¹ See section 3.3.6.

³⁶² See section 6.2.2.

³⁶³ The Scandinavian data is tabulated in Tables 10-11 and graphed in figure 26 in Appendix C. The English data is contained within tables 6-9 and 12 in addition to figures 20-5.

³⁶⁴ Naismith 2011b; Blackburn 2004; Gooch 2013, 262–7; Blunt *et al.* 1989; Lyon 2012; Mossop 1970; Allen 2009; Allen 2006a; Pagan 2011.

³⁶⁵ Skaare 1976.

or soon after, 1047 at several mints, although it is likely that Trondheim was the major mint.³⁶⁶ The coins of Olaf Kyrre, struck in the period c.1066-80, were analysed by Stenersen as a part of his study on the Gresli hoard.³⁶⁷ This second study is drawn exclusively from this enormous hoard and thus there are some problems about using the data. However a comparison of adjusted and unadjusted data suggests that the small number of large die chains do not skew the results significantly.³⁶⁸

Contemporary comparative data from England for the number of dies used in the eleventh century is methodologically problematic as it had a system of *renovatio monetae* for most of the period. This means the well-published data from that period is not directly comparable to the Irish material. Meaningful comparisons to England can only be made earlier or later than this period. Table 6 of Appendix C presents comparative data from the various mints of ninth-century England, tenth-century York and twelfth-century England.

The comparison with the early English data shows that Dublin was using far fewer dies. Only during the troughs of production at the ninth-century English mints can the number of dies be compared to Dublin. The comparison to tenth-century York finds greater similarity. The Viking-Age York dataset is patchy but where series are reasonably well known they suggest an annual consumption of dies in the range of seven to twenty-two. Agglomerating all of the York data for the period - excluding the years of Anglo-Saxon minting - produces a figure at the upper end of this range.³⁶⁹ Taking these figures at face value it would suggest that tenth-century York was striking something in the region of twice as many coins as Dublin was a century later.

³⁶⁶ Skaare 1976, 68, 99–100.

³⁶⁷ Stenersen 1881; The chronology of the coinage is disentangled by Malmer 1961.

³⁶⁸ Unadjusted data returns an estimate of 558 dies with a range of 540-77. Adjusted data returns figures of 549 dies with a slightly wider range of 527-73.

³⁶⁹ Combining all of the data for the period produces an estimate of a total of 764 dies or around 21 per annum.

The relative wealth of the kingdom of York must also be emphasized as coinage was utilised alongside other forms of silver. The data from the Cross-and-Crosslets coinage produces an estimate of just under thirty dies per annum for the later twelfth century.³⁷⁰ This is around three times the estimates from Ireland, suggesting striking of coinage in England that is much larger than in Ireland. However, estimates such as these are somewhat misleading as they do not take into account the areas in which the coins circulated. Whilst the kingdom of York can be estimated to be of roughly similar size to the ‘monetary zone’ of Ireland, suggested in chapter 8 below, England in the twelfth-century, nominally coin-using across the whole kingdom, was perhaps ten times this size.³⁷¹ Even if only the south and east of the area appear to have evidence for more intensive coin-use these areas were much larger than the ‘monetary zone’ in Ireland. This area in Ireland, centred on Dublin is likely to have had similar levels of coin-usage to areas of England in the twelfth-century if the numbers of dies used is compared to the area of circulating coinage. This is despite the fact that, in absolute terms, the amount of coinage was significantly smaller.

Norwegian data can also be cautiously compared to that of Ireland. Gullbekk has argued that there was a system of *renovatio* in Norway and the evidence of the hoards would certainly agree with this.³⁷² Direct comparison is thus quite difficult. However, during the reign of Olaf Kyrre, Malmer has identified two types of minting.³⁷³ The first – striking the ‘primary’ types – is of clearly legible coins and occurred over a prolonged period. The second – the ‘independent’ types were largely illegible, debased coins which were struck for only a brief period. They are also early in the

³⁷⁰ Allen 2006a, 261–2.

³⁷¹ A rough estimate of the kingdom of York, assuming it stretched from Tees to Humber on the East of the Pennines is around c.8000 sq. km which. An estimate of English territory in the twelfth century is difficult but is likely to be a minimum of 80,000 sq. km. This excludes northern areas beyond Durham, much of the north-west and south-west.

³⁷² Gullbekk 1992.

³⁷³ Malmer 1961, 328.

period 1067-80 as they are mutually exclusive, in hoards, with Stenersen types J, K, L and M, which are late in that period.³⁷⁴ It seems possible that the primary types may represent the ‘normal output’ of the mint with the independent types being the recoinage that is known to have occurred at the beginning of Olaf’s reign. If this was the case, then the ‘normal output’ of the various Norwegian mints represented in the primary classes amounted to around 17 dies per annum in the late 1060s and early 1070s. This is a figure that can be compared to contemporary Dublin where a range of between 11 and 16 dies per annum is suggested for the same period.

4.2.5 The volume of coinage

Having achieved an estimate of the number of dies originally used this figure is useful as it is often taken to be an indicator of the number of coins that were originally struck.³⁷⁵ As is indicated above, comparison can be made with the same mint through time or with near contemporary mints from other areas.³⁷⁶ These types of comparison rely upon the assumption that a die produces a similar number of coins in each example. Unfortunately, this is essentially unquantifiable and little is known about the production of Hiberno-Scandinavian dies and the quality of their manufacture. It is impossible to determine if dies struck more coins *c.*1000 than *c.*1100 or whether the mints of York and Dublin were striking similar numbers of coins per die *c.*1060. Nevertheless, in the eleventh century there is no reason to think that Dublin’s dies would have struck radically greater or fewer coins as the technology used for striking, and the medium struck, remained the same. When it comes to international comparisons, the weak impressions upon the coins that are evident on some Dublin

³⁷⁴ Malmer 1961, 328.

³⁷⁵ One example of this approach is by Metcalf: Metcalf 1980; Metcalf 1981 There have been numerous criticisms of this type of approach. Buttrey 1993; Buttrey 1994; Allen 2012, 319.

³⁷⁶ Biddle 2012, 32–8; Naismith 2012a, 188–90.

coins can be interpreted either as dies of inferior workmanship, suggesting dies might have produced fewer coins, or a willingness to use dies for longer, suggesting they might have produced more. The fact that Dublin was Ireland's only mint, and is known to have used worn dies, might suggest a greater coin per die figure than contemporary England where a number of small mints may well have not completely worn out their dies before a change of type. However, this type of inference is qualitative and very difficult to accurately quantify. In the following discussion it is simply assumed that the number of coins per dies was constant.

There are two problems in an attempt to turn estimates of dies into estimates of coins. The first is that there is a requirement to produce an 'average' figure for the number of coins and the second is attempting to achieve consensus regarding this multiplier.³⁷⁷ There are no contemporary accounts or other evidence that allow certainty regarding the numbers of coins that any given die could strike nor are there any that suggest the levels of variation between the least and most productive dies. Later medieval English accounts show that there was significant variability between the amounts that a die could produce. Estimates of between 7,000-90,000 and 6,000-30,000, for obverse and reverse respectively, occur.³⁷⁸ Allen argues that there is no consistent, readily-usable figure for die output but shows that there was a clustering of obverse dies between 20,000 and 60,000 coins and reverses between 10,000 and 25,000.³⁷⁹ To this data can be added figures from Dublin in the thirteenth century. The mint is known to have struck £43,238, 16s and 7d in the period 1251-4.³⁸⁰ The mint used an estimated 225 obverse and 865 reverse dies to strike this volume of

³⁷⁷ Buttrety 1993, 341-4; Buttrety 1994, 342-52.

³⁷⁸ Allen 2004; Earlier work on this issue was by Stewart and Mate. Stewart 1963; Stewart 1964; Mate 1969.

³⁷⁹ Allen 2004, 49.

³⁸⁰ Seaby 1974, 43.

coinage.³⁸¹ This produces an average of around 46,000 coins per obverse and 12,000 coins per reverse die.

It is unlikely that the difference between obverse and reverse production figures was significant in the eleventh century as the obverse to reverse ratio is close to 1:1, as is visible in Table 4.2. This finds parallels in England where only in the thirteenth century does this ratio alter substantially in favour of obverse dies.³⁸² It is likely that at an earlier period the obverse dies were producing fewer coins with technological, or administrative, changes in the thirteenth century leading to greater output per obverse die. The 12,000 coin per die suggested by the Dublin figures of the mid-thirteenth century is likely to represent a reasonable approximation of die output in an earlier period. In order to avoid confusion through false levels of specificity a figure of 10,000 coins per die will be adopted below. This is likely to be on the conservative side with the likelihood that some dies produced more coins than this number would suggest. This also allows ready comparison to some previous English studies, although in Scandinavia a smaller figure, of 5,000 coins per die, has sometimes been preferred.³⁸³ It must be acknowledged that even this conservative figure could be wrong by a significant margin. Figures perhaps 50% smaller or 100% larger would not be unreasonable.³⁸⁴ While ranges have been suggested as means of communicating the uncertainty, the following will utilise a single figure, for ease of expression.³⁸⁵ However, when reading these figures the margins of error inherent in this process, and thus the conjectural nature of these numbers, cannot be stressed strongly enough.

³⁸¹ This is based upon the die-study described in Churchill & Thomas 2012, 300–15. The methodology used is that of Esty 2006 and it produces confidence ranges of 217-33 in the case of the obverse dies and 821-911 in the case of the reverses.

³⁸² Allen 2012, 130.

³⁸³ Metcalf 1965, 480–1; Sawyer 1965, 152; Dolley 1966b, 14; *cf* Allen 2006b, 487–8; Allen 2012, 318; Jensen 1983; M Hansen 1990, 50.

³⁸⁴ *cf* de Catallay 2011, 8–9.

³⁸⁵ *cf* Allen 2001.

Group	Date	No of Obv./ No. of Rev
A	c.995-997	0.82
B	c.997-1003	0.99
C	c.1003-1009	0.95
D	c.1009-1017	N/A
E	c.1017-1020	1.00
F	c.1020-1040	0.80
G	c.1040-1060	N/A
H	c.1060-1065	0.44
I	c.1065-1075	0.65
J	c.1075-1080	0.70
K	c.1080-1085	0.78
L	c.1085-1090	0.83
M	c.1090-1095	0.85
N	c.1095-1100	0.85
O	c.1100-1110	1.04

Table 4.2 – Proportion of obverse to reverse dies in Hiberno-Scandinavian coinage

If a figure of around 10,000 coins per die is accepted then the estimates of dies per annum set out above become far more significant. The annual consumption of around ten dies can be revised upwards to a rough estimate of perhaps 100,000 coins per annum, or a million coins over a decade. Even with far more conservative figures for die output it is likely that production was on the scale of tens of thousands of coins. Figures of this sort may seem extraordinarily large. but when considered alongside the size of some Irish silver hoards they are less so. The Dunbrody hoard of the mid-eleventh century contained over 1,000 coins whilst the non-numismatic Carrick hoard of the ninth/tenth century had over 30 kilograms of silver, enough to have produced well in excess of 25,000 Hiberno-Scandinavian coins.³⁸⁶ Similarly, the enormous Geld payments of the period around 1000 suggest that vast quantities of silver were available in northern Europe at this point.³⁸⁷ When considering silver on this sort of scale, a million coins across a decade need not seem too great a figure.

³⁸⁶ Dolley 1966a, 67–8; Graham-Campbell & Sheehan 2009, 83.

³⁸⁷ The figures given for Danegeld are £10,000 in 991, £16,000 in 994, £24,000 in 1002, 36,000 in 1007, £3,000 in 1009, £48,000 in 1012, £21,000 in 1014 and £72,000 in 1018. For a discussion of whether these numbers reflect reality see the debate between Lawson and Gillingham. Gillingham 1989; Lawson 1990.

It is worth considering the implications of these sorts of numbers of coins when conceptualising exchange. When either the number of dies, or the extrapolated number of coins, is considered they both give an impression of the substantial size and regularity of coin production. The fact that there was a consistent and reasonably large inflow of silver into Dublin throughout the eleventh-century is important. It suggests contact with the town from areas where other silver traditions existed. Whether this was national – across areas of Ireland where silver may have been altered – or international – to Scandinavia, England and the continent – is uncertain but it does suggest that the scale of long distance exchange was extensive and valuable. In comparative perspective, this regularity of what might be termed long-distance exchange, or commerce, is not unique to Ireland. It can be comfortably compared to the Norwegian case-study, although the scale of Ireland was perhaps a little smaller. Ireland can also be compared to England with the suggestion that Dublin, and the surrounding area, may have seen volumes of circulating silver that would not be unusual in England. This, of course, suggests that there was an ‘average’ monetary area in either polity which is debatable. However, the relatively small area of coin-use in Ireland is likely to have, at least, been equivalent to areas of contemporary England that were quite familiar with silver currency.

4.3 Renewal and production

4.3.1 The scale of recoinage

As noted above, data exists for most of the Hiberno-Scandinavian series. This data includes die-studies of coin types that were used in the recoinages in *c.*995, *c.*997, *c.*1020 and *c.*1100. Data for *c.*1040 is unavailable but the number of known dies, at

least 133, suggests that it can be considered to be of a similar magnitude. The numbers of coins, dies and estimated original dies are summarised in Table 4.3.³⁸⁸

Group	Date	Coins	Dies	Original Dies	
				Estimate	Range
A	c.995-997	85	42	84	62-113
B	c.997-1003	377	149	241	215-272
F	c.1020-1040	569	222	353	322-388
G	c.1040-1060	n/a	133+	n/a	n/a
O	c.1100-1110	190	96	226	181-282

Table 4.3 – Summary of estimated die usage in various eleventh-century recoinage periods

The figures suggested by these numbers are slightly misleading as they also include coins struck after the period of initial recoinage, what has been termed the ‘normal output’ of the mint (dies Db striking coins b in Figure 4.2). To attempt to calculate the number of dies used during the striking of the recoinage it is necessary to subtract the number of dies used for the ‘normal output’ (Db) during the period of each group. Above it has been argued that ‘normal output’, at almost all points where it is possible to assess, hovered around 10 dies per annum across the eleventh century. If this were also the case during periods of recoinage, then it is possible to use this as an estimate for the ‘normal output’ in these periods. This allows for the number of recoinage dies (Da) to be estimated by calculating the total number of dies (D) and subtracting the figure for ‘normal output’ (Db).³⁸⁹ If this were the case then Table 4.4 represents an estimate of the number of dies involved with each of the eleventh-century recoinages.

Group	Date	Duration (l)	Total Estimate (D)	'Normal Output' (if Db = 10 x l)	Proposed Recoinage Dies (Da)
A	c.995-997	3	84	30	54
B	c.997-1003	6	241	60	181
F	c.1020-1040	20	353	200	153
O	c.1100-1110	10	226	100	126

Table 4.4 – Summary of proposed magnitude of four Irish recoinages

³⁸⁸ The fuller data are tabulated in tables 1 to 5 in Appendix C. The methodology used to estimate the original number of dies is that of Esty 2006.

³⁸⁹ In simplified mathematical terms: $Da = D - Db$ or $Da = D - (10 \times l)$

This data can be interpreted in a number of ways. Firstly, it should be noted that the small size of the Group A recoinage is a little misleading. It may reflect the short time of striking of this type. It has been argued that it began late in the validity period of the *Crux* type in England, suggesting only a brief issuing period in Ireland.³⁹⁰ This would also agree with the Scandinavian evidence where very few coins of this type are found in hoards.³⁹¹ In such a short period of striking the ‘normal output’ of the mint may have been less and/or the recoinage may have not had a chance to be complete. However, evidence against the latter interpretation can be found in the Clondalkin (no. 2) hoard which appears to have been entirely of this type.³⁹²

The figures for the other three recoinages are of broadly similar levels although there is a noticeable decline across the eleventh century. Amongst the most substantial coinages would appear to be Group B. This is unsurprising as the imagery from this coinage was to provide the inspiration behind most of the later coin designs. It seems likely that die-cutters looked back to the earlier coinage and selected the most significant to copy. The absolute size of Group F is the most substantially reduced by considering the ‘normal output’. Even whilst positing a fairly substantial ‘normal output’ the number of dies used for the recoinage still appears sizeable. The twelfth-century recoinage of Group O is the least certain as the data are less good. It is possible that the figure may alter if further finds add better data although it is unlikely to be as high as figures from earlier in the century.

³⁹⁰ Dolley 1966a, 56.

³⁹¹ Cf Figure 4.7 below.

³⁹² Dolley 1966a, 56.

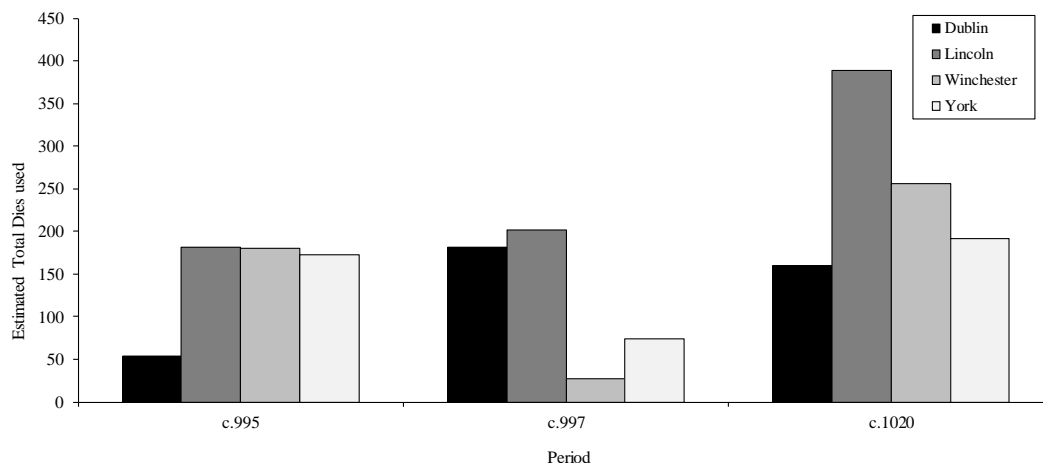


Figure 4.6 – Comparison of estimated number of obverse dies³⁹³

A summary of the results for *c.995*, *c.997* and *c.1020* have been plotted alongside English data in Figure 4.6. The English data has not been altered to take into account ‘normal output’ meaning the results are an overestimate of the size of recoinage. Group O (*c.1110*) figures have been omitted as there is insufficient English data for comparison. The figures suggest that Dublin was a substantial mint, producing volumes of coinage that would not be out of place at a large mint town in England. Lincoln, Winchester and York in the early eleventh century were amongst the largest English mints; only London was consistently and substantially more productive.³⁹⁴ The early-eleventh century was also one of the most productive periods in late Anglo-Saxon minting. That Dublin can even be compared to these mints is noteworthy. Die statistics for other English mints are not available but it is unlikely that Chester was using as many dies as Dublin, certainly in the period after the *Quatrefoil* (*c.1017-23*) coinage and possibly before this point as well.³⁹⁵ Chester was the largest of the western English mints and it rarely produced as much coinage as Lincoln, York or

³⁹³ The English data is for the *Crux*, *Long Cross* and *Quatrefoil* types whilst the Dublin data is for Groups A, B and F.

³⁹⁴ Metcalf 1980, 33.

³⁹⁵ Metcalf 1980, 34.

Winchester.³⁹⁶ In its Irish Sea context, it can be argued with confidence that Dublin was the largest mint.

Of course, arguing that Dublin was producing coinage on a scale that could rival an English mint town is not the same as arguing that the coinage of Ireland could rival that of England. There were 96 mints active at some point during the eleventh century in England which can be compared to only one in Ireland.³⁹⁷ Whilst a majority of these would only have produced a relatively small number of coins, the overall scale of minting in England certainly dwarfed that of Ireland. This can be demonstrated as a number of authors have considered individual coin types with data from across all mints. The *Pacx* type (c.1042-44) of Edward the Confessor, type xiv of Henry I (c.1123-5) and type A of the Cross and Crosslets coinage of Henry II have all been the subject of die study.³⁹⁸ The results are summarised in Table 4.5.³⁹⁹ Each of these figures dwarfs the coin production of Ireland and, if English data from earlier in the century were available, the estimates would probably seem even larger.⁴⁰⁰

King	Type	Period	Coins	Dies	Estimated Original Dies		
					Estimate	Min	Max
Edward the Confessor	<i>Pacx</i>	c.1042-1044	767	453	950	848	1065
Henry I	type xiv	c.1123-1125	745	310	476	439	517
Henry II	Tealby A	c.1158-1161	470	229	366	326	411

Table 4.5 – Summary of die-study data from three English types

A closer comparison is to contemporary Norway. Table 4.6 shows the figures for recoinages in the reigns of Harald Hardråde and Olaf Kyrre.⁴⁰¹ In the case of Harald's coinage, the figures are probably an over-representation as they have not been revised

³⁹⁶ Metcalf 1980, 49.

³⁹⁷ Metcalf 1981, 68–84.

³⁹⁸ Pagan 2011; Allen 2009; Allen 2006a.

³⁹⁹ Data is taken from Table 12 in Appendix C.

⁴⁰⁰ Allen 2012, 299.

⁴⁰¹ The data is drawn from Appendix C, tables 9 and 10. The estimated original number of dies is calculated using Esty 2006.

downwards to take into account the ‘normal output’ of the mints. There is something of a chronological disjuncture as it is only possible to compare this Norwegian data with Irish data from either *c.*1020 or *c.*1100. Harald’s recoinage was probably on a smaller scale than the early eleventh-century recoinages in Ireland, perhaps closer to the figure for *c.*1100. Olaf’s recoinage was struck from a much greater number of dies than even the largest Irish recoinage. However there are important considerations regarding the weight and fineness of Olaf’s coinage – discussed below – that make this a somewhat misleading figure.

King	Type	Period	Coins	Dies	Estimated Original Dies		
					Estimate	Min	Max
Harald Hardråde	Triquetra	<i>c.</i> 1047-1066	234	106	185	157	217
Olaf Kyrre	Malmer Per II (Independent Classes)	<i>c.</i> 1066-1080	971	231	310	294	326

Table 4.6 – Summary of die-study data for two Norwegian types

The scale of recoinage in Dublin can be considered in two ways. Firstly, the town was striking coinage in numbers that would have rivalled most towns in England, with the exception of London, and certainly the largest towns of Norway. It was the Irish Sea’s most significant mint as can be seen from its output and the fact that Hiberno-Scandinavian coins dominate finds from the Isle of Man.⁴⁰² The town should be considered of importance on a northern European scale.

4.3.2 Considering volume

Estimating the size of the coined currency has been the ultimate aim of many who have worked on die estimation.⁴⁰³ Estimating the size of the currency through the use

⁴⁰² Bornholdt-Collins 2003 Appendix VII.

⁴⁰³ A number of scholars have considered the English data to attempt to determine the size of the currency. Metcalf 1965; Grierson 1967; Stewart 1964; Allen 2006b.

of die figures is a difficult and somewhat controversial matter.⁴⁰⁴ Criticisms of earlier attempts have focused upon a number of different factors but primarily have rested upon doubts regarding assumptions in the calculation.⁴⁰⁵ There are a number of variables in a calculation of this sort and whilst it is possible to quantify some of them, other are much more difficult to evaluate.⁴⁰⁶ In some cases, this has led to scholars choosing arbitrary figures for which they have been criticised.⁴⁰⁷ However, without an attempt at quantification of this sort the usefulness of die calculations is greatly reduced.⁴⁰⁸ The following is a maximal reading of the available evidence representing an attempt at the quantification of the volume of currency.

As Figure 4.2 indicates, when considering the volume of currency (M) there are several variables that need to be considered. The first is that it assumes that there was a near complete, or at least quantifiably complete, recoinage of all of the previously circulating silver.⁴⁰⁹ If this is the case then the number of dies that were used for that re-coining process should yield a figure that can be used to estimate the total amount of circulating coinage. However, when die estimates are calculated for a particular type they give a combined total for those in the initial recoinage (a in Figure 4.2) with the ‘normal output’ associated with the period after the initial recoinage (b in Figure 4.2). Calculating the number of dies used in a recoinage (Da) requires the number producing the normal output (Db) to be subtracted from the total number of dies (D). To the number of coins in the recoinage must also be added any remnants of the old type of coin, the unchanged silver (u in Figure 4.2). Even amongst very well

⁴⁰⁴ A debate was conducted in the 1990s within the field of ancient numismatics. Buttrey 1993; Buttrey 1994; de Catalaŷ 1995.

⁴⁰⁵ One example is in the arbitrarily chosen figure of 2% for the attrition (wastage) of coinage in Roman coinage. Buttrey 1993, 346.

⁴⁰⁶ Buttrey 1994.

⁴⁰⁷ Buttrey 1993, 346–50.

⁴⁰⁸ de Catalaŷ 1995.

⁴⁰⁹ Allen 2006b, 494; Allen 2012, 317.

maintained coinages, elimination of all older coins was not complete. A percentage of older currency would also have formed a part of the money supply. Lastly, the picture is complicated somewhat by wastage. This is where coinage is removed from the pool of circulation. This can be through loss, hoarding or export overseas.

It is necessary to quantify each of these elements to produce an estimate of the volume of currency. This has made the process very difficult in the past when datasets were inadequate. However, the following will argue that it is possible to offer a degree of quantification for each of these components, with the exception of the wastage rate which can only be considered qualitatively. A series of figures will be offered that represent a hypothesis regarding the volume of currency. These will be compared to other datasets using a consistent methodology which should give an impression of comparative scale. The figures suggested do not represent the ‘correct’ figure but are presented as approximations. As further datasets become available, particularly in Scandinavia, it should be possible to examine both the methodology and figures suggested more closely.

4.3.3 The survival of older currency

Older, or foreign, silver nearly always circulated after recoinages as even well-administered coin economies were seldom able to compel all those using coins to change their currency for the most recent type.⁴¹⁰ Naismith has demonstrated that a consistent minority of English coinage survived beyond official recoinages into subsequent types.⁴¹¹ In Ireland the percentage of what might be termed ‘unofficial coinage’ altered through time, but it appears that this was generally a reasonably small percentage. Table 4.1 and Table 4.7 demonstrate the incompleteness of the recoinages

⁴¹⁰ Blackburn 1985, 81–3; Allen 2012, 38–9.

⁴¹¹ Naismith 2013, 9.

in Ireland at various points during the tenth and eleventh centuries. They suggest that even where there is evidence that there was some attempt to enforce a change of type that this was seldom completely successful. The fact that older coinage continued to be used means that estimates of the total size of the currency will have to be revised up somewhat. Alongside a majority of official silver was a significant minority of foreign or older coinage.

Type	Date	Estimated non-official silver
Group A	c. 995	<i>uncertain</i>
Group B	c. 1000	25%
Group F	c. 1020	5%
Group O	c. 1100	5%

Table 4.7 – Conjectural survival rates at various Irish recoinages⁴¹²

4.3.4 Wastage

Attempting to quantify the wastage rates from the Irish coinage is very difficult. Wastage could occur in a number of ways; into hoards, casual loss, export abroad or conversion into other forms of silver. The effects of hoarding and casual losses on the stock of currency are uncertain but it should not be doubted that they would have been significant.⁴¹³ Another important factor affecting wastage is the export of coinage to Scandinavia. The enormous spike in English die production at the beginning of the eleventh century can be interpreted in the context of wastage of the currency to Scandinavia.⁴¹⁴ This is corroborated by the large number of English finds in Scandinavian hoards.⁴¹⁵ Irish coins are much rarer in Scandinavia but are, nonetheless, found in many hoards.⁴¹⁶ This represents a, presumably fairly substantial, wastage of the coinage to the northern lands. This wastage of currency is, however, fairly chronologically limited. Figure 4.7 displays the number and striking period of coins in

⁴¹² See section 6.2.2.

⁴¹³ Buttrely 1993, 345–6.

⁴¹⁴ Metcalf 1981, 64–5; Naismith 2013, 14; Allen 2006b, 497–8.

⁴¹⁵ Blackburn & Jonsson 1981.

⁴¹⁶ Blackburn & Jonsson 1981.

a sample of Scandinavian hoards.⁴¹⁷ It highlights the fact that the export of significant amounts of Irish silver was occurring in the early part of the eleventh century. By the 1020s, there was significantly less silver leaving Dublin bound for the northern lands. This point is emphasized when the finds of groups B and F are compared. It has been argued that they were struck from comparable numbers of dies but the number of Scandinavian finds is dramatically higher for Group B. This alteration in finds cannot be due to the changing of Irish coins into local currencies. This did not begin on any scale until the 1040s with hoards in many areas of Scandinavia continuing to have large numbers of Anglo-Saxon and other foreign coins until this point.⁴¹⁸ This is not to say that coinage did not leave Ireland after the 1020s, various Manx and Italian hoards show that export continued, but the small number of hoards are dwarfed by the much larger number from Scandinavia in the early part of the century. Wastage to Scandinavia was probably at its peak in the early eleventh-century, declining markedly after c.1020. This has an impact upon the estimates of currency size below, even though determining the exact scale of this wastage is very difficult.

⁴¹⁷ The data is based upon the published Swedish material contained within the *Corpus Nummorum Saeculorum IX-XI qui in suecia reperti sunt* volumes with additions of hoards found pre-1966 which are contained within Manuscript notes held in the Fitzwilliam Museum. To this data has been added the Norwegian hoards in advance of their publication by Screen in her *SCBI* volume.

⁴¹⁸ For example see St Olavs Holl hoard, Skaare 1976, 128, no. 6; the Myrande hoard, Malmer 1975 no. 19.

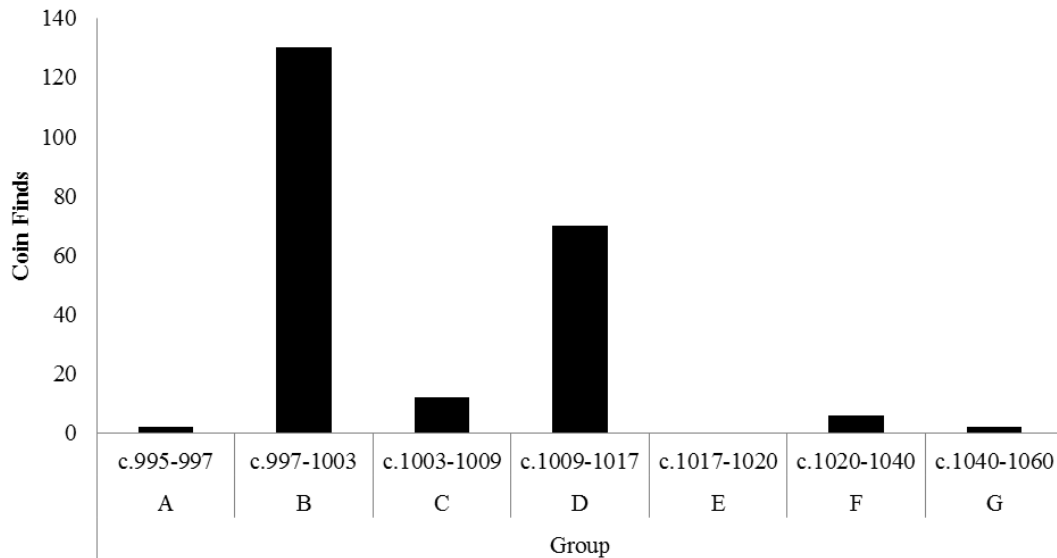


Figure 4.7 – Irish coin finds in a sample of Scandinavian hoards

While it is possible to determine the changing chronological patterns of wastage to the northern lands, it is much more difficult within an insular context. It is clear that significant volumes of silver were leaving Dublin to be used in the Irish Sea, Scotland and England. This is clear in the Manx hoard record which comes to be dominated by coins struck in Dublin during the course of the eleventh century.⁴¹⁹ Similarly, single-finds from Scotland indicate that the Hiberno-Scandinavian coinage circulated in the Isles.⁴²⁰ In an English context, it is more difficult to determine the wastage of Hiberno-Scandinavian silver. There are a handful of single-finds but it must be envisaged that England's well-controlled monetary system reminted most Dublin coins upon their arrival.⁴²¹ More compelling evidence for significant wastage can be found in comparison of the silver alloys of Ireland and England.⁴²² These suggest that much silver moved around the Irish Sea, presumably wasting from Ireland to England and vice versa. To this numismatic wastage, it must also be assumed that Dublin's currency was converted into non-numismatic forms. While the majority of Ireland's

⁴¹⁹ Bornholt-Collins 2003, Appendix VIII. See section 8.4.4.

⁴²⁰ Williams 2006.

⁴²¹ Blackburn 2008, 123.

⁴²² See section 5.1.1.

non-numismatic hoards were deposited between 850 and 950 there are significant quantities of ‘ring-money’ in the Irish Sea and northern areas of Ireland in the eleventh century.⁴²³ It is highly probable that some coins were turned into rings. Especially given the fact that they are found hoarded alongside one another in Manx contexts.⁴²⁴

In each of the above cases, the scale of silver lost to wastage is difficult to calculate. However, given the figures suggested in section 4.3.5 it is likely that only a relatively small proportion of the total was lost on an annual basis. If the figures in Table 4.9 are accepted then wastage of between one and two percent per annum, in terms of weighed silver, is likely to have occurred between 1000 and 1020. This is a very crude estimate but is likely to give an impression of wastage in broad terms. Regardless, when considering recoinage wastage is less of an issue as a recoinage provides a ‘snapshot’ of the volume of currency at a particular period. Wastage clearly affected the volume of currency, as is suggested below in section 4.3.5, but the declining estimates at recoinages are likely to reflect this process rather than having data skewed by it.

4.3.5 The volume of currency

Combining the previous datasets regarding recoinage size and the survival of older currency has produced Table 4.8.⁴²⁵ The Dublin figures and the Scandinavian figure *c.*1066 are given as a single estimate as there is some idea as to the ‘normal output’ of the mint in the period. The other examples are given as a range to represent

⁴²³ Sheehan 2000; Graham-Campbell 1995, 38-40.

⁴²⁴ Bornholdt-Collins 2003, Appendix VIII, 66-71.

⁴²⁵ The estimated original number of dies is calculated using Esty 2006. The £ figures are given assuming that £1 equates to 240 pennies. The units of reckoning in Ireland and Scandinavia are uncertain but conversion to English pounds presents a more readily understandable figure.

uncertainty as to what the ‘normal output’ of the mint may have been.⁴²⁶ None of the figures account for wastage and thus they must be interpreted as larger than they should be, particularly the figure for *c.*1000.

	Known Dies	Estimated Dies	Confidence Range	Coins Struck	Residual/ other currency	Estimated Volume
<i>Ireland</i>						
<i>c.</i> 1000	149	241	215 - 271	<i>c.</i> 1.8 million	25%	<i>c.</i> £9,500
<i>c.</i> 1020	222	353	327 - 395	<i>c.</i> 1.6 million	5%	<i>c.</i> £7,000
<i>c.</i> 1100	94	223	179 - 278	<i>c.</i> 1.2 million	5%	<i>c.</i> £5,500
<i>England</i>						
<i>c.</i> 1042	453	950	848 - 1065	<i>c.</i> 8.6 million	20%	<i>c.</i> £40 - 45,000
<i>c.</i> 1123	310	476	439 - 517	<i>c.</i> 3.9 million	5%?	<i>c.</i> £15 - 20,000
<i>Norway</i>						
<i>c.</i> 1050	105	183	156 - 216	<i>c.</i> 0.9 million	40%	<i>c.</i> £4 - 7,000
<i>c.</i> 1066	197	250	239 - 261	<i>c.</i> 3.1 million	5%	<i>c.</i> £13,500

Table 4.8 – Estimates of the volume of Currency

Whilst the figures from the table should not be taken as absolutely certain, they give a sense of the scale of the volume of circulating silver. The mint of Dublin certainly produced tens of millions of coins across the eleventh century and there is the very real possibility that a million of these – at most points – were part of the pool of currency. When considered in comparison to a century before, when Ireland struck no coinage and did not appear to use coins in any meaningful way, it represents an enormous transformation.

The gradual decline in the volume of currency is also significant, demonstrating significant wastage. A similar, if slightly later, decline is also visible in England. The decline must be interpreted in its European context. Across much of Europe there was a drop in the stock of circulating silver.⁴²⁷ Spufford argues this was as a consequence of a fall in output from the German silver mines. The lack of availability of silver in Ireland would seem a reasonable explanation for the drop in production and also in

⁴²⁶ The English figures has been assumed to lie between 20 and 50 obverse dies per annum. The Norwegian figure is quite low and ‘normal output’ has been modelled between 3 and 6 dies, *c.* 1050.

⁴²⁷ Spufford 1988, 95–7.

the volume of circulating silver. Wastage into hoards, but also possibly a balance of trade deficit, may have gradually depleted the money supply.

When the weight of the coinage is considered the point is emphasized. Table 4.9 is an estimate of the volume of silver needed to strike the coinage in Ireland, excluding the unofficial silver. It shows an enormous contraction in the silver in Ireland over the course of the period. The large increase suggested for Scandinavia in Table 4.8 is also offset somewhat when weight and purity are considered. The amount of silver needed for Olaf Kyrre’s very light coinage is comparable to that of Harald Hardråde’s much heavier coins.⁴²⁸ Both of these figures parallel the Irish estimate for c.1100 in terms of the silver needed to strike them. The differing strategies regarding the European silver famine – smaller volume of currency in Ireland and a much debased coinage in Scandinavia – are explored below.⁴²⁹

		Coins Struck	Average weight (g)	Total Weight (kg)
<i>Ireland</i>				
	c. 1000	c. 1.8 million	1.37	c. 2500
	c. 1020	c. 1.6 million	1.05	c. 1700
	c. 1100	c. 1.2 million	0.46	c. 600

Table 4.9 – Estimate of volume of silver used to strike coins in each recoinage

4.4 Conclusions

The difficulties with interpreting the data above mean that the figures presented are not absolute. They represent approximations, resting upon several assumptions but are designed to give an impression of the reality of the time. Exact quantification is difficult – determining whether Ireland had £10,000 or £20,000 of circulating coinage depends upon one’s own subjective decisions regarding ‘average’ die production –

⁴²⁸ The partial recoinage of Harald Hardråde utilised around 400 kg of silver but there was also around 40% of residual, older silver. The striking of Olaf Kyrre’s independent types coinage probably utilised c.600kg but left very little unofficial coinage. The average weight of Harald’s coinage is 0.88g and Olaf’s the figure is 0.40g. Both modelled as 50% of the fineness of Irish and English coins as is likely based upon analysis of their alloys. Skaare 1976, 74–84; Malmer 1961, 330–1.

⁴²⁹ See section 5.3.

but the broad comparability of the results should be robust. The results have been presented in the order of their certainty with most confidence regarding the analysis of the dies per annum and size of the recoinage. The estimate of the money supply is the most conjectural.

The results would suggest that Dublin, as Ireland's only mint town, was wealthy. Even during periods where there was no systematic recoinage, such as the late eleventh century, hundreds of dies, striking millions of coins, were being used. The silver being struck into coinage at this point may have entered the town as foreign coinage, or have been non-numismatic in origin, with a reasonably strong administration in Dublin enforcing its change into the contemporary Hiberno-Scandinavian types. The number of dies would suggest that this was a regular process with quite a high turnover. Coinage was entering, and presumably leaving, often enough to necessitate a significant amount of striking.

The large number of coins being struck also makes it simpler to understand the increasing interest in Dublin from an Irish royal perspective over the course of the eleventh century.⁴³⁰ The exact manner in which king's took their profit from coinage is uncertain, but analogy with England suggests that the king was able to charge for the provision of dies and, far more importantly, to take a percentage of the silver that was struck.⁴³¹ In high medieval England, the charge on re-minted silver was 6*d.* in the pound in England or 2.5%.⁴³² It is unknown whether the same system existed in Ireland, but the exclusion of foreign coinage would suggest an elite influence in the coinage and it is difficult to envisage that this would not have extended to the taking of mint profits. Even with such a small percentage the profits that would have been available were not insubstantial. Taking the figures at face value and assuming a

⁴³⁰ See section 2.1.

⁴³¹ Allen 2012, 123, 170.

⁴³² Allen 2012, 172–3.

similar ability to charge as in England, Sihtric Silkenbeard would have stood to have taken in the region of 45,000 coins (*c.*£190) in the recoinage of Group B and 40,000 coins (*c.*£170) in Group F with potential profits of around 30,000 coins (*c.*£130) at the beginning of the twelfth century. Whilst these would have been exceptional profits the steady income suggested by an average die usage of around 10 dies per annum, perhaps around £10, would also have made whoever could enforce the coinage quite wealthy.

The numbers of coins that have been suggested to be in circulation also have an important point to make when it comes to the question of monetisation. It seems highly dubious that the levels of coinage produced in Ireland in this period were not actively put into use. The relative consistency of production across the period suggests that there was a place for coinage and that it was still very much a part of the economy in 1100 as it had been a century before. However, this is not to say that it was struck in the same volume. Over the period, there appears to have been a gradual reduction in the volume of currency. Whether this continued into the twelfth century is unknown as the absence of hoards, and the difficulties of being certain with regard to die identity, makes any attempts to quantify the number of dies used to strike the coins very difficult. It is tempting to attribute this decline to a wider European silver famine especially when the twelfth century coinage, initially bracteate and ultimately very base, is considered. This serves to underline the point that Ireland, or more properly Dublin, should be interpreted in a European context.

When Dublin is considered on this European scale it is important to take into account the relatively geographically limited use of coinage in Ireland. Below, it is argued that this is largely constrained to a *c.*7500 sq. km area around Dublin.⁴³³ That

⁴³³ See section 8.4.1.

this relatively small area had such significant quantities of silver circulating is of some importance. The volume of circulating silver in this area can be fairly comfortably compared to Norway and some areas of England. It can be argued that Dublin, and its surrounding area, should be considered alongside some of the most commercial areas of northern Europe. Even if coin-use in Ireland appears quite geographically limited, in this area it appears to have been quite intense.

Chapter 5 – The relationship of silver and coinage

The relationship between an early medieval coin and the silver that it contained is very important. Medieval coinage, in contrast to modern currency, contained its value within itself, in its precious metal content.⁴³⁴ Alterations to weight and fineness had the potential to impact upon its value. This was acknowledged at the time with law codes and other texts highlighting the importance of maintaining high silver standards.⁴³⁵ Over and above this link with silver content there existed, in some situations, an ‘over-value’ which came when an authority – usually a king – fixed a value for the coin.⁴³⁶ Whilst stability appears to have been the aim, weight and fineness could be subject to change and/or manipulation. Interpreting the reasons behind these changes, and highlighting stability, can prove important analytical tools for considering political control of coinage, variations in silver supplies and the manner in which silver was valued in its coined form.

5.1 *The Hiberno-Scandinavian alloy*

The alloy of medieval coinage was almost ubiquitously silver but the amount of silver within each coin was prone to significant variation. At the same time as the Hiberno-Scandinavian coinage was being produced silver of quite different standards was being struck in England, Norway and areas of Germany.⁴³⁷ Decisions to maintain or vary fineness were an important element within the administration of the mint meaning that it is necessary to consider the alloy of the Hiberno-Scandinavian coinage.

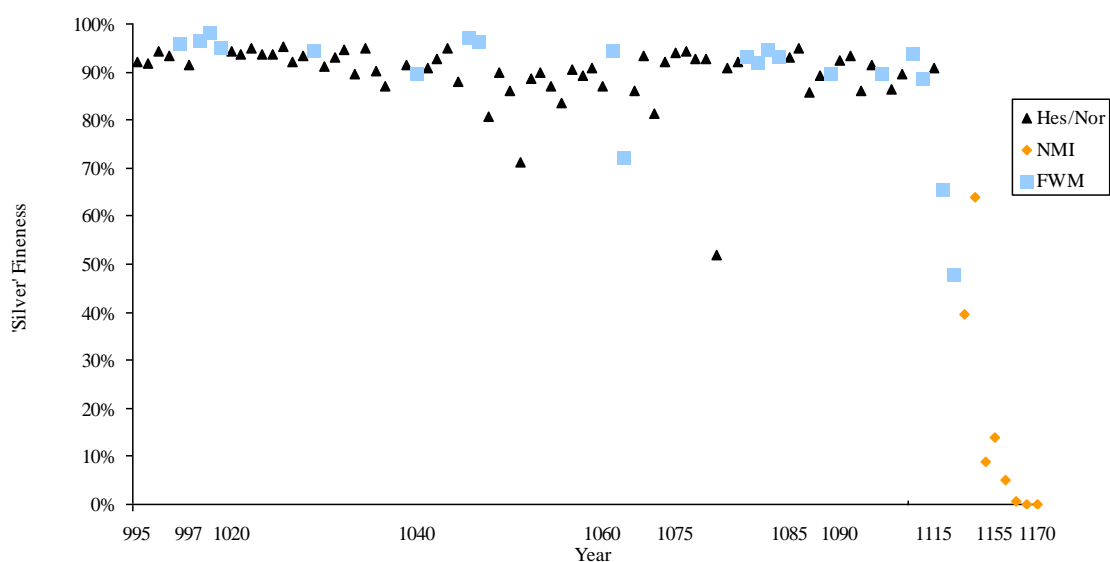
⁴³⁴ Naismith 2012a, 156.

⁴³⁵ Naismith 2012a, 156; Screen 2007.

⁴³⁶ Jonsson 2011; Petersson 1969; Lyon 1976.

⁴³⁷ Metcalf & Northover 1986; Metcalf & Northover 2002; Skaare 1976, 79–85; Gullbekk 1994, 187–95; Constantinescu *et al.* 2005.

The alloy of Dublin's coinage has been the subject of examination on three occasions. Robert Heslip and Peter Northover (denoted as Hes/Nor) tested coins within the Ulster Museum's collection using an electron probe micro-analyser (EPMA).⁴³⁸ The coins from these analyses date from the beginning of the series through to *c.*1115. Analysis of mid-twelfth century coins has been conducted recently by the National Museum of Ireland (denoted as NMI) on coins from the Knowth excavations using X-Ray Fluorescence (XRF) analysis.⁴³⁹ More recently, an examination of a limited number of coins, by surface XRF analysis, was conducted in the Fitzwilliam Museum (denoted as FWM). The results of this are summarised in Table 5.1. Each of these tests utilised differing methods. Furthermore, Heslip and Northover's analysis involved the preparation of a surface of the coin, removing the problem of surface enrichment, whilst the other two analyses were conducted on unprepared coins.



The differing testing techniques do not produce optimal results with two examining the corrosion products whilst the Hes/Nor analysis analyses the internal alloy of the coin. However, the similarity of the results from contemporary coins, particularly the Au and Ag values, suggests that the results are broadly comparable. Where there is divergence, highlighted by Figure 5.1, it is likely that these broadly reflect the alloy of the coins, rather than the different testing techniques. The FWM sample was over a wider chronological range, overlapping with both other tests, and it found comparable results meaning that, broadly speaking, it is thought that the results provide a reasonably accurate representation of the alloy of the coins. The dramatic decline in silver that is visible in Figure 5.4, and very high copper content suggested for the later part of the series, agrees with non-scientific measures. Merely from observation, most of the late bracteates appear to be a high-copper alloy. The coins from the Kildare Round Tower hoard (c.1170), preserved in the National Museum, clearly have a high copper content as they have a very green patina, in contrast to the more normal blacks or purples of the earlier silver, and have visibly crumbled during their storage.

Accession Number	Type	Other	Mn	Fe	Cu	Zn	Bi	Sb	Sn	Ag	Pb	Au
CM.1.789-1990	A	2.73	0.01	0.14	2.90	0.02	0.01	0.00	0.10	93.35	0.30	0.45
CM.1395-1911	B	1.79	0.01	0.05	2.41	0.12	0.03	0.00	0.15	94.66	0.33	0.45
CM.300-1994	C	5.42	0.01	0.27	0.53	0.09	0.07	0.00	0.23	92.69	0.23	0.47
CM.BI.2747-R	D	3.85	0.01	0.20	3.35	0.17	0.03	0.00	0.11	91.30	0.56	0.42
CM.1.798-1990	F	1.70	0.00	2.20	2.06	0.07	0.01	0.00	0.26	92.74	0.47	0.49
CM.1259-1911	F	1.97	0.01	0.11	8.47	0.64	0.02	0.00	0.15	87.72	0.58	0.33
CM.5.2336-1933	G	1.46	0.00	0.04	1.82	0.10	0.00	0.00	0.12	95.62	0.46	0.38
CM.5.2344-1933	G	4.35	0.01	0.33	1.96	0.20	0.01	0.00	0.16	91.95	0.70	0.34
CM.ME.374-R	H1	4.76	0.01	0.23	3.29	0.45	0.00	0.00	0.37	89.82	0.63	0.45
CM.ME.376-R	H2	2.88	0.01	0.20	22.60	2.16	0.01	0.01	0.65	70.14	1.06	0.31
CM.1399-1911	I7	2.36	0.01	0.10	5.96	0.56	0.00	0.00	0.21	89.66	0.77	0.37
CM.1.802-1990	I8	5.85	0.02	0.38	4.19	0.13	0.00	0.00	0.14	87.44	1.48	0.37
CM.652-2006	I9	1.19	0.00	0.11	2.41	0.75	0.00	0.00	0.30	93.39	0.59	1.27
CM.1.809-1990	K7	2.72	0.00	0.07	4.96	0.34	0.00	0.01	0.25	90.52	0.58	0.55
CM.1.805-1990	L11	1.73	0.00	0.11	7.60	0.82	0.01	0.00	0.45	88.05	0.68	0.54
CM.4.1965	N2	2.96	0.01	0.50	4.82	0.56	0.00	0.00	0.60	89.43	0.66	0.47
CM.1-1983	O2	2.53	0.01	0.21	4.17	0.36	0.00	0.00	0.18	91.37	0.71	0.47
CM.1.807-1990	O2	4.35	0.01	0.05	7.41	1.36	0.01	0.01	0.55	84.80	0.90	0.56
CM.173-1999	P3	2.17	0.00	0.06	26.29	3.79	0.01	0.02	2.05	64.08	1.09	0.44
CM.5.161-1933	Q4	2.25	0.00	0.17	41.81	4.67	0.02	0.06	2.81	46.64	1.36	0.21

Table 5.1 – XRF results for Fitzwilliam Museum coins⁴⁴⁰

In order to usefully analyse the alloy of the Hiberno-Scandinavian coinage it is important to understand the manner of their production. There are no records for how the Hiberno-Scandinavian mint operated and thus interpretation of exactly how the coins were manufactured relies upon the evidence of the coins themselves and analogy with later mint practice. In medieval England, the process is reasonably well understood and a simplified version of this is provided in figure 5.2. This figure includes some of the trace elements that are detectable markers of the stages of this production.

⁴⁴⁰ ‘Other’ results are a combination of Mg, Al, Si, S, Ca and Ti.

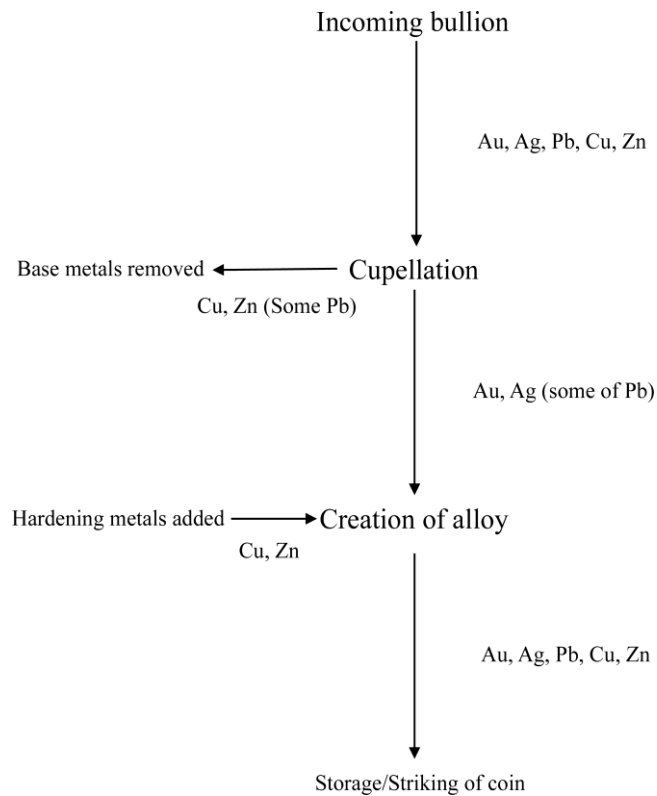


Figure 5.2 – Simplified model of the production of silver alloy used in the striking of Hiberno-Scandinavian coinage

The various stages of production of coinage leave different chemical signatures within a coin’s alloy. When silver was brought to the mint it underwent cupellation, or purification, to remove base metal impurities.⁴⁴¹ This process removed most base metals but left the gold, silver and a certain amount of lead unaffected.⁴⁴² The material that is left at this stage is generally referred to as ‘silver’ as it includes silver, gold and lead which would have been indistinguishable at the time.⁴⁴³ Considering the ratio of gold and silver, unaffected by the cupellation process, can be used to evaluate the source of silver.⁴⁴⁴ Coins with differing sources of silver should have different ratios of gold to silver, dependent upon their ultimate source. The production of the desired silver alloy also involved adding a certain amount of non-precious metal. This

⁴⁴¹ Allen 2012, 156–7.

⁴⁴² Metcalf & Northover 1986, 36.

⁴⁴³ Metcalf & Northover 1986, 36.

⁴⁴⁴ Kruse 1992b; Metcalf & Northover 1986, 43.

reduced fineness and hardened the coin by introducing copper.⁴⁴⁵ Differing amounts of brass could also be added to the alloy to control the ‘fineness’ of the silver.

5.1.1 Sources of silver

The source of silver for the Hiberno-Scandinavian coinage can be approached by examining the ratio of gold to silver in the coins. Whilst silver was the most common element in medieval coins, gold is found in trace amounts alongside it. The ratio of these two elements varies, depending upon the ultimate source of the silver.⁴⁴⁶ Over time, and assuming relatively little in the way of new silver, this ratio is likely to have homogenised somewhat as silver from a number of sources was melted together.⁴⁴⁷ However, in England where there was frequent recoinage and much circulation, some regional patterns can be observed which are suggestive of differing sources of silver.⁴⁴⁸

⁴⁴⁵ Metcalf & Northover 2002, 218.

⁴⁴⁶ Metcalf & Northover 1986, 43–7.

⁴⁴⁷ Metcalf & Northover 2002, 228.

⁴⁴⁸ Metcalf & Northover 1986, 45.

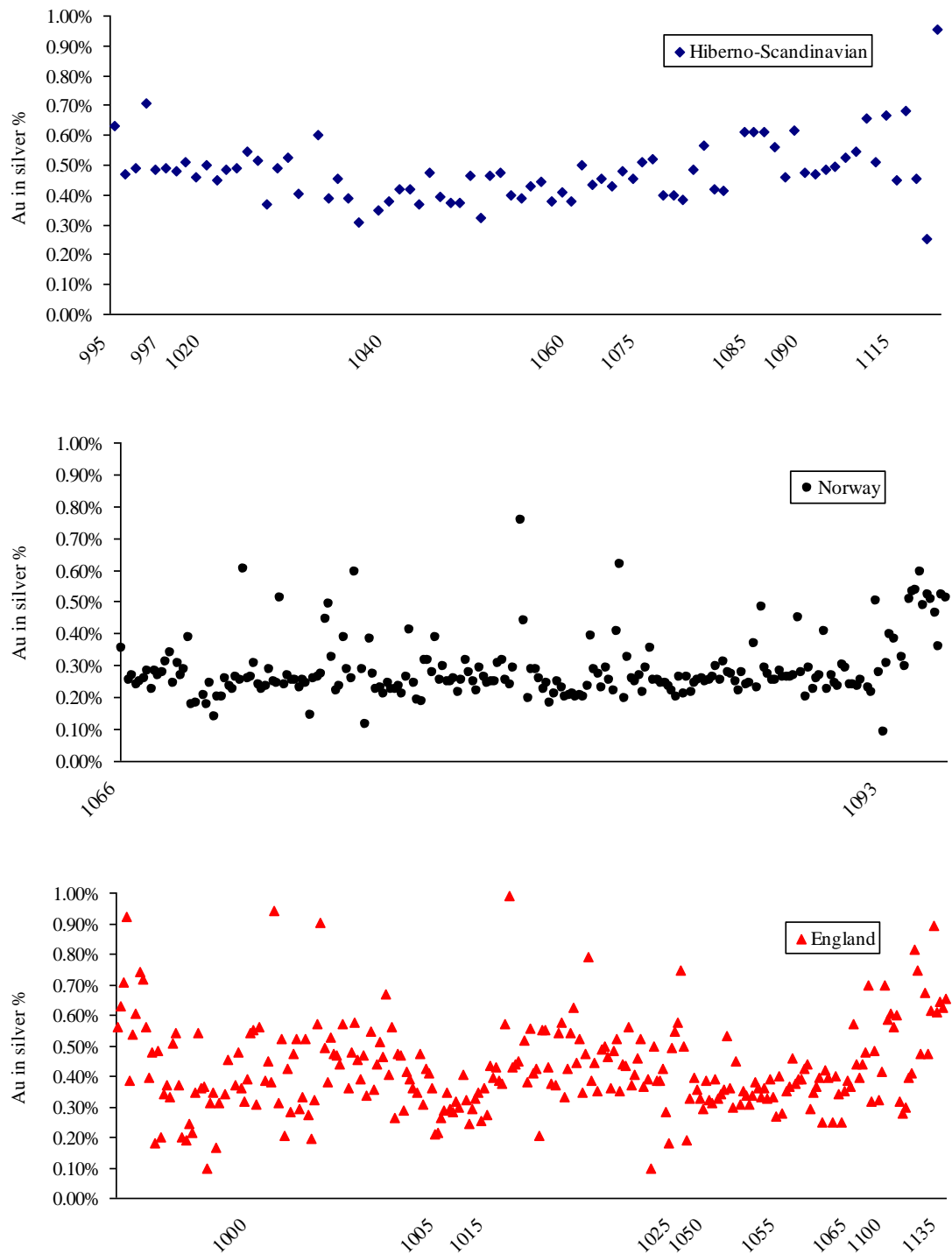


Figure 5.3 – Comparison of Gold/Silver ratios in Hiberno-Scandinavian, English and Norwegian coinages.⁴⁴⁹

⁴⁴⁹ The variable x-axes dates reflect the uneven chronological nature of the coins analysed. Figures greater than 1% have been omitted for clarity but this only affects a handful of results.

The ratios of gold to silver are considered for Dublin, England and Norway in Figure 5.3.⁴⁵⁰ The figures are broadly comparable but the datasets vary in size and chronology in each case, largely dependent upon the availability of coins for analysis. The figures show that silver within the Hiberno-Scandinavian coinage typically contained around 0.47% gold.⁴⁵¹ There is consistency in this figure throughout the period, although one coin with 1.25% gold in silver is anomalous and is perhaps indicative of a gilded object being added to the alloy. When Norway is compared to Dublin it appears quite different. Both are reasonably consistent but the ratio of gold is much lower in the Norwegian sample, with a median of 0.25%.⁴⁵² This is unlikely to be as a result of differing testing regimes as the Norwegian samples are accurate to 2% of the total for gold and silver with both English and Irish accurate to even finer margins.⁴⁵³ Neither margin of error would explain the divergences visible. Instead, the divergence in the percentage of gold in silver between Ireland and Norway is strongly suggestive of differing sources of silver for the respective coinages. The English data sits somewhere between these datasets. It is far more variable than either with a median of 0.39% gold but standard deviation of 0.27%. This probably reflects the much greater variety of silver in England with silver entering through a number of ports.⁴⁵⁴ However, if data from Chester is isolated, it is much more closely aligned with the results from Dublin. The gold in silver percentage is 0.44% which is very close to the figure for the Hiberno-Scandinavian coinage. This can be interpreted as suggesting that there was something of an ‘Irish Sea’ pool of silver with both Chester and Dublin turning this silver, and presumably the other mint’s coins, into their

⁴⁵⁰ Data from: Heslip & Northover 1990; Kenny 2012; Skaare 1976, 79–85; Gullbekk 2009, 356–63; Metcalf & Northover 2002; Metcalf & Schweizer 1971.

⁴⁵¹ The standard deviation from this figure is 0.14%.

⁴⁵² The standard deviation from this figure is 0.22%.

⁴⁵³ Gullbekk 2009, 354; Northover 1986.

⁴⁵⁴ Metcalf & Northover 2002.

respective coinages. Regionality of silver sources has been suggested for the tenth century with quite different alloys in various parts of the Irish Sea.⁴⁵⁵ In the eleventh century, greater homogeneity, at least amongst the coins, can be stressed. This homogenisation of alloy probably indicates a greater level of exchange of silver around the Irish Sea.

5.1.2 Silver standards

Varying the amount of brass added changed the proportions of ‘silver’ in any coin. The level of ‘silver’ in a coin is known as its fineness and this was consistently high throughout almost the entire period of Hiberno-Scandinavian production, as is visible in Figure 5.4. From *c.*995 to, at least, *c.*1115 the alloy of the coinage had a very high silver content. The median value of silver is 93% ‘silver’ and the mean is slightly lower, at 91% fine. There is some variability but this can be associated with short periods of debasement late within Groups F and G.⁴⁵⁶ These temporary debasements account for many of the lower amounts in Figure 5.4. The overall consistency suggests that when an alloy was envisaged for the Hiberno-Scandinavian coinage, it was probably around 93% ‘silver’.

⁴⁵⁵ Kruse 1992b.

⁴⁵⁶ Heslip & Northover 1990, 104–6.

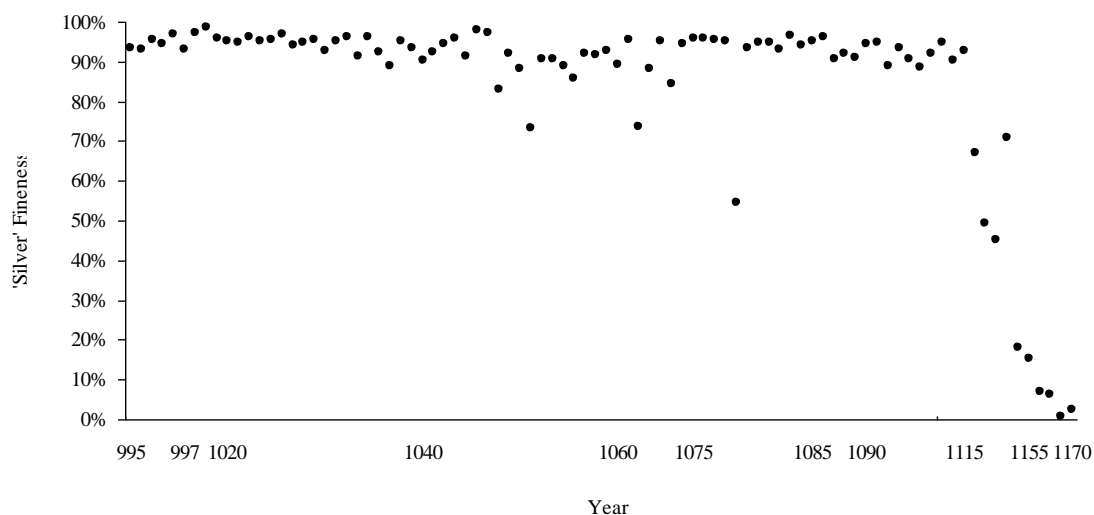


Figure 5.4 – ‘Silver’ fineness of datable Hiberno-Scandinavian coins⁴⁵⁷

This *c.*93% figure is very similar to that of contemporary England. Whilst there was some variability between mints in England, including sporadic debasements, it seems likely that the ‘silver’ standard in England was at least 93%.⁴⁵⁸ Dublin was close to this standard for the eleventh and the early years of the twelfth century. This is unlikely to have been a coincidence as silver levels could be reasonably easily manipulated by adding other metals, as discussed above. It seems likely that there was a deliberate policy to imitate the English standard of fineness. Imitation of the silver standard sits comfortably with what is known from the coinage with iconographic borrowing from English types throughout most of the period.⁴⁵⁹ After *c.*1020, when Dublin was producing types that were iconographically distinct from England, the decision to retain and consistently return to a standard of *c.*93% fine suggest that this was an important feature of the Hiberno-Scandinavian coinage. Both the iconography and the weight of the coinage were subject to change on a very ready basis but the fineness remained quite consistent in spite of these changes.

⁴⁵⁷ The variable dates on the x-axis reflect the uneven chronological nature of the coins analysed. The ‘Silver’ content includes gold and other trace elements which would have remained with the silver after its refinement Metcalf & Northover 1986, 36; Allen 2012, 156–7.

⁴⁵⁸ Allen 2012, 159; Metcalf & Northover 2002.

⁴⁵⁹ See section 6.1.2.

The consistency of alloy in the Hiberno-Scandinavian coinage continued into the early years of the twelfth century. As is visible in Figure 5.4 there was a significant debasement but this is difficult to pin-point precisely as there are very few tests on coins that can be dated to the early part of Group Q. It can be said with certainty that the debasement began after c.1115 and the coins were largely copper in the 1150s. Determining exactly when and, how quickly, the alloy altered between these dates is uncertain. It may be that there was a gradual decline in the silver standard, as was the case with the weight standard, or it may have been rapidly reduced, as was the case in Norway during the eleventh century.⁴⁶⁰ In the absence of further testing, it is very difficult to speak on either the chronology or the mechanisms of debasement with great accuracy. However it must be interpreted as significant within the history of the Hiberno-Scandinavian coinage. Silver coinage of over 90% fineness and less than 10% copper had been used for nearly 150 years. This situation was reversed within a brief period, probably less than thirty years.

Varying alloys within coinages were not unknown in a European context. In Norway, the fineness of the silver coins was manipulated by Harald Hardråde. It decreased from a high of around 90% to around 30% fine in the period of the *Triquetra* coinage (c.1047-66).⁴⁶¹ This is usually associated with what is normally known as *Haraldsslåtten* which is referred to in the *Morkinskinna* version of Harald Hardråde's saga.⁴⁶² This story recounts how Halldórr was paid, by the king, in coinage of poor fineness with the saga describing it as 'being mostly of copper'.⁴⁶³ Halldórr objects to this and is eventually paid in refined silver. Gullbekk interprets the debasement as an attempt to increase revenues, with lighter coins allowing more

⁴⁶⁰ Skaare 1976, 79–85; Gullbekk 2009, 147.

⁴⁶¹ Skaare 1976, 79–85; Gullbekk 2009, 147.

⁴⁶² Skaare 1976, 9–11; Gullbekk 2009, 30–1.

⁴⁶³ Skaare 1976, 10.

silver to be kept back in the re-minting process, although this is not the only explanation.⁴⁶⁴ The debasement is quite clearly official, carried out at Harald's behest, and not as a result of a failing at the mint. Subsequent rulers in Norway also took decisions to continue or increase the silver standard. The alloy remained low into the reign of Olaf Kyrre, probably struck to the previous standard.⁴⁶⁵ However, it increased dramatically at the beginning of Magnus Barefoot's reign in 1093.⁴⁶⁶ The variability of the alloy in Norway must be interpreted as royally-sanctioned whilst any thought that the declining alloy was a failing on the mint's part must be rejected. Agency for change should be placed firmly with the administrators of the mint, although the precise reason behind the decisions is a little less clear.

A similar interest in maintaining standards of fineness is visible in a number of documents relating to England. Both narrative sources and law codes suggest that English kings were primarily interested in maintaining a consistently high silver standard.⁴⁶⁷ However, there was some scope for variability, inevitable given methods of production, with some variability permitted within prescribed Medieval standards.⁴⁶⁸ In early medieval England, the reality of the coins themselves shows that there was a degree of variability that was acceptable within the larger whole. Metcalf and Northover have estimated, with reservations about precise quantification, that around 10% of English silver at points in the eleventh century was debased.⁴⁶⁹ This is from an early eleventh-century sample and is attributed to expediency. In both English and Norwegian examples, debasement is interpreted as a deliberate policy

⁴⁶⁴ Gullbekk 2009, 131–2; Spufford 1988, 96.

⁴⁶⁵ Gullbekk 2009, 147; Malmer 1961.

⁴⁶⁶ Gullbekk 2009, 147.

⁴⁶⁷ Screen 2007; Allen 2012, 158.

⁴⁶⁸ Allen 2012, 164–9.

⁴⁶⁹ Metcalf & Northover 2002.

rather than accident of the mint; it was not ‘accidental or unwitting’.⁴⁷⁰ Such an interpretation also seems likely for the Hiberno-Scandinavian coinage. The relative consistency of alloy for a prolonged period, followed by a dramatic debasement, suggests that debasement was likely to have been a decision taken to alter the coinage rather than as a failure of the mint. The twelfth-century Hiberno-Scandinavian debasement is likely to have been officially sanctioned. The debased coinage endured for a significant period of time and the number of finds would suggest that relatively significant numbers of base metal bracteates were struck.⁴⁷¹ None of these elements suggests a short-term failing of minting standards.

5.2 The Hiberno-Scandinavian weight standard

5.2.1 Weight standards

When the weight of the Hiberno-Scandinavian coinage is considered over the long-term it is immediately apparent that there was a gradual decline. Figure 5.5 plots the median weight of coins for each group, excluding those coins where the weight has been altered by post-depositional factors such as chipping or breakage.

⁴⁷⁰ Metcalf & Northover 2002, 233.

⁴⁷¹ See section 8.5.3.

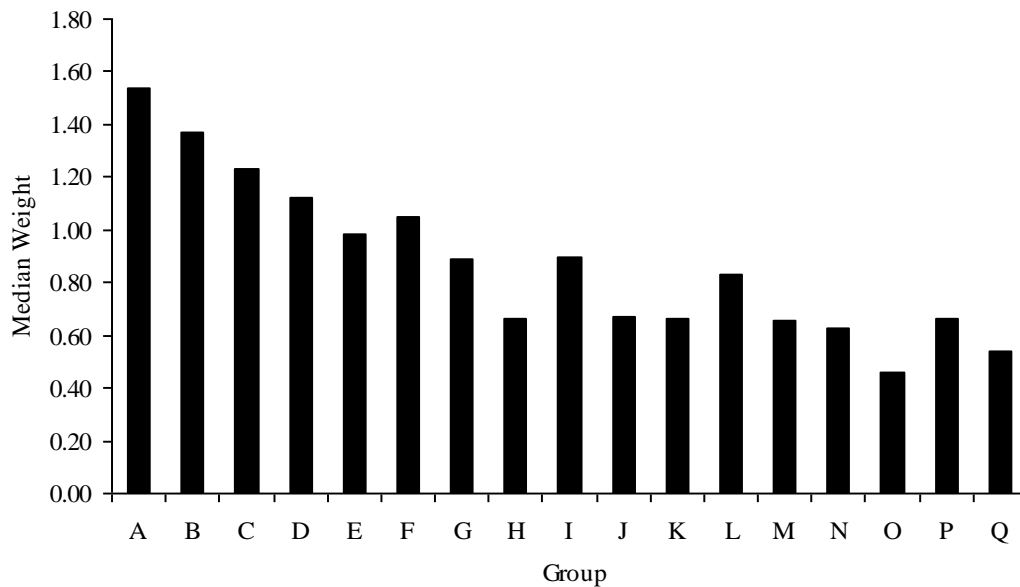


Figure 5.5 – Median weight of Hiberno-Scandinavian coinage groups

This figure makes the decline in the weight of the Hiberno-Scandinavian coinage abundantly clear with the early groups being struck to a standard in excess of one gram. Over the course of the second half of the eleventh century, two general weight standards, at around *c.*0.85-0.90g (groups I and L) and *c.*0.65g (groups J, K, M and N), can be observed.⁴⁷² The lower of these gives way to the lowest standard, of *c.*0.50g in Group O, in the opening years of the twelfth-century. The pattern is quite clear; a general decrease in the weight over the course of the Hiberno-Scandinavian coinage.

However, this general pattern does disguise more specific patterns. The first is that until *c.*1040, there was a mirroring of the weight standard of English coins in Dublin. Figure 5.6 plots a comparison of the Dublin and Chester which shows a correlation between weights in the early eleventh century.⁴⁷³ This is probably attributable to Irish copying of English standards, in a similar manner to their adoption of English fineness and imitation of iconography. When England raised its weight standard in the

⁴⁷² Dolley 1966a, 134–5.

⁴⁷³ Chester data is derived from the *Early Medieval Corpus of Coin Finds* <<http://www.fitzmuseum.cam.ac.uk/coins/emc/>>

mid-eleventh century Ireland did not follow suit indicating a much greater independence at this point.⁴⁷⁴

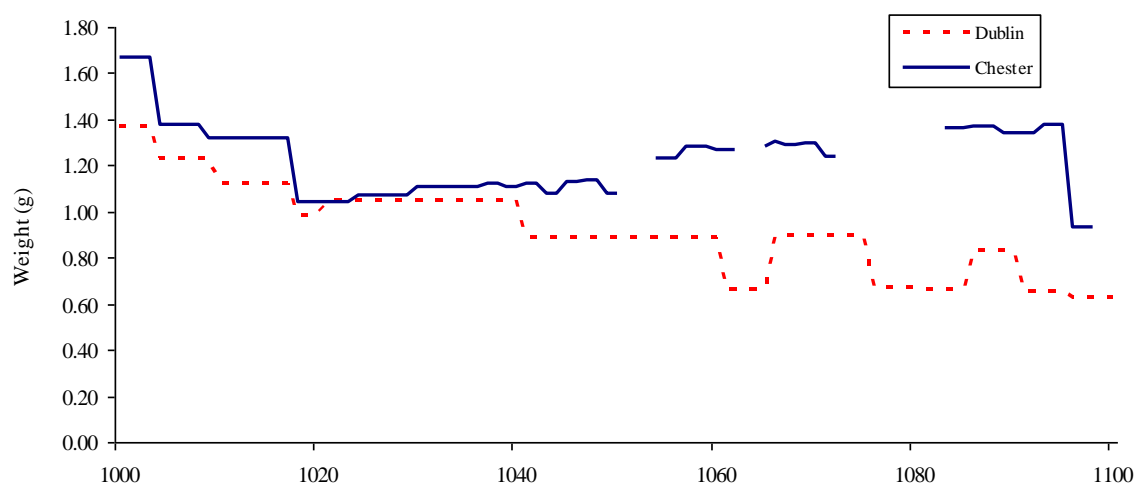


Figure 5.6 – Comparison of median weights of Dublin and Chester mints

The narrative of decline does, however, disguise periods where weights increased or declined quite sharply. This is exacerbated by the grouping which often averages out quite variable weights. In groups F and G, it has been postulated that weight started high and declined through time. This is observable when style and weight are compared with early coins of group F weighing the most and the later coins weighing much less.⁴⁷⁵ Debasements also occur later in the eleventh century with group H witnessing a drop in weight between types H1 and H2.⁴⁷⁶ Less sudden drops in weight standard can also be seen during groups J and L.⁴⁷⁷ However, the weight standard could also be ‘improved’. At the beginning of group F it increased markedly, probably as an attempt to return it to a standard of 20 years earlier.⁴⁷⁸ Weight increases were also known at the beginning of groups G, I and L. This was quite a complicated

⁴⁷⁴ *cf* continuity in Danelaw standards in the ninth century where a divergence occurred with improved standards in southern England. Blackburn 2005b, 33–4.

⁴⁷⁵ Blackburn 2008, 125.

⁴⁷⁶ See section 3.3.2.

⁴⁷⁷ See sections 3.3.4 and 3.3.6.

⁴⁷⁸ Blackburn 2008, 128.

process and a conjectural model of these changes has been constructed in Figure 5.7 which compares the possible changing weight standard with known median weights.

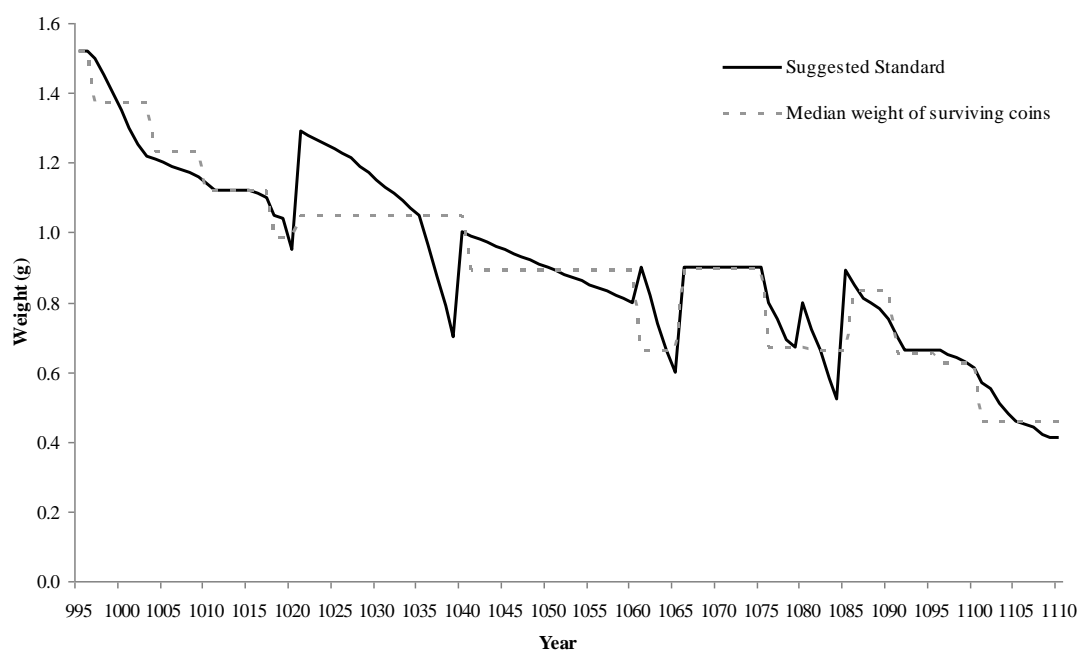


Figure 5.7 – Conjectural model of weight of coins being struck, with median weight for comparative purposes.

The changes in weight are suggestive of fairly efficient political control over the coinage at a number of points. At a general level, the desire to ‘improve’ the weight standard indicates an awareness of it and there was also a degree of consistency to these increases. Standards were generally returned to something approaching the median of the period that immediately preceded it. This is visible on a number of occasions including Group F imitating the standard of Group B, Group G copying F and Group L returning to the standard of Group I. However, in the case of the latter it appears to represent only a brief phenomenon. This may well have been a failed attempt at renewing or improving the coinage as it was accompanied with a significant change in iconography.⁴⁷⁹ That this was unsuccessful at removing light weight coins from circulation is clearly visible in the evidence from Dunamase where

⁴⁷⁹ See section 3.3.6.

coins from before and after this weight change are visible. With this exception, the ability to enforce these changes must be viewed as significant because when increasing the weight of coins this would have come at a heavy cost to the user.

The general pattern of the weight standards suggests two main conclusions. Firstly, that there was a long-term and fairly consistent decline in the weight standard. Figure 5.7 presents the same general pattern of decline as Figure 5.5 above. This did not occur on an annual basis but, over decades, the weight of the Hiberno-Scandinavian would have noticeably declined. The second point is that this trend was not a simple, linear process but had periods where debasement or improvement of weight standards occurred over short time periods. In general a repeated pattern is observable with gradual, and occasionally sharp, reductions in weight followed by a dramatic improvement of the standard. These suggest an awareness of the standard and a desire to ‘improve’ it at various points. In general, the pattern of weights suggests deliberate action rather than technological failing.

5.2.2 The consistency of standards

Within each of the groups there is a fair degree of variability and Table 5.2 provides a summary of this diversity. The quartile range is preferred as it allows comparison with other samples and is less affected by very light-weight coins likely to be indicative of post-depositional circumstance.⁴⁸⁰

⁴⁸⁰ Blunt *et al.* 1989, 235.

Group	Date	Lower Quartile	Median	Upper Quartile	SD	SD (as % of median)	Quartile Range	Quartile range (as % of median)
A	c.995-997	1.44g	1.52g	1.64g	0.14	9.1%	0.20	13.2%
B	c.997-1003	1.28g	1.37g	1.50g	0.15	11.2%	0.22	15.7%
C	c.1003-1009	1.13g	1.19g	1.24g	0.11	8.9%	0.11	8.9%
D	c.1009-1017	1.03g	1.12g	1.23g	0.14	12.7%	0.20	17.7%
E	c.1017-1020	0.95g	1.03g	1.10g	0.11	10.8%	0.15	14.3%
F	c.1020-1040	0.87g	1.05g	1.21g	0.24	23.1%	0.34	32.4%
G	c.1040-1060	0.83g	0.89g	0.94g	0.10	11.4%	0.11	12.4%
H	c.1060-1065	0.60g	0.66g	0.86g	0.15	22.4%	0.26	39.8%
I	c.1065-1075	0.84g	0.90g	0.93g	0.07	8.2%	0.09	9.8%
J	c.1075-1080	0.59g	0.67g	0.71g	0.08	12.1%	0.12	18.3%
K	c.1080-1085	0.54g	0.66g	0.83g	0.16	24.2%	0.29	43.2%
L	c.1085-1090	0.73g	0.83g	0.89g	0.12	14.5%	0.16	19.3%
M	c.1090-1095	0.59g	0.66g	0.72g	0.08	12.2%	0.13	19.5%
N	c.1095-1100	0.56g	0.63g	0.66g	0.08	13.3%	0.10	16.2%
O	c.1100-1110	0.39g	0.46g	0.52g	0.08	18.4%	0.13	29.0%
P	c.1110-1115	0.60g	0.66g	0.73g	0.09	13.8%	0.13	19.7%

Table 5.2 – Summary of weight variation amongst the Hiberno-Scandinavian groups

Table 5.2 indicates that there was quite significant variation amongst coins struck within relatively short time periods. The quartile range was typically a figure of 10-20% of the median weight of the coinage. Within certain groups, figures higher than this may be attributable to a declining weight standard. For example, Figure 5.8 plots the distribution of weights amongst coins of Group J. This has two peaks and a significant number of results above the modal value. This may be indicative of a declining weight standard.⁴⁸¹ However, in most groups, the weight distribution is likely to be broadly indicative of a reasonably steady weight standard. For example, Figure 5.9 shows the distribution of group I coin weights, showing a peak in 0.90-0.95g with lesser figures above and below this. The results either side of this peak are likely to represent the margins of error of the mint.⁴⁸²

⁴⁸¹ See section 3.3.4.

⁴⁸² Grierson 1975, 146–9.

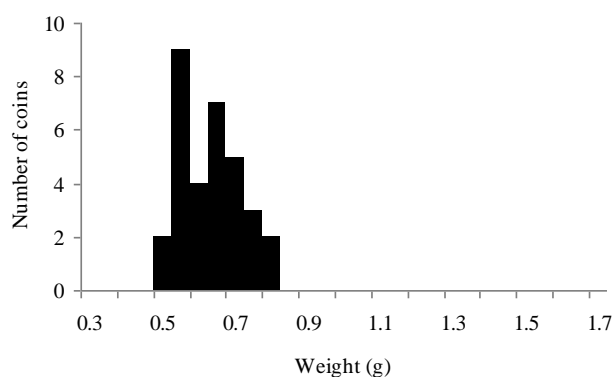


Figure 5.8 – Weight distribution amongst coins of Group J

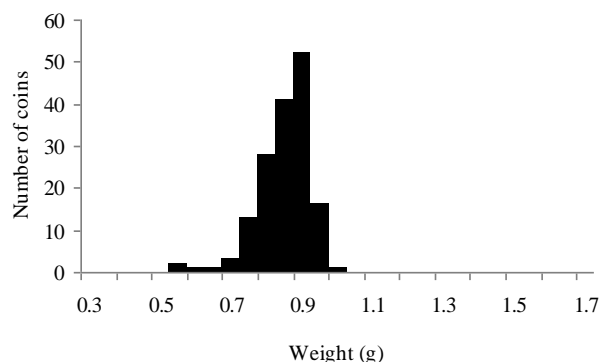


Figure 5.9 – Weight distribution amongst coins of Group I

The variation within the various Hiberno-Scandinavian groups struck in Dublin can be contrasted to a more consistent standard struck in English mints. At Winchester, the quartile range was typically around 5.5% of the median within a given coin type.⁴⁸³ This is in spite of the fact that a gradual reduction in the weight of the coin within each English type is envisaged for Anglo-Saxon currency.⁴⁸⁴ The coinage of Norway is far more comparable with that of Dublin as the *Triquetra* coinage of Harald Hardråde has a variability that is quite similar to the figures from Ireland.⁴⁸⁵ The figures suggest that, in both Dublin and Norway, a coin-user in the late

⁴⁸³ Biddle 2012, 39–42.

⁴⁸⁴ Petersson 1969.

⁴⁸⁵ A figure of 8% above or below the median is calculated for the coinage. Data from Skaare 1976.

eleventh century would have been confronted by coins of quite different weights, struck only a relatively short time apart.

Hoard	Deposition date	Lower Quartile	Median	Upper Quartile	Standard deviation	Quartile Range	Quartile Range (as % of median)
Castle Street Werburgh Street	c.995	1.46g	1.57g	1.65g	0.15g	0.19g	12.1%
Derrymore	c.1000	1.34g	1.49g	1.52g	0.15g	0.18g	11.7%
Fourknocks	c.1030	0.89g	0.97g	1.12g	0.14g	0.23g	23.2%
Dunbrody	c.1050	0.85g	0.90g	0.94g	0.09g	0.09g	10.0%
Limerick	c.1065	0.74g	0.91g	1.03g	0.16g	0.29g	31.9%
Clonmacnoise Glendalough (no. 1)	c.1070	0.84g	0.90g	0.92g	0.11g	0.08g	8.94%
Dunamase	c.1095	0.81g	0.86g	0.88g	0.10g	0.07g	8.1%
Christchurch Cathedral	c.1100	0.62g	0.78g	0.88g	0.15g	0.27g	34.0%
Donaghenny	c.1105	0.45g	0.45g	0.46g	0.01g	0.01g	2.2%
	c.1110	0.41g	0.47g	0.50g	0.07g	0.09g	19.1%

Table 5.3 – Summary of weight variation amongst Irish hoards

This variability of weights during the production process was passed into the circulating medium and is visible within hoards. Table 5.3 tabulates the variation in weight amongst coins in Irish hoards.⁴⁸⁶ It highlights that fact that there are similar degrees of variation amongst hoard coins as those being produced in the mint. This is perhaps unsurprising but suggests that the variation in weight at the mint had a real effect upon the circulating currency. The similarity of hoards to the circulating medium can be observed in the Clonmacnoise and Dunamase hoards, as is visible in Figure 5.10. Clonmacnoise has a distribution of weight which ranges from 0.6-1.1g with a peak at its centre. The Dunamase hoard is even more variable with no definitive peak to highlight. These show that weight variation was a normal part of the coin-using experience in early medieval Ireland. Weight variation of 10% was quite normal and some hoards could contain heavy coins which had 50% more silver than light coins in the same hoard.

⁴⁸⁶ Only hoards where good data is available, from undamaged coins, are tabulated.

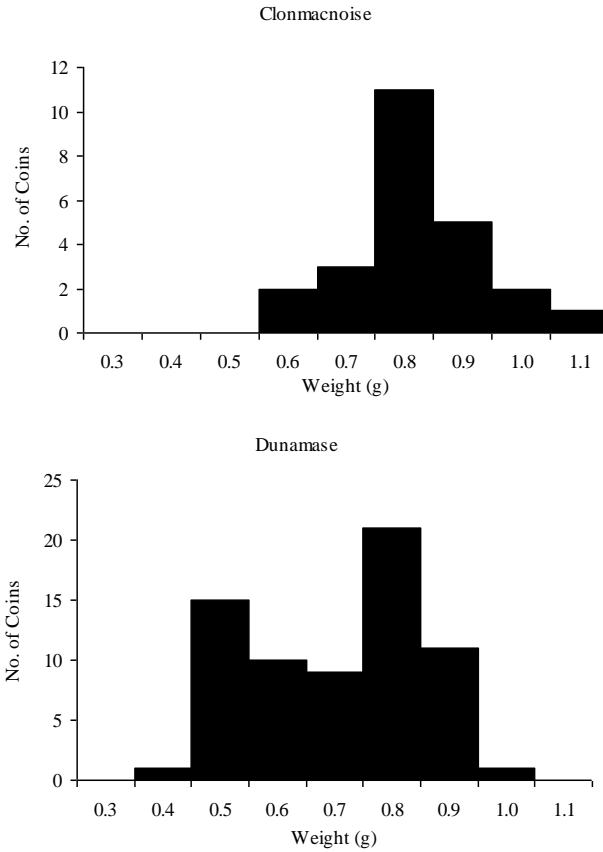


Figure 5.10 – Comparison of weight distributions in Clonmacnoise and Dunamase hoards

5.2.3 Control over weight

Another way in which the administration of coinage can be assessed is to consider the variability within a weight standard. This can be achieved by quantifying the weight variation between die duplicates.⁴⁸⁷ This examines how closely weights were maintained within a very short period of time, the life of one die. This gives an impression of how precisely the mint was capable of maintaining weights as it is likely that coins struck from the same die were designed to be of similar weights. In work on late Anglo-Saxon coinage this has often been considered by counting the number of die-duplicates that are within 0.03, 0.06 and 0.09g of one another.⁴⁸⁸ This approach is less helpful when the weight of the coinage decreases substantially, as was the case with the Hiberno-Scandinavian coinage, because 0.09g represent quite

⁴⁸⁷ Petersson 1969, 142–4; Blackburn 2008, 125–6; Lyon 1976, 216–17.

⁴⁸⁸ Petersson 1969, 142–4; Blackburn 2008, 125–6.

different proportions of coins weighing 1.00g and 0.50g respectively. What will be quantified instead is the variation amongst die-duplicates as a percentage of the total weight. This will give a figure, with a higher percentage indicating greater variation and a smaller percentage suggesting greater control. This percentage is displayed per group in Table 5.4.⁴⁸⁹ The variability in the number of comparisons for each group can be attributed to a combination of the surviving number of coins, the amount of die-linking between them and their condition. The small numbers in some cases are unlikely to bias the results except possibly in the cases of Groups E and M which have the highest percentage. This may be due to the small number of comparisons which may be biased by a small number of anomalous results.

Group	Number of Comparisons	Median weight (g)	Median difference in weight (g)	Median difference (as % of median weight)
A	57	1.53	0.12	8%
B	65	1.42	0.09	6%
C	25	1.22	0.11	9%
D	4	1.02	0.10	10%
E	12	0.99	0.14	14%
F	221	1.07	0.08	7%
G	873	0.89	0.07	8%
H	841	0.78	0.07	9%
I	831	0.88	0.05	6%
J	21	0.67	0.09	13%
K	163	0.63	0.07	11%
L	135	0.82	0.09	11%
M	31	0.65	0.13	19%
N	26	0.60	0.05	8%
O	273	0.46	0.05	11%
P	22	0.67	0.06	9%

Table 5.4 – Weight differences between Hiberno-Scandinavian die-duplicates

Accepting that the results are probably not too badly affected by small samples then it seems that there was a general consistency in the levels of control over the weight of coins being struck in Dublin. A majority of coins, with the exception of Groups J-M, were struck within 10% of the weight of their die-duplicates, typically

⁴⁸⁹ Data for groups H to P is drawn from Appendix B. Earlier data is from Seaby 1984 with unpublished data compiled by the author and Kristin Bornholdt-Collins.

less than 0.1g. This is not a large difference, especially as the weight of coins may have been affected by post-deposition factors.

The level of precision in weight between die-duplicates can be compared to near-contemporary coinages in Norway and England. In Harald Hardråde's *Triquetra* coinage, the median difference between die-duplicates is 10% of their median weight.⁴⁹⁰ This is quite similar to most of the figures from Ireland indicating a similar level of control over the weight. In England, the control of weight at the mint appears to have been more stringent. The difference in weight between die duplicates was smaller than contemporary Dublin. At Lincoln in the period 1056-1180 the variation amongst die-duplication is typically only 4% indicating that the mint was roughly twice as precise with the maintenance of the weight as either Dublin or Norway.⁴⁹¹

Interpreting the weight of the Hiberno-Scandinavian coinage is not straightforward. It seems likely that at most points the Hiberno-Scandinavian mint had a weight standard with an acceptable margin of error of around 10%. This level of control suggests that the mint was reasonably precise when silver was processed into new coins, although it must be acknowledged that England maintained more consistent standards. An impression of reasonable proficiency is also suggested by the precision of the maintenance of the alloy described above and the ability to skilfully imitate dies.⁴⁹² Combined these elements are suggestive of a mint with the technological expertise and oversight to produce consistently-weighted coins. An explanation of the variation of weight within each group must be sought elsewhere. It seems likely that weight standards were manipulated at various points. The precise mechanics of this are obscure but the ability, and desire, to return standards to

⁴⁹⁰ Data from Skaare 1976.

⁴⁹¹ Data from Mossop 1970.

⁴⁹² See section 5.1.2; Blackburn 2008, 132.

previous high points is indicative of fairly extensive administrative control.⁴⁹³ Whilst the underlying trend is of debasement, the short-term instability of weights should probably be interpreted within the context of political authority. The frequent sharp drops in weight may be interpreted as attempts to increase revenues for coinage.⁴⁹⁴

5.3 Interpreting debasement

5.3.1 A European phenomenon

The decline in the weight standard throughout most of the period and the debasement of the silver alloy in the twelfth century have been traced in the above. It is very likely that these two phenomena were related. The weight declines markedly through to *c.*1115. This is likely to have prompted a technological change with the silver becoming so thin that bracteate coins began to be struck. At this point, there may have been something of a technological barrier to the further reduction of silver in the coins. The bracteates are very thin and thus further reductions in silver would have required the reduction in diameter of the coins. Whilst small diameter bracteate coins are not unknown, they are highly unusual and they make the production of any kind of design upon them quite difficult.⁴⁹⁵ If the size and weight of the coin could not be further reduced then this perhaps explains why the alloy suddenly decreased. Seeking to continue a long-term trend of debasement and a lacking the ability to do it via further reductions in weight, the mint of Dublin is likely to have responded by reducing the amount of silver in the alloy.

Several reasons could be postulated for the gradual reduction in weight and then, ultimately, in silver. It has been suggested that a falling supply of bullion, a rising

⁴⁹³ Testing procedures in twelfth-century England are discussed in Johnson 1950, 36–40.

⁴⁹⁴ *cf* Gullbekk 2009, 131–2.

⁴⁹⁵ Skaare 1995, 16–27.

scale of minting or the impact of fiscal manipulation could all lead to debasement in the medieval period.⁴⁹⁶ It is likely that it was the first of these, a decline in bullion availability, that explains the debasement of the Hiberno-Scandinavian coinage. If it were either of the other two then a rise in the volume of circulating silver would be expected and this was not the case.⁴⁹⁷ To emphasize the point, Figure 5.11 shows the decline in the amount of silver per coin during the eleventh century. A reduced availability of silver in Ireland would not be unexpected as Europe underwent a contemporary shortage of silver.⁴⁹⁸ The silver mines of the Harz Mountains produced silver on greatly-reduced scale after *c.*1040 and a number of coinages across northern Europe suffered.⁴⁹⁹ The debasement of Norway's coinage in *c.*1050 can also be connected to this shortage of silver.⁵⁰⁰ However, Gullbekk places greater emphasis upon official revenues, royal manipulation of the silver standard for personal gain, as the reason behind the debasement.⁵⁰¹ Whilst this latter interpretation is a possible explanation to explain the short-term fluctuations in weight, the likelihood is that the long-term reduction of silver content was an attempt to mitigate the effects of a lack of silver. Whilst it has been suggested that the pool of currency shrank over the course of the eleventh century, this decline in circulating currency would have been lessened by a decline in weight, allowing more coins to be produced from ever smaller amounts of silver.

⁴⁹⁶ Naismith 2012a, 166.

⁴⁹⁷ See section 4.3.5.

⁴⁹⁸ Spufford 1988, 95–9.

⁴⁹⁹ Spufford 1988, 96; Blanchard 2001, 566–78.

⁵⁰⁰ Spufford 1988, 96.

⁵⁰¹ Gullbekk 2009, 131–2.

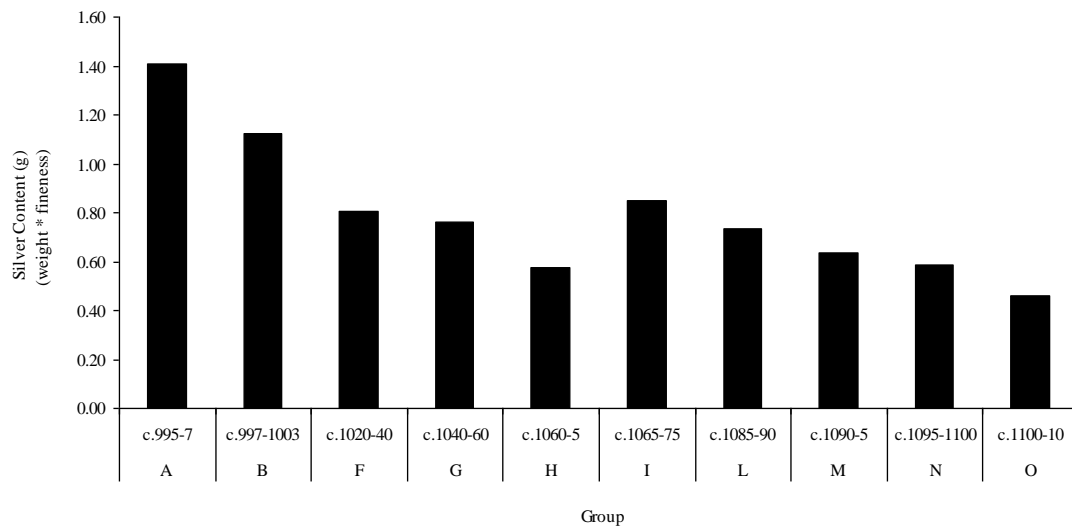


Figure 5.11 – Average amount of silver per coin, only groups where analysis has been conducted on their fineness are included

The gradual reduction in the silver content of the Hiberno-Scandinavian coinage is an important phenomenon. Whilst the cause of this probably lay in a declining silver supply from central Europe, it is the reaction to this adversity that is illuminating. When confronted with a dwindling supply of silver – above it is suggested that there was a 75% decline in available silver – there are three options available to a producer of coin; reduce the weight, the fineness or the number of coins in circulation.⁵⁰² In the Hiberno-Scandinavian coinage, the weight is the element that underwent the greatest manipulation with the fineness, in the twelfth century, also being reduced. The alteration of the silver content in such a manner suggests that there was a desire to mitigate the effect of silver famine on the volume of currency. Maintaining a relatively significant, and consistent, number of coins in circulation was perhaps the desired effect. This was probably fulfilling a demand for coinage to facilitate exchange, although raising royal revenue through minting costs, as has been suggested for Norway, is also likely to have been an important concern.⁵⁰³

⁵⁰² See section 4.3.5.

⁵⁰³ Gullbekk 2009, 131–2; *cf* Naismith 2012a, 291.

This has an important implication for the interpretation of the relationship between authority and the mint. Debasement can be indicative of disorganisation at the mint and/or insufficient authority and oversight. In the case of the Hiberno-Scandinavian coinage both labels are inaccurate. In terms of the skills of the mint, it was certainly capable of achieving a high technical standard with the high silver alloy testament to this. Only in the absence of sufficient silver did these standards slip. The debasement of the coinage could be interpreted as a loss of control by the issuing authority. However, the ability to continue to exclude foreign currency during the twelfth century – when highly debased bracteates were struck – would suggest otherwise.⁵⁰⁴ The debased bracteates were still the ‘official’ currency and continued to be backed by both political will and effective administration. In sum, debasement was a pragmatic reaction to declining silver availability and not likely to be indicative of loss of control in the mint.

5.4 Valuing coinage

5.4.1 Silver economies

The manner in which silver was utilised as a means of exchange in the Viking period has been the matter of significant discussion.⁵⁰⁵ Whether the Hiberno-Scandinavian coinage was valued for its intrinsic silver weight or ‘over-valued’ based upon its status as coin is an important consideration as it has implications for the political and administrative system in which it was created.

⁵⁰⁴ See section 6.2.3.

⁵⁰⁵ Two recent volumes include a number of essays addressing the question of silver economies: Graham-Campbell & Williams 2007; Graham-Campbell *et al.* 2011.

Simple notions of a ‘silver economy’ have been discarded with an increasing awareness that a variety of media could be used as a means of exchange.⁵⁰⁶ Even within the realm of silver as means of exchange there has been a move away from a linear conception of silver usage as a ‘status economy’ giving way to bullion and ultimately to coin-usage.⁵⁰⁷ The concept of one economy, functioning in a fundamentally similar manner across either chronology or geography has also been largely rejected with variety being stressed.⁵⁰⁸ To emphasize the point, evidence for several silver practices can be found even within the wealth accumulated by one person with a number of ‘mixed’ hoards suggestive of the use of a variety of forms of silver in differing transactions.⁵⁰⁹

The variety of practice suggested for the early Viking Age is based upon a very large range of material. Silver is present in a number of forms which can be, and have been, classified in various ways.⁵¹⁰ Coinage is but one element of this with silver also found in the form of ornaments, rings, ingots and hacksilver.⁵¹¹ This silver underwent alteration by a number of means including cutting, breaking, bending, pecking and nicking.⁵¹² This produces a tremendous variety of hoards with differing types of silver and proportions of material in each. Both regional and chronological patterns are visible within this material and this phenomenon has been extensively considered in Irish, English and Scandinavian contexts although this has not led to a consensus on how it should be interpreted.⁵¹³ Where there appears to be broad consensus is in the fact that, on an individual scale, people in the Viking Age could utilise silver in a

⁵⁰⁶ Skre 2011; Gullbekk 2011c; Williams 2011, 338.

⁵⁰⁷ Williams 2011, 337; Gooch 2013, 212–17.

⁵⁰⁸ Williams 2011, 338–9.

⁵⁰⁹ For example, Bornholdt-Collins 2010.

⁵¹⁰ Sheehan 2000; Sheehan 2007; Hårdh 1996; Gaimster 2007.

⁵¹¹ *cf* Hårdh 1996.

⁵¹² Moesgaard 2011; Archibald 1989; Kilger 2006; Archibald 2007.

⁵¹³ Sheehan 2000; Graham-Campbell 2001; Blackburn 2007b; Hårdh 1996.

variety of ways depending upon context. Bornholdt-Collins suggests that the term ‘bi-economic’ be used in a similar way to ‘bi-lingual’ and this seems a useful way of conceptualising of silver usage.⁵¹⁴ However, the use of silver need not have only been in two ways, ‘bi-economic’, and it may perhaps be better to think of ‘multi-economic’ in a similar sense to ‘multi-lingual’.

The complexity of the form of silver appears to be a relatively chronologically constricted phenomenon with coinage becoming more prevalent, with a concurrent reduction in the variety of silver, during the tenth century in both Ireland and the Danelaw.⁵¹⁵ The evidence of single-finds from Ireland would also support this interpretation.⁵¹⁶ It is a slightly later phenomenon in areas of Scandinavia with a change to almost exclusive use of local coinage only occurring in the eleventh century.⁵¹⁷

The contrast to the mixed silver of the preceding period makes it tempting to envisage that coinage was used in an entirely different manner. A distinction is drawn between bullion economy, where exchange is by weight of silver, and a coin economy, where silver has a token quality and is valued by tale. The token or face value of a coin above its silver content is referred to as its ‘over-value’ but Williams has recently highlighted the fact that it need not have been applied to all coinages, with not all reaching a ‘nominal value...substantially in excess of its bullion value’.⁵¹⁸ This is a point that is worthy of investigation as determining how coinage was produced and used in Ireland is to an extent reliant upon whether it was valued by its weight of silver or whether it had more of a token value.

⁵¹⁴ Bornholdt-Collins 2010, 24.

⁵¹⁵ Blackburn 2009; Sheehan 2000, 50.

⁵¹⁶ See section 8.5.

⁵¹⁷ Gullbekk 1992.

⁵¹⁸ Williams 2011, 348.

5.4.2 Nominal value

The idea that medieval coins were ‘over-valued’ when compared to their silver content has been suggested by a number of scholars. In Anglo-Saxon England, Petersson argued for the manipulation of weights within successive English types indicating that coin was significantly ‘over-valued’.⁵¹⁹ Jonsson has argued that this over-value was reliant upon the removal of foreign/unofficial coinage and attributable to the political influence of the king.⁵²⁰ It was thus constrained by the boundaries of that political authority. In creating an over-valued currency, small variations in weight and fineness could be negated. Coinage became, to a certain extent, abstracted from the weight of silver that it contained. The mechanics of a nominally-valued coinage are probably best, but still only partially, understood for Anglo-Saxon England. From *c.*973, a series of recoinages were carried out at fairly regular intervals and it appears that the weight of many of the types was close to, but below, the nominal weight of coin.⁵²¹ Within this system there was thus an acceptability of coins of slightly different weight, although when this exceeded certain margins they became more valuable as bullion.⁵²² This creates a view of the coinage which is institutional, focusing upon production, and does somewhat overlook the fact that coinage also needed to have willing users who would also have valued the coinage by the higher, nominal value.

Whether such a system existed in Ireland is difficult to be certain about. It is clear that foreign coinage was quite effectively excluded after Dublin struck its own coinage.⁵²³ It is also apparent that there were periods during the eleventh century when the weight was reduced and subsequently increased at the beginning of the next type.

⁵¹⁹ Petersson 1969; However, see criticisms in Lyon 1976, 206–7.

⁵²⁰ Jonsson 2011, 247.

⁵²¹ Lyon 1976, 201–8.

⁵²² Petersson 1969, 40–3.

⁵²³ See section 6.2.3.

This could be interpreted in a similar manner to contemporary England's practice and would imply an 'over-value' to the coinage.⁵²⁴ At a more basic level, the volume and consistent level of production at the Hiberno-Scandinavian mint suggests that coinage had an important role. The number of finds and relatively wide-spread urban usage suggested below cannot show that coinage was 'over-valued', or reckoned by tale, but they strongly suggest it. Essentially, why bother producing, enforcing and using coinage on such a scale if it functioned purely as bullion? It is probable that in the area immediately around the point of production, the town of Dublin, that at least some transactions were likely to be undertaken using a nominally-valued coinage. This is also suggested by the continuing usage of highly-debased coins in this area during the twelfth century.⁵²⁵ Amongst the most common urban finds, their value must have been token as they contain almost no silver at all. Whilst evidence is slight, the fact that Dublin produced coins at all and continued using them despite only a minimal silver content is strongly suggestive of a regulated and nominal value to the coins.

The mechanics by which such an overvalued coinage might function in Dublin are difficult to analyse. There is no surviving written evidence of the type which has been used elsewhere to consider the issue.⁵²⁶ If the situation in England were repeated across the Irish Sea in Dublin then the coins may have had a value of perhaps 10% in excess of their silver value, with this extra representing minting fees and being made up through 'over-value'. If this were the case then some of the variation in weight which is visible in the Hiberno-Scandinavian coinage could be explained in this

⁵²⁴ Petersson 1969, 148–56; Lyon 1976, 216.

⁵²⁵ See section 7.3.3.

⁵²⁶ Cf Lyon 1976, 175.

manner.⁵²⁷ However, the absence of hoards from within the kingdom of Dublin mean that it is very difficult to conclusive about this issue.

Beyond the town, and outside of the authority of the kings of Dublin, the situation is even less clear. The presence of a ‘dual economy’ - containing coinage and other types of silver - is apparent in tenth-century hoards which show that silver, at least in certain situations, was valued according to its weight.⁵²⁸ However, after *c.*1000, there is very little of this type of evidence from Ireland. There are only three eleventh-century hoards which include elements other than coins. These are the Knockmaon (*c.*1000), Fourknocks (*c.*1030) and Clonmacnoise (*c.*1070) hoards. The Knockmaon hoard mixed Irish, English and continental coins with arm-ring fragments.⁵²⁹ The Fourknocks hoard included mixed coin types and an arm-ring fragment.⁵³⁰ Clonmacnoise contains gold and copper alloy in addition to silver coins.⁵³¹ Whilst the presence of any hoards of this type suggests continued valuation of silver by weight, the small number of mixed hoards in Ireland during the eleventh century is a contrast to the tenth, from which 14 are known. The interpretation of this change could be a differing system of valuation based upon nominally-valued silver. However, as these areas lay beyond the political authority of Dublin this must be questioned. The composition of hoards certainly shows a change in the medium of silver but this does not necessarily equate to a change in the manner in which it was valued.

5.4.3 Valuation by weight

Whilst a case can be made for valuation by tale in Dublin, it is more difficult to envisage such a scenario beyond the town. Outside of Dublin the power of its king

⁵²⁷ See section 5.2.2.

⁵²⁸ Sheehan 2007; Sheehan 2000; Bornholdt-Collins 2010; Blackburn 2007b.

⁵²⁹ Jennings 1912.

⁵³⁰ Dolley 1966a, 63–4; Dolley & Ingold 1961, 250–5.

⁵³¹ *cf* Appendix F, no. 3

was geographically constricted and the various over-kings appear to have had only limited impact upon the use of coinage in their kingdoms.⁵³² Furthermore, if the written sources are considered they suggest a system of reckoning with weight as the means of division.⁵³³ There is also a reference to ‘refined silver’ suggesting value based upon silver content rather than any nominal value. This evidence finds some corroboration amongst the hoards. If coinage had a nominal value beyond Dublin, then it would be expected that a coin’s weight should have only a limited impact upon its value and use. However this does not appear to be the case as when the hoards of Dunbrody (c.1050) and Clonmacnoise (c.1070) are compared there is a noticeable difference in the weight distribution of Group G coins. The heavier weight Group G coins survived to be hoarded in c.1070 whilst the lighter coins were less prevalent by this point. This is despite the fact that the weight of Group G coins dropped in a chronological manner meaning that Clonmacnoise, being the later hoard, should have had a greater number of light weight coins.⁵³⁴ This is likely to be indicative of greater value being attached to the heavier coins which would suggest that value maintained a close link to the weight of silver. Also, as discussed above, some hoards have quite substantial variety in the weight of coins that they contained. Significant weight differences, up to 50% in some cases, could be accommodated.

⁵³² See section 8.4.3.

⁵³³ See section 8.2.

⁵³⁴ For a model of the weight see Figure 5.6 above.

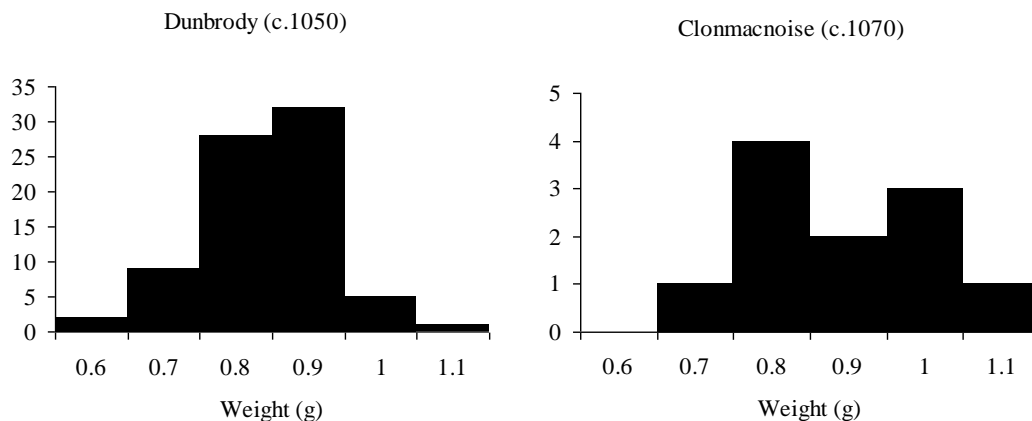


Figure 5.12 – Comparison of weight of Group G coins in Dunbrody and Clonmacnoise hoards

To emphasize what appears to be a strong link between silver content and use, the alteration of the circulating pattern of coinage in the twelfth century can be considered. When the coinage became copper-alloy in the early- to mid-twelfth century, sacrificing its intrinsic value but presumably retaining some token value, the area in which it was used shrank dramatically.⁵³⁵ This is highly suggestive of valuation by weight in all areas outside of the immediate vicinity of Dublin. Without an intrinsic value, by the mid-twelfth century the use of coinage in Ireland declined dramatically. It was restricted to those using it with a nominal value within the jurisdiction of the issuing authority in Dublin.

That this change had such a profound effect may help to explain the decision to maintain the alloy of the Hiberno-Scandinavian coinage for the previous 120 years. Debasement of the alloy of the coinage in a similar manner to that of Norway would have allowed for the striking of more, or higher weight, coins. That this did not occur, but a decline in weight and number of coins in circulation did, suggests that maintaining the alloy at a high level was an important facet of the Hiberno-Scandinavian coinage. This consistency may have been maintained to facilitate exchange using coin. When

⁵³⁵ See section 8.4.2.

this consistency was gone, exchange using coin shrank dramatically indicating the importance of a high silver content to coin-users across Ireland. Exchange continued to occur without the need for coinage, when none deemed appropriate could be found. In an Irish Sea context, Hiberno-Scandinavian coins are found mixed with other forms of silver, including English coins and occasionally non-numismatic silver.⁵³⁶ The English coined silver, and it is presumed the other types, is nearly all *c.*93% fine and the decision to strike Dublin's coinage at this level cannot have been a coincidence.⁵³⁷ The alloy of the coins suggests regular contact around the Irish Sea and it must be envisaged that a high alloy was maintained to enable this. It is possible that Hiberno-Scandinavian coins were valued using weights or through rough equivalency, such as 1:2 or 1:3 English to Hiberno-Scandinavian coins.⁵³⁸ If the alloys differed substantially the process of exchange would have been much more difficult as equivalency would not have been easily calculable.

5.4.4 (Over?)Valuing the Hiberno-Scandinavian coinage

Drawing together the slightly disparate strands it would appear likely that many of the users of Hiberno-Scandinavian coinage were likely to have valued it based upon its inherent silver value with relatively little evidence that it had much in the way of a political 'over-value'. This fits with European parallels where, for much of continental Europe the value of coinage retained a strong link to the weight of silver that it contained.⁵³⁹ Further evidence that would suggest the importance of the link between weight of silver and value of the coinage is the contraction of the area using

⁵³⁶ Bornholdt-Collins 2003 Appendix VIII.

⁵³⁷ Allen 2012, 156–9.

⁵³⁸ Equivalency of this sort was known from a number of different European currencies at various points. Spufford 1988, 105.

⁵³⁹ Spufford 1988, 94.

coinage in the twelfth-century that is suggested below.⁵⁴⁰ This process highlights the two different means of reckoning that are likely to have existed in coin-using areas of Ireland. In Dublin, and the area around it, a token copper currency could function, indicating a willingness to accept base coins. Elsewhere, it seems likely that a stronger connection to the weight value of silver existed and thus, when silver shortage led to debasement of the alloy, areas of Ireland that had previously used coinage returned to other media of exchange.

The situation is perhaps best envisaged by returning to the saga entry concerning Harald and Halldórr.⁵⁴¹ Harald could be substituted for the king of Dublin and Halldórr for coin-users beyond the town. The king reduced the silver content of coinage but valued them by tale, taking a tidy profit and assuming that his authority would be enough to give them a nominal value. However the recipient, perhaps envisaging exchange beyond the authority of the king, refused the coin, indicating a valuation by silver content. Such a situation may well have existed in Ireland with two complementary systems of valuation. It should also be noted in the saga that, ultimately, payment was made in weighed fine silver. This indicates that both parties could value silver by both tale and weight. This serves to highlight the variety of practice in the early medieval period and as a warning that the broad patterns sketched must be acknowledged as generalisations. Coinage was more likely to be valued by tale in Dublin and by weight beyond it but any individual may have used either, or more likely both, systems of value.

⁵⁴⁰ See section 8.4.3.

⁵⁴¹ See section 5.1.2.

Chapter 6 – Administering the Hiberno-Scandinavian coinage

The Hiberno-Scandinavian coinage cannot be interpreted without considering the monetary system in which it was produced. Where previous chapters have focused upon the technical processes involved with the striking of coinage the following considers, on a slightly broader level, the system in which the coins were struck. There are two strands to this: iconography and *renovatio monetae*. Both are inter-related and important as they represent an intersection between the production and consumption of coinage. Imagery was placed on coinage by those that produced it but was designed to be interpretable, at least broadly, by those using it. Similarly, the monetary system in which coins were produced affected the way in which they were valued and used. Ultimately, in considering these issues, how Hiberno-Scandinavian coin production should be conceptualised will be discussed. An emphasis will also be placed upon determining the extent to which the production of coinage should be viewed as a manifestation of elite power.

6.1 Iconography

Iconography is an important element of coinage, being the means by which coinage was distinguished from bullion.⁵⁴² Gannon has argued that iconography can be defined by three main functions:⁵⁴³

1. As a necessity for commercial credibility
2. As a guarantee of authenticity
3. As a disseminator of ideas and concepts

⁵⁴² Naismith 2012a, 47.

⁵⁴³ Gannon 2006, 195.

Whilst the iconography of coinage had the potential to fulfil each of these evenly, they need not have been equally as important in every coinage. As an example of where the commercial credibility may be viewed as of greater importance, it might be postulated that the ‘porcupine’ imagery of Series E sceattas were created with commercial credibility in mind. They were struck in several areas with imagery that is not readily interpretable.⁵⁴⁴ The coinage was sizable and underwent imitation at a number of points.⁵⁴⁵ In such a context, the common imagery of the coins across a number of areas may have acted as a means of ensuring commercial credibility by providing a readily identifiable coin type.⁵⁴⁶ A role as disseminator of ideas is perhaps of secondary importance. In other coinages, iconography was utilised much more overtly as a means of spreading a particular message. The coinage of tenth-century York has imagery which is loaded with theological and political significance and it is clear that the coins were not struck using this imagery merely as a means of ensuring commercial credibility.⁵⁴⁷

The ideas that were conveyed by coins were enormously varied. They could, amongst other things, project an image of authority, commemorate an event or reference quite specific religious thought.⁵⁴⁸ The imagery on a coin could also affect its use. For example, coins were tested, through pecking, differently in Scandinavia according to the images that they displayed.⁵⁴⁹ In many cases, the imagery of a coin provided a means of distinguishing between local and foreign coinages but images could also affect usage in more complex ways. An example of this is Theuws’ suggestion that the integration of Dorestad into the Christian Frankish world, as

⁵⁴⁴ Metcalf & Op den Velde 2009, 144–73; *cf* Gannon 2003, 176–81.

⁵⁴⁵ Metcalf & Op den Velde 2009, 112–24, 273–5.

⁵⁴⁶ This role is not unique as similar patterns can be traced back to Ancient world where the Athenian tetradrachms were perhaps the first international currency; van Alfen 2012.

⁵⁴⁷ Blackburn 2007a; Gooch 2013, 43–109.

⁵⁴⁸ Naismith 2011a; Keynes & Naismith 2013; Gannon 2003; Blackburn 1989a, 25; Blunt 1969.

⁵⁴⁹ Moesgaard 2011; Archibald 2007; Archibald 1989.

exemplified by the overtly Christian iconography on the *Christiana Religio* coins struck there, may have altered exchange relationships and ultimately led to the downfall of the town.⁵⁵⁰

Iconography of coinage was especially important in a period where literacy was generally quite low.⁵⁵¹ The Latin literacy that is visible on Dublin's coinage is very limited. For the majority of the series, the coinage was completely illiterate with no intelligible legends. This illiteracy is reinforced by the alteration of Latin legends within the field – such as **PAX** and **PAXS** – to stylised lettering in types such as I7 and L1. This indicates that there was no understanding of the original, with pseudo-epigraphy substituted in its place. It is doubtful whether the coins' legends were typically intelligible by those that were using them. Even the early coins of Groups A to E contain legends rendered incorrectly with **S** and **Z** reversible and **N** often backwards. The lack of Latin literacy is unsurprising in a town where Irish and Norse would have been the major spoken languages.⁵⁵² In the absence of intelligible legends, the iconography of the coins assumes an even greater importance.

Approaches to the study of iconography have often focused upon tracing the origins of motifs that are found upon coinage. Broadly speaking, in the medieval world this could conform to two main strands; one which looked back to previous coinages and another which sought images from foreign but contemporary coinages. In the former case, a fairly significant proportion of coinages can be argued to utilise imagery that was ultimately derived from Roman antecedents. The highly diverse imagery of eighth-century England utilised Roman imagery, with appeals to *Romanitas* a common feature on a number of later Saxon coinages as well.⁵⁵³ Similar

⁵⁵⁰ Theuws 2004, 136.

⁵⁵¹ *cf* Gannon 2006, 194.

⁵⁵² Curtis 1942, 104–5; *cf* Blackburn 2008, 123.

⁵⁵³ Naismith 2012a, 54–64; Karkov 2004, 6–7, 104–5; Gannon 2006; Gannon 2003, 184–5; Kent 1961.

decisions to utilise Roman imperial symbolism can be seen on Carolingian coinage during the ninth century and Danish coins of the eleventh century.⁵⁵⁴ In addition to appeals to earlier coinages, the iconography of coinage in the medieval world could be shaped by imitation of, or influence from, other contemporary coinages.⁵⁵⁵ This could be over long distances, such as the Byzantine motifs copied in eleventh-century Denmark.⁵⁵⁶ However, it was more common that coins imitated were relatively local. The iconographic harmonisation during the *Lunettes* period of late ninth-century England is a notable example as is the decision of a number of different areas around the North Sea to imitate the *Long Cross* (c.997-1003) coinage of England.⁵⁵⁷ Increasingly, approaches have sought to contextualise coinage within the art-historical trends of the period in which they were struck. This is an approach given its fullest expression in Gannon's work on the Anglo-Saxon sceattas where the coinage is considered alongside a variety of metal-work and manuscript illumination.⁵⁵⁸ This approach led Gannon to suggest that the highly varied designs of the coinage are illustrative of complex meanings, grounded in theological imagery and quite possibly organised by a mixture of royal and ecclesiastical authority.⁵⁵⁹

Interpreting the symbolism of iconography is far from simple. Coinage could function as perhaps the most effective, or at least the most widely produced, form of royal propaganda but this does not mean that it always did so. Where a single coin type existed with fairly direct royal imagery, such as the diademed bust used on tenth-century Anglo-Saxon coins of Edgar, then one can be confident that it was meant as

⁵⁵⁴ Garipzanov 1999; Jensen 1995, 68–9.

⁵⁵⁵ Gannon 2006.

⁵⁵⁶ Jensen 1995, 66–7.

⁵⁵⁷ Lyons & Mackay 2008; Lyons & Mackay 2007; Pagan 1965; Malmer 1997; Jensen 1995, 26–7, 80–1.

⁵⁵⁸ Gannon 2003.

⁵⁵⁹ Gannon 2003, 182–93.

an expression of royal authority.⁵⁶⁰ However, the imagery of coinage is seldom straight forward, particularly during periods when there was iconographic variety. Exactly who was responsible for the striking of coinage at these points is often uncertain. In the early medieval sceatta coinage, both royal and ecclesiastical authorities have been suggested as authority behind the coinage.⁵⁶¹ The anonymous coinage of tenth-century York has attracted attention with the possibility raised that it may have been struck for the archbishop rather than the king, although this is a suggestion that is now largely rejected.⁵⁶² The variability of royal input in coinage is stressed by Naismith with the basic fact that coinage was produced at all, often with portrait and title *rex*, viewed as probably the most important propagandist tool.⁵⁶³

The following is a discussion of the iconography visible on Dublin's coinage. Discussing every type and image is impossible given the enormous variety of imagery used. Instead, the focus will be upon considering the numismatic antecedents for the imagery on the coinage and examining the longer-term trends in the coinage. Within the discussion, a distinction will be drawn between the image of a coin and a symbol within this imagery. The image is seen to represent the whole design on one face – obverse or reverse – of the coin whilst a symbol may be only a small element within this. The distinction is an important one as the image on differing types of coins can remain constant whilst symbols within it can appear, alter or disappear entirely.

6.1.1 Iconography and production

The enormous variety of iconography amongst the Hiberno-Scandinavian coinage led Dolley to describe it as 'bewildering' and has presented a challenge of

⁵⁶⁰ Karkov 2004, 105.

⁵⁶¹ Metcalf 2000; Gannon 2003, 191.

⁵⁶² Gooch 2013, 71; Blackburn 2004, 333.

⁵⁶³ Naismith 2012a, 52.

classification.⁵⁶⁴ It is worth noting that variety was not always present, the Hiberno-Scandinavian coinage alternated between periods of iconographic homogeneity and heterogeneity. For the majority of the period *c.*995-1170, it is likely one coin type was struck with only the late-eleventh century being the exception to this. However, for much of the time there was not demonetisation of older coin types meaning that, although only one type was being struck, more than one may have been circulating.⁵⁶⁵

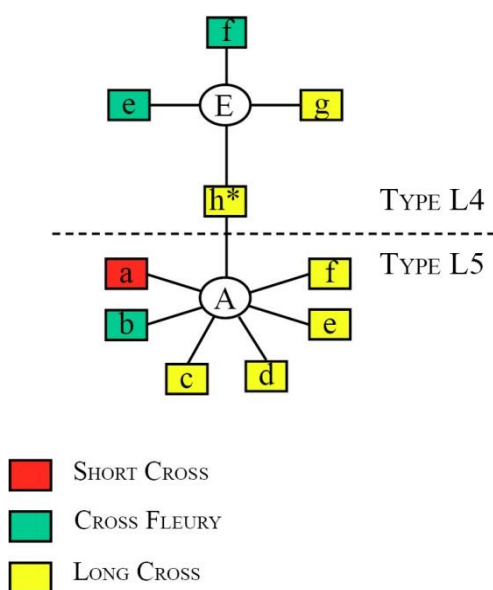


Figure 6.1 – Die diagram of die-chain between types L4 and L5

Discussion of iconography in the Hiberno-Scandinavian coinage gravitates towards the late-eleventh century as this period provides the widest range of evidence. It is worthy of exploration as it highlights the manner in which coinage was struck in Dublin and also the fact that imagery could be highly variable within very short periods of time. The latter point is emphasized by Figure 6.1, which presents a die-link diagram of a small die chain from the late 1080s. Obverse dies are in circles, reverse dies in rectangles and the lines represent the use of a pair of dies. The letters refer to the dies in Appendix B. Within the die chain, two obverse dies are found paired with ten different reverse dies and the imagery is very variable. Obverse L4.E

⁵⁶⁴ Dolley 1966a, 134.

⁵⁶⁵ See section 6.2.2.

is a curving pattern with a cross at the centre whilst L5.A is a stylised facing bust. The reverses that are paired with these obverses are also quite variable with long cross, short cross and cross fleury designs – each with slightly different motifs around them – employed. The differing iconography is summarised, with images of the dies, in Figure 6.2.

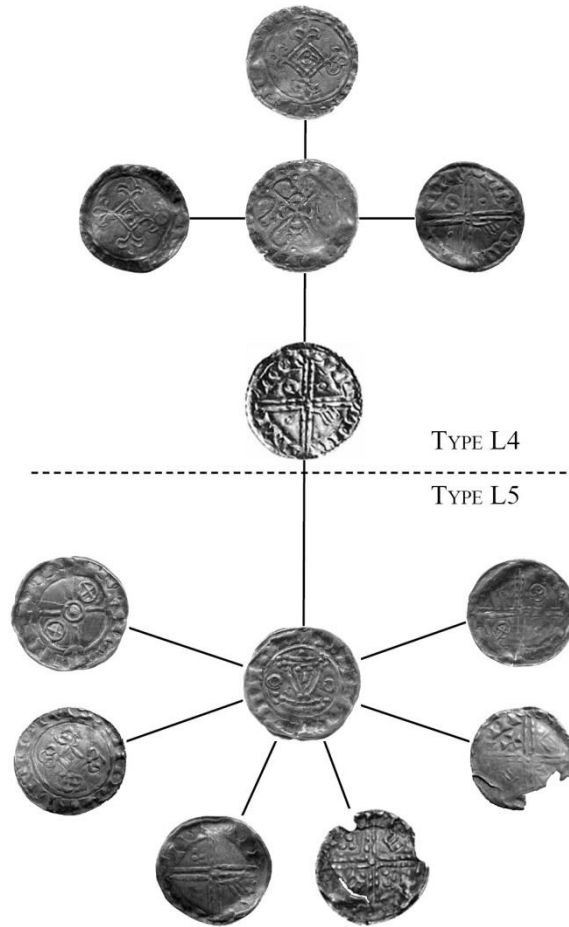


Figure 6.2 – Graphical representation of die-chain between types L4 and L5.

There are eighteen surviving coins that are struck from dies within this chain (nos. **462-79**). These show that the obverse die L5.A became worn over time allowing for some chronology to be suggested for the order in which the dies were used. This is represented in Figure 6.3 with the earliest striking at the top and the latest at the bottom of the diagram. It highlights the fact that even though there is fairly significant iconographic variety, the pattern of the dies suggests that it is likely that only one die

was used at once. The gradual signs of wear that are visible on obverse L5.A do not suggest that it was used with all of the various reverse dies simultaneously. It seems that as the reverse die L5.a was worn out that it was replaced by L5.b and this was replaced by another die, in turn, until L5.f. The assortment of die combinations employed serves to emphasize how variable the Hiberno-Scandinavian iconography could be in the late-eleventh century. Within the life of two obverse dies, nine different combinations of obverse and reverse had been used. The high turnover of imagery is a point worthy of emphasis here. This was not stylistic variety because of incompetence of copying; each design was quite different with distinctive elements. This implies that there were conscious decisions taken that, when creating a new die, the imagery would differ from that which had immediately preceded it.

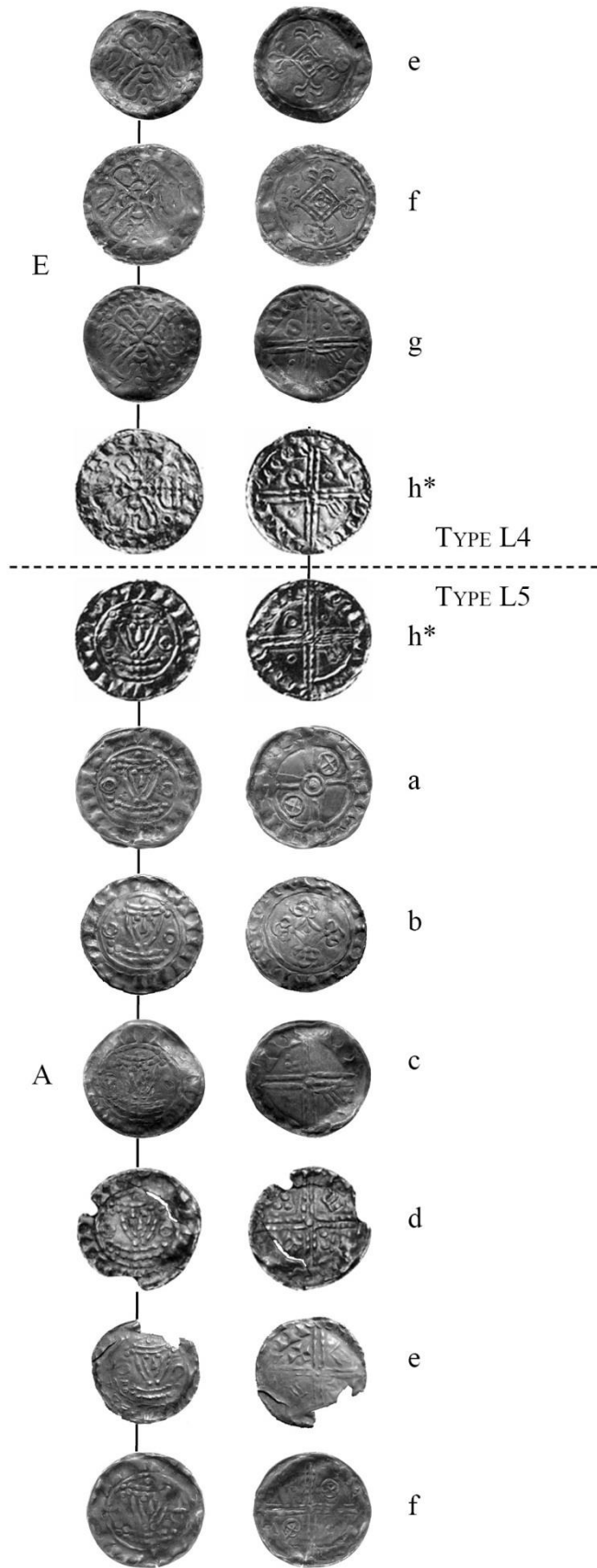


Figure 6.3 – Possible order of striking of dies in type L4 and L5.

6.1.2 Numismatic influences

The sources of the Hiberno-Scandinavian iconography were variable but several themes do emerge. It is possible to trace the influence of earlier Dublin coinage, English and Scandinavian influence in addition to periods of innovation. The following will briefly explore the manner in which each of these influenced the coinage.

Probably the most important aspect of Hiberno-Scandinavian iconography was its self-referential nature. Images and symbols were used, re-used and re-imagined at a number of points. This is most clear in the period after the initial imitation of the *Long Cross* coinage during Group B, when this imagery was re-used on a number of later coinages. Groups F and G refer back to the imagery of the type with a profile bust obverse and long cross reverse. Figure 6.4 shows the re-use of the reverse image at a number of points during the eleventh and twelfth centuries. The detail changes, with a number of symbols added, but the main Long Cross image remains. The profile bust of these early coinages was also a recurring image on the coinage. However, it was not quite as ubiquitous as the long cross reverse which underwent a number of incarnations. The combination of profile bust obverse and long cross reverse was the most common motif through to the bracteate coinage of the twelfth century. Its importance can be seen at points where iconographic homogeneity was imposed. In Groups F, Group G and Group O, when decisions were taken to renew the imagery on the coins, it was to the original design – in slightly modified form – that they turned.



Figure 6.4 – Re-use of the *Long Cross* image at various stages of the Hiberno-Scandinavian coinage

The self-reference of the Hiberno-Scandinavian coinage was not merely confined to the repetition of whole images, but also included the copying of earlier symbols. This was often achieved by incorporating them into other elements of the imagery or combining them in novel ways. Figure 6.5 highlights a few examples of this process with sickle, birds and crook/crosier being used on a number of coins. Symbols like these could also be drawn from within the main image of the coin. Thus when the *Paxs* type of William I/II was imitated in type L1 the cross in circle which formed the **X** in **PAXS** was incorporated as a symbol on a number of successive types in Group L. It seems that after a symbol or image was first used, it then became a part of the repertoire of images for the coinage. Die-cutters drew upon a pool of appropriate symbols when creating new dies, often adapting old symbols onto new areas of the coin. This can be seen in the use of the crook/crosier which was usually found before the face of the bust but was translated onto the neck in type M7.⁵⁶⁶

⁵⁶⁶ cf Figure 6.5

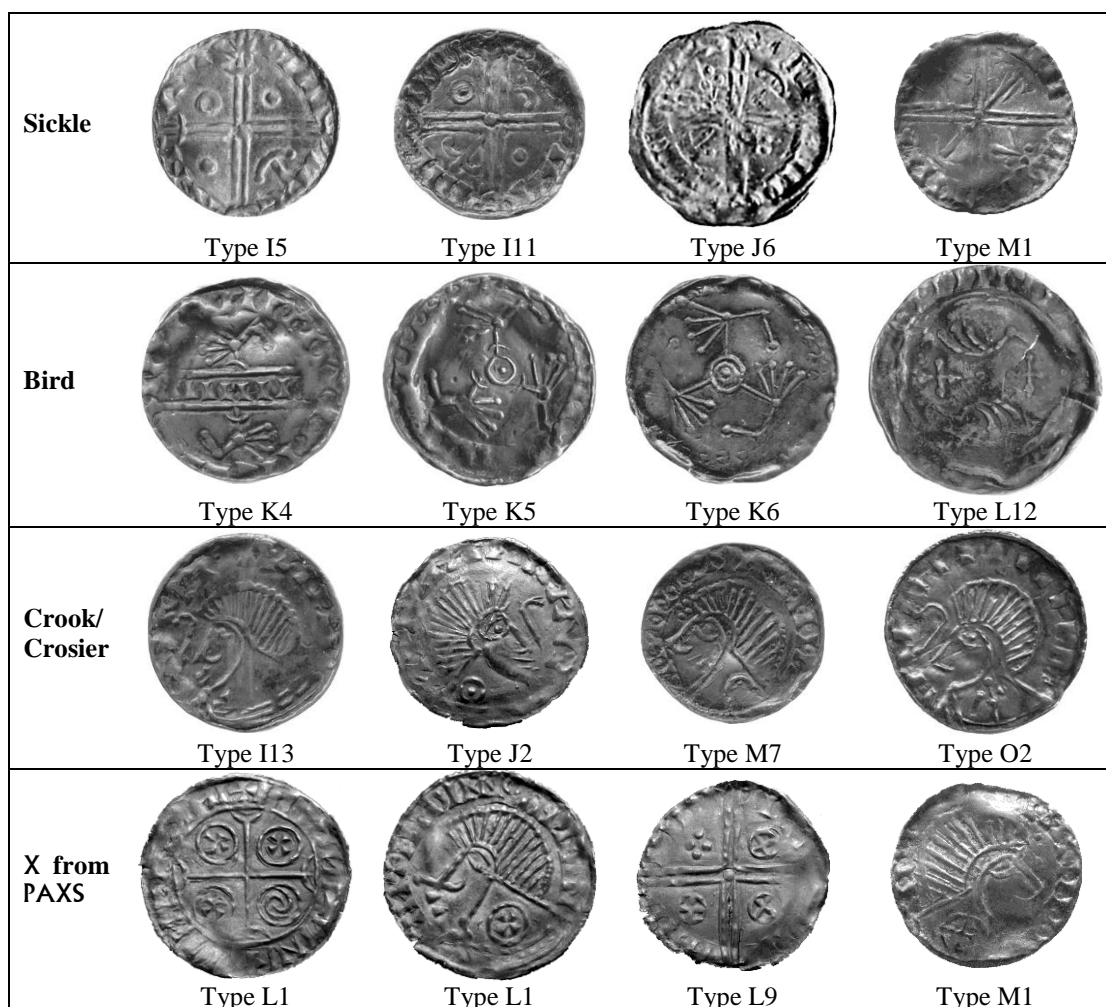


Figure 6.5 – Examples of motifs on a number of Hiberno-Scandinavian types

It would be tempting to describe the Hiberno-Scandinavian coin imagery as conservative but this implies a static nature which is not supported by the evidence. Images on coins were consistently being recycled but this process was an active one with new elements frequently incorporated within the design. This was not due to a lack of imagination, implying passivity, and instead should be interpreted as a conscious decision to re-create the imagery of the earlier coinage, a much more active process. This finds parallels in other early medieval coinages where it has been argued that conformity to previously successful coinage was desirable.⁵⁶⁷ It seems likely that, in the recreation of earlier imagery, there was a consistent vocabulary of symbols. A

⁵⁶⁷ Gannon 2006, 194.

relatively small number of symbols were used but these could be employed in different parts of the coin, implying that the important part was the symbol itself rather than its position. This group of re-used symbols may have provided iconographic coherence to the Hiberno-Scandinavian coinage, enabling it to be identified and differentiated from foreign coinage. The effective exclusion of foreign coinage that is visible in Ireland required a recognisable Hiberno-Scandinavian coinage and the repetition of these images may have facilitated this process.⁵⁶⁸

When seeking new images for use on Hiberno-Scandinavian coins, Dublin moneyers often drew upon the iconography of England. This process can be broken down into three phases. In Groups A to E (c.995-1020), there was fairly direct imitation of a number of English types. An example of this is visible in Figure 6.6 where the imitation of England's *Long Cross* type on the Hiberno-Scandinavian coinage can be seen. This was likely to have been contemporary, Dublin fairly swiftly altering its type in line with that of England.⁵⁶⁹ There are some differences in style of lettering and weight between the two series of coins but the major distinction is in the legends which frequently name Sihtric as king and/or Dublin as the mint.



Figure 6.6 – Comparison of Early Hiberno-Scandinavian imitation of English types

The second period where a number of English types are imitated is between c.1060 and c.1100 which encompasses Groups H to N. This can be differentiated from the early imitation as at no point was there an attempt to closely copy the English

⁵⁶⁸ See section 6.2.3.

⁵⁶⁹ Blackburn 2008, 123.

coinage. Images were adopted from the late Anglo-Saxon and Anglo-Norman coinages but often only the obverse or the reverse was copied. No coin presents an accurate rendering of both obverse and reverse of English coins. It is also apparent that this imitation of English types was not contemporary. Designs were often copied at some chronological remove from their prototype. A summary of this imitative process, for the imagery on coins of William I, is provided in Figure 6.7. This shows that types which were current in England in the 1070s were still being imitated in Dublin over a decade later, as can be seen in the imagery of types L1 or L4.⁵⁷⁰ This should not be surprising as the evidence from Manx hoards suggests that coinage often circulated for prolonged periods in the Irish Sea and thus a fairly ready supply of 'old' English coins are likely to have been available to Dublin die-cutters.⁵⁷¹

⁵⁷⁰ See Appendix A, L1 and L4.

⁵⁷¹ Bornholdt-Collins 2003 Appendix VIII.

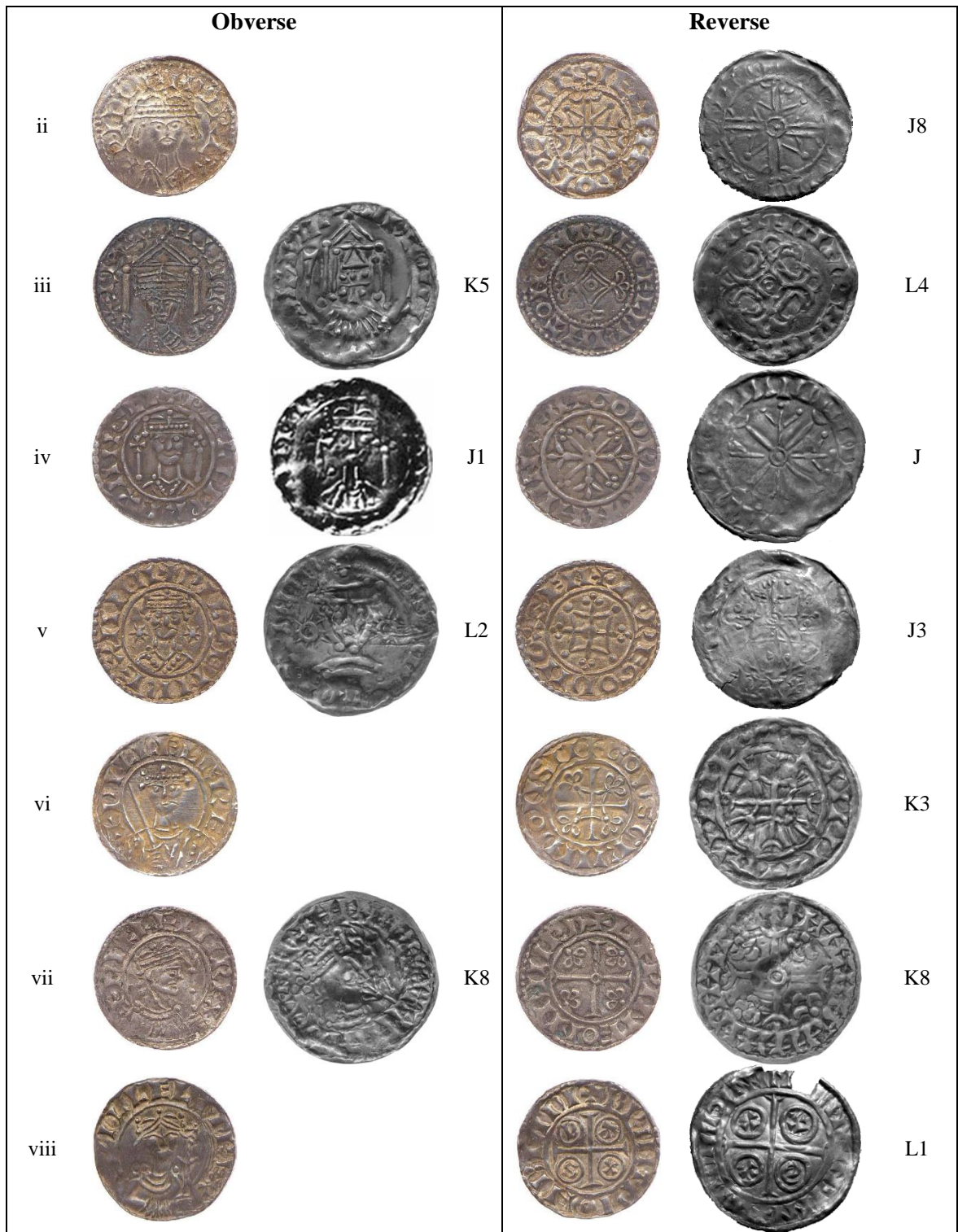


Figure 6.7 – Comparison of English and Hiberno-Scandinavian iconography in types of William I.

The final stage of English imitation occurred on the bracteate coins of Group Q. As described above, it seems likely that most of the imagery on the bracteate coins is

drawn from near-contemporary English reverse designs.⁵⁷² These were not accurately rendered copies but the inspiration is clearly English. A majority, but not all, of Group Q is fairly directly imitative of reverse designs of English coins.

The different stages of English imitation are important, especially when considered alongside the periods of self-reference. It appears that the iconography of the Hiberno-Scandinavian coinage alternated between periods where it was quite introspective in its outlook and others where it consistently drew imagery from England. These alternated across the eleventh and twelfth centuries with only the late eleventh century witnessing a hybridity of imagery; English and Irish designs comfortably mixing alongside one another. The other point worthy of emphasis is that in *c.*1060 and *c.*1115 when Ireland sought new iconography to add to its coinage – moving away from a profile bust and long cross combination – that it looked to England to provide this. This mirrored the initial decision to copy the coinage of the Anglo-Saxon kingdom at the outset of the coinage.



Figure 6.8 – Comparison of Hiberno-Scandinavian and Danish *Agnus Dei* coins

Whilst England was dominant in terms of imagery it appears that some iconographic inspiration was also drawn from Scandinavia during the latter part of the eleventh century. This is most clearly illustrated by the imitation of *Agnus Dei* coins. Types I1 and L6 both utilise this imagery although the small numbers of dies used does not suggest that either was a very large issue. The *Agnus Dei* was originally

⁵⁷² See section 3.3.11.

struck in England in 1009 for King Æthelred but it was copied on a fairly widespread basis in Scandinavia.⁵⁷³ It was most commonly imitated in Denmark, particularly at Lund, and it is likely that the Hiberno-Scandinavian die-cutters were drawing inspiration from these coins rather than the English originals that had been struck over 50 years previously.⁵⁷⁴ The case for such an interpretation is strengthened by the fact that the lamb on the English coin is consistently right facing whilst in Dublin, and on some Danish examples as is visible in Figure 6.8, it faces to the left.⁵⁷⁵



Figure 6.9 – An example of original imagery on Hiberno-Scandinavian coinage

There are designs within the Hiberno-Scandinavian coinage for which no ready precursors or inspiration can be traced. The curving imagery of the obverse of types I16-18, illustrated in Figure 6.9, is one such image. Amongst numismatic parallels in England and Scandinavia there is nothing that approximates this design. A number of versions of the design are known, struck from several dies, and these do not vary greatly. This implies that this was likely to be the image that the die cutter was aiming to achieve. That the design finds no ready prototypes highlights the fact that the Hiberno-Scandinavian die-cutters were capable of innovation but, on the whole, this was quite unusual. Much more common was the adaptation of pre-existing designs. These were frequently altered to include new symbols. For example, the long cross reverse, visible in Figure 6.4, was changed through the addition a number of symbols in each quarter. Whilst novelty was possible, it was far more common that it occurred

⁵⁷³ Keynes & Naismith 2013.

⁵⁷⁴ Dolley 1966a, 111–12; Jensen 1995, 58–9; Garipzanov 2011, 36–41.

⁵⁷⁵ Jensen 1995, 56–7; Hauberg 1906 pl. VII, no. 15 and pl. VIII, no. 17.

through the blending of previous designs rather than outright innovation. Types such as that illustrated in Figure 6.9 are quite exceptional in a Hiberno-Scandinavian context. This is not to imply that there was an absence of ability on the part of die-cutters or the Dublin mint but more to suggest that there was a conservatism to coin imagery which, when searching for designs for new dies, often sought out previous incarnations of itself.

6.1.3 Religious images

The religious imagery of the Hiberno-Scandinavian coinage is very obvious throughout almost the entire period. In common with most other early medieval coins, the key element to this iconography is the cross.⁵⁷⁶ On every Hiberno-Scandinavian coin struck between *c.*995 and *c.*1060, some variety of cross was present on the reverse of the coins. Even after this point crosses, of numerous forms, are still overwhelmingly the most common motif on the reverse of coins. Amongst the relatively diverse range of imagery employed on the Hiberno-Scandinavian coinage the fact that the cross was continually and repeatedly returned to suggests that it was an important image. This is not surprising with the cross representing the least ambiguous imagery of the Christian faith. It was a symbolism that would have been as readily understood by any and all users of the coinage, all of whom existed within a shared Christian milieu. As Naismith notes, the cross was also an uncontroversial image giving it, in a post-conversion world, a fairly universal validity.⁵⁷⁷ It might be possible to push this even further, arguing that crosses may in fact mark the coinage as sacred, with a value derived from its connection with a celestial being.⁵⁷⁸

⁵⁷⁶ Blackburn 2007a, 178.

⁵⁷⁷ Naismith 2012a, 69.

⁵⁷⁸ Gannon 2006, 194–5; Theuvs 2004, 128.



Figure 6.10 – Examples of crosses used in the Hiberno-Scandinavian coinage

More Christian iconography is visible when the Lamb of God (*Agnus Dei*) image was used on a number of coins. The image is ultimately drawn from the Gospel of St. John where it is written ‘Behold the Lamb of God. Behold him who taketh away the sin of the world’.⁵⁷⁹ The image would have been recognisable to contemporaries, as the description of Christ as the Lamb of God was included within the Mass.⁵⁸⁰ In terms of numismatic prototypes the image is likely to be derived from Scandinavian models, as discussed above. Given the otherwise minimal links between the imagery of Dublin and Denmark the connection at this point is unusual. It should probably be interpreted within a broader European context where the *Agnus Dei* was a common motif on a number of coins, implying a fairly universal theological significance to it.⁵⁸¹



Figure 6.11 – Examples of *Agnus Dei* obverse designs on Hiberno-Scandinavian coins

A number of Hiberno-Scandinavian coins also display hands as fairly prominent elements within their design. The style of these varies quite dramatically with some being relatively accurate depictions - with four fingers and a thumb - as can be seen in Figure 6.12a. However a number of coins also have much more stylised depictions of

⁵⁷⁹ John 1:29.

⁵⁸⁰ Keynes & Naismith 2013, 180.

⁵⁸¹ Keynes & Naismith 2013, 180; Dhénin 1974, 163–77; Jensen 1995, 58–9.

hands, particularly Group G which has ‘branch’ hands.⁵⁸² These hands need not be anything hugely theologically symbolic but it seems, at least in some situations, that they may well be a depiction of the Hand of God. The depiction of the Hand of God on early medieval coins was known in both an English and Danish context.⁵⁸³ A number of ‘hand’ types were struck in England in the late-tenth century and these were copied in Denmark.⁵⁸⁴ This was a symbol which embodied God’s power and was the most appropriate way of representing him.⁵⁸⁵ The Hiberno-Scandinavian coinage was, however, not slavish in its imitation of hands on coinage. At no point did the hand become the central element of the imagery on coins, as it had been in England and Denmark. It was often a small symbol within a more complex design.



Figure 6.12 – Images of hands on Hiberno-Scandinavian coins

The depictions of hands may also have acquired further symbolism when they were translated onto the Hiberno-Scandinavian coinage. In a number of examples, hands are depicted with a pellet at their centre. This is visible in Figure 6.11a and Figure 6.12a where the hands are illustrated in connection to other religious symbols, an *Agnus Dei* and cross respectively. The pellet at the centre of the palm, in both of these examples, seems likely to represent stigmata. Whilst the use of pellets at the centre of the palm is not unknown in English or Danish examples it would appear to

⁵⁸² See Figure 6.12b.

⁵⁸³ Jensen 1995, 56; Garipzanov 2011; Gannon 2003, 63–5.

⁵⁸⁴ Jensen 1995, 56.

⁵⁸⁵ Jensen 1995, 56.

represent a centre-point marking, to accurately render the design, rather than a conscious attempt at depicting stigmata in these cases.⁵⁸⁶

Without wishing to extend this point too far, it can be suggested that those producing the coins were well versed with theological concepts; the coinage has extensive theological symbolism. This is unlikely to be coincidental and suggests that Christian spirituality had a central role within the coinage. These themes permeated coinage as much as they did other aspects of early medieval life. Those responsible for the coinage understood the imagery of – for example – an *Agnus Dei* coin and added further, theologically complex, elements to the coinage. Rather than interpreting the coinage as ‘bewildering’ it must be acknowledged that the Hiberno-Scandinavian mint was conversant with, and participant within, the often complex symbolic discourse of the period.⁵⁸⁷

6.1.4 Depictions of royalty

Images of royal authority are present on much of the Hiberno-Scandinavian coinage. In line with other early medieval coinages, the portraiture was not accurately rendered.⁵⁸⁸ Instead, the images were representational, depicting a generic image of a king rather than an accurate portrait of a particular king. That the busts are intended to represent the king can be confidently stated given the fact that on the obverse of the early coins (Groups A to E) the legend surrounding the bust usually read **ΣITRIC REX**, King Sihtric, with occasional coins using the Old Norse word for king, **LVNVNE**. The legend makes the attribution of the bust as a royal figure quite clear. It would be logical to suggest that the busts visible in the later coinage, for which legends are not present, are also representations of the king.

⁵⁸⁶ Jensen 1995, 57.

⁵⁸⁷ *contra* Dolley 1966, 134.

⁵⁸⁸ Naismith 2012a, 53.

Assuming that the human figure on Hiberno-Scandinavian coinage represents an image of a king, the disappearance of this image in the early twelfth century could be deemed to be significant. In Group P, the flans of the coins became so thin that there was frequently ‘ghosting’ of the reverse design onto the obverse. This often obscured the design on the obverse, as can be seen in Figure 6.13. The obverse design was abandoned entirely in group Q where a series of geometric designs were utilised. These copy reverse designs from the contemporary English coinage and it is noticeable that human figures are almost entirely absent from this phase of coinage. The disappearance of the human figure, presumably representing the persona of the king, rather than the ‘reverse’ design can be interpreted as significant. It did not necessarily have to occur in this manner as human figures are depicted on a range of German bracteates.⁵⁸⁹ The most important element on the Hiberno-Scandinavian coinage in the twelfth-century appears to have been the simple reverse design, modelled on English coins, rather than the depiction of a king.



Figure 6.13 – Obscured obverse in Group P

The crucial question for interpreting the iconography of the Hiberno-Scandinavian coinage in light of royal authority comes when considering the depiction of the human figure on coins. As discussed above, the profile bust originally struck in Group B was returned to at various points. This could be interpreted as a fairly consistent depiction of royal authority on coinage; the image of a king on the obverse of the coin, paired

⁵⁸⁹ Kluge 1984.

with religious iconography on the reverse. However, the point must be balanced by acknowledging that the profile bust was ‘what one usually finds on a coin’ in the early medieval period.⁵⁹⁰ Its relative unimportance as an image is emphasized by the fact that it is deemed surplus to requirements in the twelfth century. This raises the possibility that, rather than representing a conscious expression of royal power, the decision to return to a profile bust and Long Cross design at various points may have simply been to return the imagery to an imitation of a previously successful coinage. Rather than being a representation of the current ruler the coinage may have been deliberately self-referential and anachronistic, trying to tap into the imagery of coinage which had been struck on a significant scale previously.

6.1.5 Irish art and coinage

It is possible to contextualise the imagery of the coinage within the study of Irish art in the eleventh and twelfth centuries.⁵⁹¹ This was a period which had a fairly distinctive style to much of the art. Surviving metalwork is largely confined to the sphere of ecclesiastical material as secular objects – such as brooches or belt fittings – were not manufactured in significant quantities in metals in the period.⁵⁹² There is a broader range of material available to study within Dublin where good preservation has allowed a large number of wooden objects to be studied.⁵⁹³ In broad terms, the period contemporary with the striking of coinage in Dublin saw the use of, and contribution to the development of, Ringerike style.⁵⁹⁴ This style, ultimately drawn from Scandinavia, mixed animal and interlace designs which interlocked to form a

⁵⁹⁰ Gannon 2006, 196.

⁵⁹¹ The major Studies are by Henry and Harbison: Henry 1970; Harbison 1999.

⁵⁹² Ó Floinn 1997, 260.

⁵⁹³ Lang 1988.

⁵⁹⁴ Harbison 1999, 250.

flowing whole.⁵⁹⁵ In the twelfth century this was, to an extent, superseded by an Irish Urnes style which again could trace its root to Scandinavia.⁵⁹⁶

These art styles existed within the same milieu as the coinage. It has been argued that there was also a ‘Dublin school’ of artistic design in the eleventh and twelfth century.⁵⁹⁷ Wooden and metal objects were produced in the town at the same time as coins. At a more precise level, wooden decorative objects have been found in a number of the same building plots as coins from the town.⁵⁹⁸ One piece, with Ringerike decoration, was excavated in a layer immediately below a Group F coin at Christchurch Place in Dublin.⁵⁹⁹ People using coinage were very likely to have been familiar with the art styles that are visible on surviving metalwork and wooden objects.

Whilst it is likely that the consumers of both the Ringerike art style and Hiberno-Scandinavian coinage were the same people in early medieval Dublin there is much less evidence for any overlap in terms of iconography. Human figures and crosses are common on coins but are quite unusual on metal and in wood. Of course, they are not unknown in these contexts but the consistency of this choice of image amongst the coins is much more pronounced than in other media. Whilst a systematic trawl through metal, wood and manuscript would doubtless unearth some connections, it is striking that, generally speaking, the interlacing animal art styles of contemporary Ireland and Dublin made almost no impression on the coinage. As Lang notes, varied iconography can, to a certain extent, be explicable by the ‘dictates of the medium’, with different objects requiring certain types of imagery dependent upon their

⁵⁹⁵ Harbison 1999, 250–60.

⁵⁹⁶ Harbison 1999, 272–4.

⁵⁹⁷ Lang 1988, 20–6.

⁵⁹⁸ Lang 1988, 42–3.

⁵⁹⁹ Harbison 1999, 250.

function and audience.⁶⁰⁰ In the case of the Hiberno-Scandinavian coinage it would appear that the medium dictated that the coin featured artistically simple and overtly theological imagery. It also required that the vocabulary of design borrowed from England rather than Scandinavia, where a much stronger link existed in art style.

6.1.6 Interpreting iconography

Returning to the concepts proposed by Gannon, and discussed above, iconography acted as a means of guaranteeing authenticity, ensuring commercial credibility and disseminating ideas on coins.⁶⁰¹ These provide a useful framework for considering the iconography of the Hiberno-Scandinavian coinage.

It might be difficult to imagine that the varied iconography of the Hiberno-Scandinavian coinage could provide a means of authentication. In periods of variability, analysis of dies has shown that very different imagery was produced in short periods of time.⁶⁰² This is most notable in the coinage of Groups H to N but may also have been prevalent in the twelfth-century coinage of Group Q; in both periods there was no attempt to create a consistent ‘type’. However, the effect that variable imagery had upon the use of coinage should not be overstated. Whilst it presents a problem of classification and understanding to a modern audience it is apparent that the coinage was understandable to contemporary users as it was possible to distinguish Dublin’s coins from those of other areas. This is visible in the effective exclusion of foreign coins from the town and Ireland more widely.⁶⁰³ This may be connected to a common set of motifs that were used on a number of different coin

⁶⁰⁰ Lang 1988, 48.

⁶⁰¹ Gannon 2006, 195.

⁶⁰² See section 6.1.1

⁶⁰³ See section 6.2.3.

designs, probably forming an iconographic vocabulary that was both repetitive, familiar and, to an extent, immobilised.

If and when die-cutters sought new imagery, they tended to turn to coinage for their inspiration. They did not incorporate the artistic styles that were being developed in other mediums in Dublin at the same time. It would appear that there was a quite different artistic vocabulary for coinage when compared to other worked metal. This was different enough for both Henry and Harbison to argue that artistic metalwork of the eleventh and twelfth centuries was largely ecclesiastical, with no reference to coinage at all.⁶⁰⁴ Once symbols were used on a coinage they were often repeated on a number of further types. This is most clearly illustrated by the using of the **X** from **PAXS** imitations of Group L which became a symbol used on a number of subsequent types. English, and to a much lesser extent Scandinavian, designs were added to this gradually evolving iconographic vocabulary.

Iconographic diversity such as this should not be viewed as particularly remarkable as late-eleventh-century Norway followed the iconographic stability of Harald Hardråde's *Triquetra* coinage with an enormous variety of images during the time of his successor, Olaf Kyrre.⁶⁰⁵ Similar variety can be observed in eleventh century Denmark where imagery varied across, but also within, mints.⁶⁰⁶ In each of these areas, as well as in Ireland, there was an effective exclusion of foreign coinage even during periods of diverse imagery.⁶⁰⁷ This can be contrasted with the Isle of Man which had coins of consistent imagery but did not exclude foreign coinage.⁶⁰⁸ A simple correlation between iconographic homogeneity and a functional coinage must

⁶⁰⁴ Harbison 1999; Henry 1970.

⁶⁰⁵ cf Skaare 1976; Stenersen 1881.

⁶⁰⁶ Jensen 1995; Hauberg 1906.

⁶⁰⁷ Gullbekk 1992; Jensen 1996.

⁶⁰⁸ Bornholdt-Collins 2003.

be rejected. It is quite clear that the iconography of the Hiberno-Scandinavian coins did provide a means of authentication.

The commercial credibility of the Hiberno-Scandinavian iconography appears to have been largely derived from imitation of successful coinages. Thus, when seeking inspiration for coin designs, prototypes usually came from either earlier Hiberno-Scandinavian or near-contemporary English coins. That Dublin should imitate the coinage of England is unsurprising as these coins were struck to a high silver standard, and on a significant scale, and it is likely that trade was regular around the Irish Sea.⁶⁰⁹ The imagery of English coins is likely to have been familiar to many in Dublin and acknowledged as a stable, consistent currency. At no point were the coins attempting to act as forgeries of English coins, to circulate in England. Instead, imitation of English imagery should be conceived of in a similar manner to the imitation of earlier Hiberno-Scandinavian coinage, as an attempt to confer commercial prestige upon the current coinage by imitating those which had been successful previously.⁶¹⁰

As a means of disseminating ideas, the symbolism of the coinage most consistently drew upon theological images. These ranged from very simple crosses to quite complex depictions of the Lamb of God or stigmata. Coins were completely immersed within the religious culture of the day and may have drawn some of their value from this theological connection.⁶¹¹ These images show the reinterpretation of religious imagery, demonstrating both comprehension and innovation, with the addition of the stigmata to hands being a prime example. The use of this imagery occurred contemporaneously with organised Latin Christianity becoming increasingly prevalent in Dublin. This is clear from the founding of a number of religious

⁶⁰⁹ See chapter 4.

⁶¹⁰ Blackburn 2008, 128; see section 4.3.

⁶¹¹ *cf* Theuws 2004.

institutions and the appointment of a bishop, confirmed in Canterbury, for the town.⁶¹² The Hiberno-Scandinavian can be argued to exhibit some similarities to areas of Scandinavian where Ildar Garipzanov has argued for a strong connection between emerging episcopal power and the imagery of the coinage.⁶¹³ The coinages of Anglo-Scandinavian York can be read in a similar manner with established ecclesiastical power influencing the imagery of the coinage.⁶¹⁴ The use of religious iconography, much of which was ultimately drawn from England, may reflect the connections of the town to Roman rather than Irish Christianity.

This is not to say that the bishops of Dublin played an active role in the production of the coinage, an idea largely dismissed in relation to Anglo-Scandinavian York where evidence is much stronger.⁶¹⁵ It is likely coinage remained the preserve of the king of Dublin.⁶¹⁶ Gareth Williams has suggested that the emergence of coinage with religious iconography may mirror the growth of ‘Romanised Christian kingship’ in areas of northern Europe.⁶¹⁷ This is certainly true to an extent in Ireland with the production of coinage, drawing upon the imagery of the established Christian king of England, likely to be influenced by this.⁶¹⁸ However this point should not be over-extended. While the striking of coinage represents royal authority, the iconography of the Hiberno-Scandinavian coins does not suggest that these coins were extensively utilised as objects for the legitimisation of political power. The complex religious iconography can be contrasted to depictions of the king which present a much more ambiguous representation, becoming immobilised and progressively more stylised. The royal bust was largely obscured in Group P by the reverse design, and absent

⁶¹² See section 2.3; Hudson 2006, 52.

⁶¹³ Garipzanov 2011.

⁶¹⁴ Blackburn 2004; Blackburn 2007a; Williams 2007; Gooch 2013.

⁶¹⁵ Gooch 2013, 71; Blackburn 2004, 333.

⁶¹⁶ See section 9.1.

⁶¹⁷ Williams 2007, 206.

⁶¹⁸ See section 9.4.

entirely from group Q, implying that it was far from the most important image. Combining these elements, it is probable that Hiberno-Scandinavian coin imagery was determined by attempts to bring reflected confidence to the coinage. If this is accepted then depictions of royalty on the coins can be interpreted as a coincidence of their occurring on successful coinages elsewhere.

6.2 *Renovatio Monetae*

6.2.1 Defining *renovatio*

At various points in the history of early medieval Europe, coinages were renewed and this is often referred to as *renovatio monetae*. The term itself is known from the late-eleventh century but it has been used by modern scholars to describe earlier coinages.⁶¹⁹ At its most basic level, a recoinage involved the aim of removing old, and foreign, types of coinage from circulation, replacing them with newly struck coins. These basic tenets can be seen in the *Edict of Pitres*, promulgated in 864 by Charles the Bald, which stated that ‘no coins should be accepted anywhere in my kingdom except for those of the new coinage which are of good alloy and weight’.⁶²⁰ The motivations behind decisions to renew coinage and the mechanisms by which it was achieved are not agreed upon and need not have necessarily always been the same at different recoinages. The following will discuss the two elements connected with *renovatio*, recoinage and the exclusion of foreign coinage, having grounded these within the context of a more general discussion.

There are several reasons why recoinage may have occurred and these do not necessarily need to be mutually exclusive. In the renewal process, coinage would have had to pass through the official, usually royal, administration. This is likely to have

⁶¹⁹ Naismith 2012a, 181–3; Grierson 1962, x.

⁶²⁰ Grierson 1981; Naismith 2012a, 181.

been subject to tax or charge, although exactly how much is a matter of conjecture. The costs to the users of coinage must have been reasonably substantial as there are records of protests at the changing of the currency.⁶²¹ The desire for revenue on behalf of the issuing authority can be seen as an important element behind recoinage. However, it need not be interpreted as the only reason behind the change as recoinage could also be instigated to ‘improve’ a debased coinage. Alfred’s improvement of the Anglo-Saxon coinage after the striking of the debased *Lunettes* types in the 870s could be interpreted in such a manner.⁶²² Similarly, the silver content of Norwegian coinage was improved markedly in the reign of Magnus Barefoot and accompanied by a recoinage.⁶²³

Given the dearth of contemporary written records about the process, it is almost impossible to be certain about the manner in which *renovatio* was achieved.⁶²⁴ Even in Anglo-Saxon England which is comparatively much more extensively researched and well documented, there is no definitive suggestion as to how a change of type was enforced. Dolley and Metcalf suggested that transactions within a port had to be conducted within the view of an official and that these would have needed to be in the official coinage.⁶²⁵ However, the requirement to use the current type is never explicitly stated in Anglo-Saxon law-codes, where it might be expected to occur.⁶²⁶ Similarly, a suggestion that individuals were expected to bring their coinage in to be re-minted, with a national network of local mints, seems unlikely given the patchy evidence for the mints and, inherent unlikelihood of coin-users bringing coins to be re-minted

⁶²¹ Spufford 1988, 95.

⁶²² Blackburn 1998, 106–7.

⁶²³ Gullbekk 2009, 147.

⁶²⁴ Stewart 1990, 463–8.

⁶²⁵ Dolley & Metcalf 1961, 155.

⁶²⁶ Stewart 1990, 466.

when this was not strictly necessary.⁶²⁷ Grierson suggested that current coinage may have been required in certain situations such as fines, taxes or compensations.⁶²⁸ It is quite difficult to ascertain the mechanisms of recoinage in England and there is certainly no simple model that can be applied to Ireland. However, given the consistency of Hiberno-Scandinavian coin finds in the excavations from Dublin the possibility that only current coinage was allowed to be used in the town is one which is attractive.⁶²⁹ The lack of contemporary documentary evidence means that this is a point which is impossible to prove.

These are the basics of recoinage; the striking of a new coinage, with encouragement/sanction to use it, and possibly the demonetisation of the older/foreign currency. But *renovatio* did not occur in the same manner in all situations. In England, where there existed a system of periodic recoinage; the currency was changed every few years. Within England, it appears that there was an aim for one type in circulation, struck at numerous mints although this was not always successfully achieved.⁶³⁰ This was nominally to a single-weight standard, although in practice this varied somewhat, meaning that coins from one area should be equally valid in another.⁶³¹ It has been argued that these single types also had only a limited validity before they were replaced by another type. The length of time of this validity period is a matter of fairly fierce debate with arguments varying over six year, seven year or variable validity periods.⁶³² This is not necessarily the most important element but the combination of a single type with the aim of replacing after a given period does differentiate the English coinage from many contemporary coinages.

⁶²⁷ Stewart 1990, 466.

⁶²⁸ Stewart 1990, 467–8; Grierson 1962.

⁶²⁹ See sections 6.2.3 and 8.6.1.

⁶³⁰ Stewart 1990, 460; Naismith 2013, 206.

⁶³¹ Lyon 1971, 115; Stewart 1990, 469–71.

⁶³² Dolley & Metcalf 1961; Petersson 1969, 84–6; Dolley 1978; Brand 1984; Stewart 1990; Lyon 2003.

In Norway, where Gullbekk has argued that *renovatio monetae* was also carried out, there were some fundamental differences.⁶³³ In a similar manner to England, foreign coinage was effectively excluded from Norway from the time of Harald Hardråde onwards.⁶³⁴ There were recoinages, which were reasonably effective at removing the older coinage but these were not as regular as in England. Furthermore, when a new type was struck it was not necessarily accompanied by a demonetisation of older coinage. For example, during the reign of Olaf Kyrre a number of different types were struck and it appears that there was no aim to replace older types.⁶³⁵ There was, however, a systematic removal of Harald Hardråde's coinage at the beginning of Olaf Kyrre's reign.⁶³⁶ In Norway, *renovatio monetae* was not quite the same phenomenon as it was in England. It appears to have occurred primarily when a king acceded to the throne with coins struck to replace those of the old ruler. This also occurred in England – including kings ruling for only a short period such as Harold Godwinsson – but there recoinages also occurred within a ruler's reign. It is thus necessary to distinguish between a system where a single-type, with a validity period that was limited by something other than a royal death, circulated and that where multiple types could circulate but where *renovatio* occasionally occurred. It is not enough merely to assess whether Ireland had a system of *renovatio monetae* but also the manner in which coinage was renewed.

Detecting *renovatio monetae*, in the absence of sound historical evidence is largely reliant upon the evidence of finds, particularly hoards. At a simple level, considering the ratio of foreign to local coinage, in hoards and single-finds, can help to illuminate whether only local coin was allowed to circulate. Hoards are also very

⁶³³ Gullbekk 1992; Gullbekk 2009, 60–5.

⁶³⁴ Gullbekk 1994, 47–8.

⁶³⁵ Gullbekk 1994, 65–74.

⁶³⁶ Gullbekk 2009, 63–5; Gullbekk 1994, 63–5.

important as they can show whether, and to what extent, older forms of local currency were removed from circulation. In an English context, the evidence for *renovatio* is most clear for the period at the end of the tenth and the beginning of the eleventh century. Hoards in this period are overwhelmingly composed of only one type with a small number featuring coins of two sequential types.⁶³⁷ Only two of thirty-six hoards deposited in the period c.979-1042 are ‘multi-type’ with a number of chronologically diverse coin types present.⁶³⁸ Similar evidence can be found in the Norwegian coinages of the eleventh century where hoards are overwhelmingly of current Norwegian coins with very few coins of previous monarchs surviving to be hoarded in the reign of their successor.⁶³⁹ Where short validity periods for coinage existed, such as the two to three years of England in the 1040s and 1050s there are greater proportions of ‘multi-type’ hoards but it is likely that a system of *renovatio* continued nonetheless.⁶⁴⁰ Where *renovatio* occurred it would be expected that it should be visible in the hoard record with few unofficial, either foreign or ‘old’, coins surviving beyond a recoinage.

6.2.2 Irish *renovatio monetae*

The evidence is not unambiguous but it would appear that it is possible to trace a number of recoinages in Ireland. However it seems that there are contrasts to the situation in both England and Norway. It can be argued that there are likely to have been four, and probably five, recoinages in Ireland during the striking of the Hiberno-Scandinavian coinage. It is worth briefly outlining the evidence for each of these events in turn before considering the phenomenon on a more general level.

⁶³⁷ Allen 2012, 39.

⁶³⁸ Allen 2012, 39.

⁶³⁹ Gullbekk 1992.

⁶⁴⁰ Stewart 1990, 465; Allen 2012, 38–9.

At the outset of the coinage, Group A coins were struck to replace the mixed silver, foreign coins and bullion, that had previously circulated in Ireland. That this represented an enforced recoinage can be inferred from the evidence of the two hoards, summarised in Table 6.1, which contain coins of this type. The earlier Dundalk hoard contained only one Hiberno-Scandinavian alongside a number of foreign coins. This is a contrast to the Clondalkin (2) hoard which appears to have been entirely composed of Hiberno-Scandinavian coins. Dundalk is probably a very early hoard containing a typical tenth-century mixture of coinage alongside a new Hiberno-Scandinavian coin. That the Dublin coin is early within Group A is suggested by the spelling of Sihtric's name on the obverse which is rendered as Σ ITI.⁶⁴¹ Later coins more frequently reverse the initial letter.⁶⁴² The slightly later of the two hoards, Clondalkin (2), is strongly suggestive of the removal of older silver. Within the hoard, the coins appears reasonably well-mixed with little die-linking. As such, they do not give the impression of being newly struck but appear to be a selection of circulated coinage.⁶⁴³ If Clondalkin was typical of the circulating medium, then it would appear that the fairly sizable amounts of English silver that were circulating in Dublin in the 990s had been quite efficiently converted into local currency.⁶⁴⁴ This process is likely to have occurred in only a short period of time as Group A was probably only struck for a few years.⁶⁴⁵ The rapidity of the recoinage can be emphasized by comparing Clondalkin (2) with a number of Dublin hoards that can only date from perhaps five years earlier. Each of these was exclusively composed of English coinage.⁶⁴⁶

⁶⁴¹ Kenny 1985, 204.

⁶⁴² Dolley 1973a.

⁶⁴³ Blackburn 2008, 123.

⁶⁴⁴ Blackburn 2008, 123.

⁶⁴⁵ Blackburn 2008, 127.

⁶⁴⁶ Blackburn 2008, 119–21.

Hoard	Latest Group	Current Group	'Older' H/S	Foreign
Dundalk ⁶⁴⁷	A	1 (14%)	-	7 (86%)
Clondalkin (2) ⁶⁴⁸	A	37+ (100%?)	-	-

Table 6.1 – Irish hoards deposited *c.* 995, during Group A period

The striking of Group B, in *c.*997, was on a very significant scale with hundreds of dies used.⁶⁴⁹ It seems likely that this was accompanied by a demonetisation of the Group A coinage. Two hoards, Derrymore and Collinstown, contain a Hiberno-Scandinavian element which was exclusively formed of Group B.⁶⁵⁰ It might have been expected that some Group A coins would have been present in these hoards if they were still valid. This is a pattern that is also reflected in Scandinavian data where finds of Group B alongside Group A are rare.⁶⁵¹ In both Irish hoards there is a small element of contemporary English coinage, indicating that some foreign silver did continue to circulate even if the majority was of the official type. The Knockmaon hoard is exceptional in a number of ways. It contains a mixture of coinage that extends back to Edgar's pre-973 coinage, hacksilver and continental coinage. It has much more of an 'Irish Sea' aspect to it resembling hoards such as the Kirk Michael 1972 hoard.⁶⁵² It is tempting to view it as a hoard of material deposited from the Irish Sea rather than as a reflection of the coinage circulating in the area around Dublin.

Hoard	Latest Group	Current Group	'Older' H/S	Foreign
Collinstown ⁶⁵³	B	5 (62%)	-	3 (38%)
Derrymore ⁶⁵⁴	B	9 (82%)	-	2 (18%)
Knockmaon ⁶⁵⁵	B	1 (8%)	2 (16%)	11 (76%)

Table 6.2 – Irish hoards deposited *c.*1000, during Group B period

In the period following the striking of Group B the coinage of Groups C to E was struck on a much smaller scale.⁶⁵⁶ This might suggest that there was no recoinage that

⁶⁴⁷ Kenny 1985.

⁶⁴⁸ Dolley 1966a, 55–6; Dolley 1973a.

⁶⁴⁹ See section 4.3.1.

⁶⁵⁰ Blackburn 2008, 127.

⁶⁵¹ Blackburn 2008, 127.

⁶⁵² Bornholdt-Collins 2003 Appendix VIII, 66-70.

⁶⁵³ Kenny 1987, 521.

⁶⁵⁴ Dolley 1966a, 58–9.

⁶⁵⁵ Dolley 1966a, 57; Jennings 1912.

went with the change of type but this is uncertain as there are no hoards that can provide a definitive answer on this point.⁶⁵⁷ The evidence from the Irish Sea hoards, such as the Glenfaba hoard, would certainly support the suggestion that coins of Group B circulated alongside those of Groups C-E. Coins of all of these groups are found well-mixed in the hoard with a larger number of Group B than other types.⁶⁵⁸ Whilst finding all of the types mixed together need not be unusual on Man it is unlikely that more of Group B would survive than other types if subsequent groups had demonetised it.

The next recoinage probably occurred with the striking of Group F, c.1020. The two hoards, summarised in Table 6.3, for which the proportions of coinage can be quantified suggest that Group F largely eradicated the earlier coinage in circulation.⁶⁵⁹ While this is a very small sample, these hoards suggest that small amounts of foreign silver continued to circulate in Ireland but the very small quantity of this suggests that it was reasonably well-policed. At an Irish Sea level, the recoinage that is probably visible in Ireland is broadly reflected in the hoards from Man.⁶⁶⁰

Hoard	Latest Group	Current Group	'Older' H/S	Foreign
Fourknocks ⁶⁶¹	F	27 (93%)	-	2 (7%)
Ballycastle (TF2) ⁶⁶²	F	x	x	x
Tonyowen ⁶⁶³	F	3 (100%)	-	-

'x' indicates the presence of coins of uncertain number

Table 6.3 – Irish hoards c.1020-40, during Group F period

Group G is perhaps the most ambiguous period for determining *renovatio*. A number of hoards survive but these are generally poorly recorded which gives only a partial picture. Dolley argued that the coins of this type did not demonetise the older

⁶⁵⁶ See sections 4.2 and 4.3.

⁶⁵⁷ Blackburn 2008, 127.

⁶⁵⁸ Bornholdt-Collins *et al.* Forthcoming.

⁶⁵⁹ Blackburn 2008, 128.

⁶⁶⁰ Blackburn 2008, 128.

⁶⁶¹ Dolley 1966a, 63–4; Dolley & Ingold 1961, 250–5.

⁶⁶² Warner 1975.

⁶⁶³ Kenny 1987, 521.

coinage of Group F which continued to be found in the hoards summarised in Table 6.4.⁶⁶⁴ It must be acknowledged that the evidence is far from optimal for this period and the hoards are all found some distance from Dublin. The evidence must be balanced between following the Ballylinan hoard, suggesting relatively effective demonetisation of Group F, and the other hoards which suggest that a fairly significant portion of Group F remained in circulation into the validity period of Group G. It is tempting to follow the evidence from Ballylinan and interpret Group G as a recoinage, and this is supported by the significant number of dies which are known to have struck coins of this type.⁶⁶⁵ The hoard also appears to be reasonably early within the Group as it contains a number of coins with only one hand on the reverse.⁶⁶⁶ If the evidence of Ballylinan, the closest hoard to Dublin, is followed then the old currency in the other hoards can be interpreted as residual and is perhaps indicative of relatively infrequent contact with Dublin in the areas where hoards were deposited.⁶⁶⁷ This is not unlikely given the distance from town and the general absence of finds from this area generally.⁶⁶⁸ In the absence of further evidence it is difficult to be certain, but it would appear that a recoinage was attempted in Group G as it had been earlier within the series.⁶⁶⁹ It may be that it was somewhat less successful or, perhaps, less complete in altering the coinage in areas distant from Dublin.

⁶⁶⁴ Dolley 1966a, 65.

⁶⁶⁵ See section 4.3.1.

⁶⁶⁶ Beauford 1787; nos. 3, 5 and 8.

⁶⁶⁷ For different areas of circulation see section 8.4.1.

⁶⁶⁸ See sections 8.4 and 8.6.1.

⁶⁶⁹ Blackburn 2008, 132–3.

Hoard	Latest Group	Current Group	'Older' H/S	Foreign
Kilkenny ⁶⁷⁰	G	x (60%?)	x (20%?)	x (20%?)
Ballylinan ⁶⁷¹	G	12 (92%?)	-	1 (8%?)
Dunbrody ⁶⁷²	G	x (70%?)	x (19%?)	x (11%?)
Baltinglass ⁶⁷³	G	x	x	-

'x' indicates the presence of coins of uncertain number

Table 6.4 – Irish hoards deposited c.1040-60, during Group G period

In the period between the end of Group G and the beginnings of Group O, it seems likely that there were no recoinages. The hoard evidence is somewhat patchy but it suggests that multiple types, of quite different imagery, circulated alongside one another. This is particularly visible in the Dunamase hoard which contained a very wide range of different types.⁶⁷⁴ That the coins of Group G were not demonetised can be seen in the Clonmacnoise hoard which contained coins of this type alongside those of the late 1060s.⁶⁷⁵ There is a possibility that there was an attempt at a recoinage at the beginning of Group L, when the weight of the coinage was raised and the iconography dramatically altered, but this was not accompanied by a demonetisation of older forms of currency.⁶⁷⁶ It may be that this was abortive or perhaps more limited in scope than a full recoinage.

The heterogeneity of groups H to N was replaced when a recoinage was enacted c.1100. Group O imposed one set of imagery upon the coinage and appears to have been accompanied by the demonetisation of older types. The Christchurch Cathedral hoard included a coin of group L alongside those of Group O but the other hoards appear to be exclusively composed of the current type. These are a contrast to other hoards, outside of Ireland, where coins of Group O are found alongside older

⁶⁷⁰ Dolley 1966a, 64.

⁶⁷¹ Dolley 1966a, 65.

⁶⁷² Dolley 1966a, 67–8; Blackburn & Seaby 1976.

⁶⁷³ Dolley 1966a, 69.

⁶⁷⁴ See Appendix F, no. 7.

⁶⁷⁵ See Appendix F, no. 3.

⁶⁷⁶ See section 6.2.

Hiberno-Scandinavian types and foreign coinage.⁶⁷⁷ The evidence is perhaps least equivocal for the coins of Group O. The hoards are less mixed during the striking of Group O than they were after any other *renovatio*. This may be due to the fact that the weight of the coinage was not increased in Group O, as it had been at the beginning of Groups B, F and G.⁶⁷⁸ This may have had the effect of encouraging the exchange of old coin types for the new as a weight reduction may have lessened or negated any minting charges.

Hoard	Latest Group	Current Group	'Older' H/S	Foreign
Christchurch Cathedral	O	6 (86%)	1 (14%)	-
Armagh Cathedral	O	3 (100%?)	-	-
Donaghery	O	33+ (100%?)	-	-
'Pre-1810'	O	13+ (100%?)	-	-

Table 6.5 – Irish hoards deposited c.1100-1110, during Group O period⁶⁷⁹

In the period after c.1110, Groups P and Q were struck but the evidence for whether the coinage was accompanied by demonetisation of earlier types is lacking. The only hoard to contain coins of Group P is Scrabo Hill. This does not contain any coins of the earlier Group O, perhaps suggesting their demonetisation, but it is very difficult to generalise from only one hoard. Similarly, the scarcity of hoards for the later period makes assessing the bracteates difficult. However, the variety of types present in the Castlelyons hoards would suggest that bracteates of different imagery could circulate alongside one another.

When attempting to discuss *renovatio* in Ireland, it is difficult to generalise as the system was not static. However, in general, it would appear that *renovatio* was not a regular element of the Hiberno-Scandinavian coinage. It does not have the appearance of the English system, as envisaged by a number of scholars, where a change of type was effected every few years and accompanied with some attempt towards

⁶⁷⁷ See 'Unprovenanced Manx Hoard 2' and 'Aosta' hoard in Appendix F.

⁶⁷⁸ See section 5.2.1.

⁶⁷⁹ See Appendix F.

demonetisation of older types.⁶⁸⁰ After the recoinage of Group B, it is likely that a number of other types (Groups C-E) were struck, and circulated alongside these older coins, until all were demonetised by Group F. In Groups F, G and O there appears to have only been one coinage struck, a demonetisation of older types and relative iconographic consistency. However, even in these periods there is some variability of imagery and also weight.⁶⁸¹ The point to emphasize would be the variability of the coinage system. It did not have a regular periodicity and certainly was far from consistent in the way in which it functioned. This is not to say that it was not effective as the recoinages, when they occurred, and the efficient exclusion of most foreign coinage suggest that a capable administration existed.

It might be tempting to compare Ireland to Norway, where a fairly episodic system of *renovatio* existed which has been connected with the changing rulers of the kingdom. Olaf Kyrre effectively replaced the coinage of his predecessor Harald Hardråde, for example. However, when Ireland is considered it is notable that the changing kingship of Dublin was not accompanied by a similar alteration of the currency. As is discussed above, the period of the 1040s and 1050s was one of political instability in Dublin with a number of kings assuming control over the town.⁶⁸² This was not accompanied by recoinages as might have been expected if either Norway or England is considered. Instead, there was consistency with Group G struck throughout the period. Similarly, the recoinages of Groups F or O are unlikely to have been prompted by a change of royal authority in the town, as these changes to the coinage were affected in periods of relative political stability. Decisions to renew coinage appear to have been taken largely divorced from changing political circumstance; new kings of Dublin did not, as a matter of course, renew its coinage.

⁶⁸⁰ Dolley & Ingold 1961; Dolley 1978; cf Brand 1984; Stewart 1990.

⁶⁸¹ See sections 5.2 and 6.1.

⁶⁸² See section 2.1.2.

In discussing *renovatio monetae*, the importance of Dublin cannot be overstated. As is discussed elsewhere, Dublin was the centre of coin-usage in Ireland and it is likely to be the only area that coinage circulated by tale.⁶⁸³ In the absence of many hoards from the town, certainty about whether recoinage occurred there cannot be achieved. However, the only hoard from within the town – Christchurch Cathedral - is composed of coins of Group O with a single interloper from Group L.⁶⁸⁴ This is a hoard which is suggestive of a *renovatio*, although it is certainly not definitive. The impression of recoinages at various points that are sketched out above from hoards from across Ireland would likely be brought far more into focus if more hoards from the vicinity of Dublin were known. The four that are known are exclusively Hiberno-Scandinavian in their composition.⁶⁸⁵ It seems quite likely that a renewal of the coinage was conducted within the town at a number of points and that this filtered out into a wider area. Beyond the authority of the town, the evidence from hoards would suggest that other coins were slightly more likely to circulate alongside the official coinage, although even then they are rare. Broadly speaking, the further the hoard is from Dublin the greater the variation from the current coin type. The impression is of an effective *renovatio* within the town but, as would be expected from examining the pattern of coin use suggested below, a more limited ability to effect change upon the circulating coinage beyond this.⁶⁸⁶

6.2.3 The exclusion of foreign coinage

The exclusion of foreign currency was an important element within the administration of an early medieval coinage. This is not to say that it was a pre-

⁶⁸³ See sections 5.4.4 and 8.4.1.

⁶⁸⁴ See Appendix F, no. 8.

⁶⁸⁵ Blackburn 2008, 117.

⁶⁸⁶ See section 8.4.1.

requisite or always necessary. The Isle of Man struck its own coinage in the eleventh century but at no point was there a determined effort to remove foreign coinage from circulation.⁶⁸⁷ However, it does appear that in Ireland there was a determined effort to try to limit the use of foreign coinage. This can be seen in the hoard record which is summarised in Table 6.6. A fairly consistent minority of foreign, largely English, coinage has been found in hoards but the overwhelming majority of coins are of local manufacture. Non-local coinage is found into the mid-eleventh century, at which point it disappears. The ratio of local to foreign silver had, to this point, also gradually declined.

Hoard	Deposition date	Hiberno-Scandinavian	Foreign	Ratio of H/S to Foreign
Dundalk	c.995	x	x	7:1
Clondalkin (no. 2)	c.995	x		33:0
Knockmaon	c.1000	x	x	3:11
Derrymore	c.1000	x	x	9:2
Collinstown	c.1000	x	x	5:3
Fourknocks	c.1030	x	x	27:2
Ballycastle (TF1)	c.1030	x	x	Uncertain
Tonyowen	c.1035	x		3:0
Kilkenny	c.1040	x	x	Uncertain
Ballylinan	c.1050	x	x	12:1
Dunbrody	c.1050	x	x	Uncertain
Baltinglass	c.1050	x		84:0
Limerick	c.1065	x		Uncertain
Clondalkin (no. 1)	c.1065	x		Uncertain
Clonmacnoise	c.1090	x		30:0
Co. Meath	c.1090	x		Uncertain
Glendalough (no. 1)	c.1095	x		6:0
Dunamase	c.1100	x		86?:0
Christchurch Cathedral	c.1110	x		7:0
Armagh Cathedral	c.1110	x		3:0
Donaghery	c.1110	x		33:0

'x' indicates the presence of coins

Table 6.6 – Summary of quantifiable Irish hoards, c.995-1110

A similar picture emerges when single-finds are considered. Figure 6.14 plots Irish single-finds by their point of origin. It suggests that from an early point in the eleventh century there was a fairly effective exclusion of foreign coinage.

⁶⁸⁷ Bornholdt-Collins 2003, 305–15, Appendix VIII.

Interestingly, this exclusion was not contemporary with the minting of Dublin's first coinage in *c.*995, it came some time afterwards.⁶⁸⁸ By the 1020s, foreign single-finds were greatly outnumbered by local coins, and are virtually absent after *c.*1030. This is a slightly different chronology to the hoards, where English coins survive as a small element within hoards until slightly later. This difference is probably attributable to differential recovery and preferential hoarding. Single-finds are generally found closer to Dublin than most hoards, where it might be expected that the monetary policies of the town would be more keenly felt.⁶⁸⁹ English coins, in small numbers, continued to circulate in the eleventh century but may be over-represented in hoards given their reputation for fine silver and high weight. This might explain why they are found alongside the lighter Hiberno-Scandinavian coins. An effort to remove foreign coinage from circulation seems to be likely from the inception of the Hiberno-Scandinavian coinage. This was achieved in the first half of the eleventh century when Dublin's coinage became established and the imagery diverged from that of England.

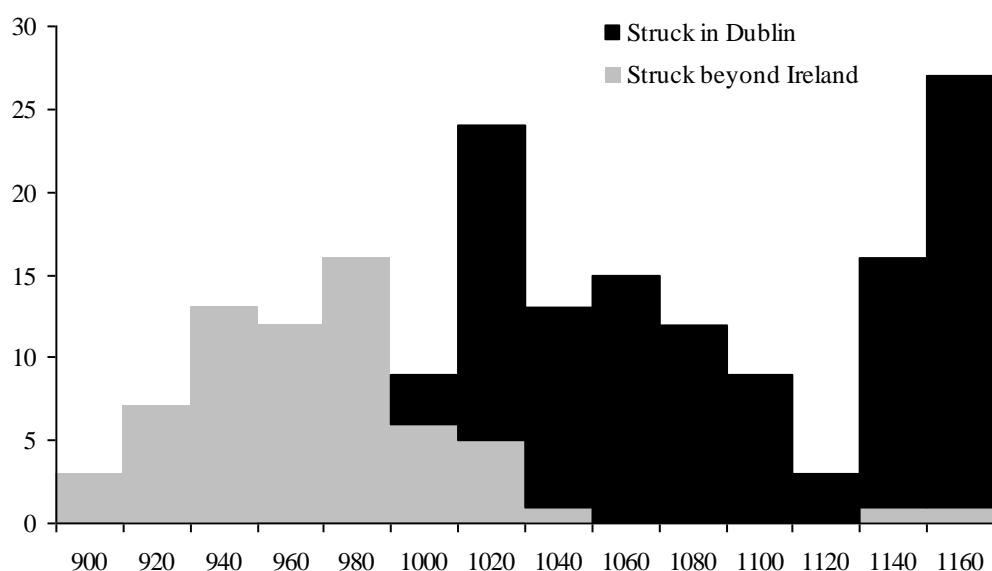


Figure 6.14 – Irish single-finds divided by place of production, *c.*900-1170

⁶⁸⁸ *cf* Blackburn 2008, 117.

⁶⁸⁹ See sections 8.3 and 8.4.

During the fluctuations of weight, imagery and recoinage in the eleventh-century Hiberno-Scandinavian coinage both the desire, and ability, to remove foreign coinage from circulation remained unchanged. In an English context, the ability to ensure no foreign currency circulated has been termed a ‘demonstration of effective royal power’.⁶⁹⁰ The removal of foreign coinage has also been interpreted in the light of royal power in Norway, seen as instigated by Harald Hardråde.⁶⁹¹ It is appropriate to extend such arguments to Ireland, where a similarly consistent exclusion of foreign coinage was achieved. On this point, Blackburn argued that this exclusion of foreign coinage required both ‘political and economic muscle’.⁶⁹² To this muscle, it is also possible to add that there must have been exceptional administrative abilities, ensuring that no foreign coinage was used in Dublin, and an effective political authority, capable of deciding upon and then accomplishing a fairly significant level of economic control.

6.3 Producing the coinage of Dublin

Drawing the threads of production together, it is clear that the Hiberno-Scandinavian coinage was subject to a degree of royal control. The fact that the coinage exists at all, underwent a number of recoinages and was subject to reasonable controls over both its weight and fineness all suggest that there was a role for political authority within its production. Similarly, the exclusion of foreign coinage would imply fairly extensive control backed by an efficient administration.

The authority behind the coinage appears to have been within Dublin. The distribution of finds that is described below suggests that the authority for producing coinage resided with the local Hiberno-Scandinavian kings of Dublin as it displays

⁶⁹⁰ Campbell 2000, 32.

⁶⁹¹ Gullbekk 1992; Skaare 1976, 106–7.

⁶⁹² Blackburn 2008, 128.

very little connection to the changing political geography of the various Irish over-kings.⁶⁹³ Furthermore, the imagery of the coinage consistently looked outwards across the Irish Sea and beyond. There is little borrowing of imagery from other art forms within Ireland itself. This can be paralleled by the alloy of the coins which appears to suggest similar standards and sources of silver for the coinages on either side of the Irish Sea. Imitative imagery of this sort was much more meaningful to those with knowledge of English coinage. The effective exclusion of foreign silver from the mid-eleventh century, but continued use of imagery beyond this, would imply that the coinage was designed with trans-national users in Dublin and the Irish Sea in mind. Whilst areas of Ireland, primarily a ‘zone of monetary activity’ described below – are clearly of importance for the town, the coinage does seem orientated far more toward an urban Dublin or Irish Sea trans-national user.⁶⁹⁴ The relatively constricted usage of coinage across much of Ireland would support such an interpretation.

Whilst coinage was likely to have been struck under the Dublin kings with primarily a local user in mind it is difficult to make the point that the coins were particularly political pieces. Mark Blackburn’s description of the Hiberno-Scandinavian series as ‘primarily an economic rather than a political coinage’ has much to recommend it.⁶⁹⁵ The coinage was not automatically renewed at the commencement of a new king’s reign and was occasionally renewed during the middle of a reign. Similarly the iconographic evidence is quite equivocal in depictions of royal authority but is much more consistent in its imitation of large-scale, successful coinages. Silver standards were maintained at an internationally-acceptable rate, which may well have been to facilitate exchange between different areas around the Irish Sea. Within such a context, it is possible to argue that the elements of the

⁶⁹³ See section 8.4.3.

⁶⁹⁴ See section 8.4.1.

⁶⁹⁵ Blackburn 2008, 123.

coinage which might otherwise be argued to form an expression of royal power, such as *renovatio monetae*, may in fact be an attempt to ‘improve’ the coinage. This would be supported by the fact they were generally accompanied by an increase in weight, in addition to an iconographic change. Recoinage may thus be taken as an economic imperative to attempt to return the coinage to a previous standard, with iconography that is deliberate in its imitation of that previous success.⁶⁹⁶ The demonetisation of the older coinage in such a scenario would be an important element as older, light-weight coins would need to be removed if the coins were to circulate by tale.

In summary, when conceptualising of the Hiberno-Scandinavian coinage it would be best to view it as a coinage of Dublin. It was probably struck for, and maintained by, the various local kings of Dublin. It was also more likely to have been produced to facilitate, and presumably gain profit from, exchange within the town than as an expression of political power. An economic reading of the coinage is very much supported by the various strands of evidence that consider its production.

⁶⁹⁶ See section 5.2.

Chapter 7 – Coinage in Dublin

The evidence from the extensive excavations across Dublin has the potential to transform the interpretation of coinage within the town. The following chapter considers the production, usage and administration of coinage in the context of these excavations. The main focus is on analysis of who was using the large number of coins that have been proposed above in chapter 4.

7.1 Identifying the Hiberno-Scandinavian mint in Dublin

It is known that coinage was produced in Dublin as the earliest coins name the town on them and subsequent types appear to follow in the same tradition.⁶⁹⁷ Amongst the illiterate types it is unlikely that any were struck beyond Dublin. While it is known that coins were struck in the town, the precise whereabouts of this activity is unknown. The following will argue that the site of much of the production of coinage is likely to have been situated at Christchurch Place (32), where there is some evidence for a Hiberno-Scandinavian ‘mint’.

Using the term ‘mint’ is slightly problematic as it gives an impression of organisation that is probably unjustified for the early medieval world.⁶⁹⁸ In England, where there is both archaeological and historical evidence for coin production, ‘mints’ have been argued to be a series of workshops run by individual moneyers. Indeed, there were specific prohibitions about multiple moneyers working in the same building.⁶⁹⁹ As a result, any attempts to identify a specific ‘mint’ are problematic. However, evidence from both York and Winchester suggests that the physical production of coinage was clustered into one area. There is evidence for up to six

⁶⁹⁷ See section 3.3.1.

⁶⁹⁸ Allen 2012, 1.

⁶⁹⁹ Allen 2012, 46.

forges being in close proximity in Winchester and at least two buildings associated with coin production at Coppergate in York.⁷⁰⁰ Whilst a ‘mint’, as either an institution or a building, may not have existed as we currently understand it, it seems likely that those responsible for the striking of coinage were in relatively close proximity to one another. The term ‘mint’ will be used as a means of convenience here. It is best understood as the area where moneyers/craftsmen worked, rather than a building or institution, in which official minting activity occurred.

The positioning of Dublin’s ‘mint’ cannot be determined through textual references as, to the best of my knowledge, the pre-Norman mint is not directly mentioned in any source material. The moneyers of the town are noted in a passage from the eleventh-century *Lebor na Cert*, where Armagh is due to receive, amongst a number of things, a ‘scruple from every moneyer’ of Dublin.⁷⁰¹ That the coiners are referred to specifically in the text would suggest that there was both more than one moneyer and that they were reasonably identifiable within the town. This would fit within broader European patterns where moneyers represented a distinctive and fairly high-status group within towns.⁷⁰² Whilst this does not mean that every moneyer was based in the same area of the town, comparison to contemporary English exemplars would suggest that this is the most likely occurrence.

Considering minting requires comparison with other areas where evidence is stronger than in Dublin. A number of mints have been investigated across England and Scandinavia in the early medieval period. York and Winchester have been investigated archaeologically, whilst equipment associated with minting has been recovered from London and Winchester is known from documentary written

⁷⁰⁰ Barlow & Biddle 1976, 420; Pirie 1986, 18–20.

⁷⁰¹ Etchingham 2010, 28–9; Ó Corráin 1997, 107–8; see section 8.2.

⁷⁰² Lopez 1953, 1–16.

sources.⁷⁰³ Comparison with these sites suggests that there is a fingerprint of a mint with three main elements; evidence of precious metal-working, specific topography and certain types of small find.

The comparative sites suggest that minting is likely to occur in proximity to the working of metals. This would be expected as forges, benches, tools and the skills for working of metals would have been common across the two practices.⁷⁰⁴ At York, the excavations at Coppergate have shown an overlap between metal-working, visible in the form of crucibles and extensive hearths, and the striking of coins.⁷⁰⁵ A similar situation is observable at Sigtuna where a furnace and forge were found in the same building as a lead trial piece which has been associated with Olof Skötkonung's mint.⁷⁰⁶ In Dublin, the site of Christchurch Place (32) has produced ample evidence for metal-working with numerous moulds, trial pieces and crucibles.⁷⁰⁷ It was described as a 'metal-working quarter' by its excavator.⁷⁰⁸

At both Sigtuna and Winchester the position of the mint was on the major route through the town where it would be expected that travelling traders, those who might be expected to use the mint most frequently, would pass.⁷⁰⁹ The site of the mint in both of these cases also lay just beyond an area of political authority. In the case of Winchester, this was just beyond the boundary of the church's lands whilst in Sigtuna it was just outside of royal land. This was manifest physically at Sigtuna where a boundary ditch divided the royal lands from the mint building.⁷¹⁰ The proposed mint site in Dublin would fit with both of these topographic features as Christchurch Place

⁷⁰³ Barlow & Biddle 1976, 396–421; Pirie 1986, 15–25; Malmer *et al.* 1991; Stott 1991; Archibald *et al.* 1995; Archibald 1991.

⁷⁰⁴ Allen 2012, 103–14.

⁷⁰⁵ Pirie 1986, 20–1.

⁷⁰⁶ Malmer *et al.* 1991.

⁷⁰⁷ Ó Ríordáin 1971; Wallace 1987a, 211.

⁷⁰⁸ Wallace 1986, 212.

⁷⁰⁹ Barlow & Biddle 1976, 420; Ros 2001, 83; Malmer *et al.* 1991.

⁷¹⁰ Malmer *et al.* 1991.

(32) is situated on the intersection between the major east-west route and one of the two major north-south roads⁷¹¹ It is also sited a short distance from modern Christchurch Cathedral. This was originally founded by Sihtric Silkenbeard in the early-eleventh century on land that may have been previously under royal authority.⁷¹² Assuming the modern roads represent the medieval streets then this may have been the edge of the royally-sponsored church's lands. Christchurch Place (32) could be interpreted in a similar way to Winchester or Sigtuna; close to an area of authority but perhaps just beyond the boundary of it.

The other piece of evidence is in the form of two small finds (E122:6143 and E122:8700) that were found in the course of excavation at Christchurch Place (32). They are two thick discs of lead that have been struck using coin dies and have subsequently been drilled through their centre. One is illustrated as Figure 7.1. E122:8700 is struck using Group F dies and is likely to be dated early within the bracket of *c.*1040-60. It has not been possible to photograph the other piece but it is struck from type H2 dies and has been identified as coming from die H2.A.⁷¹³ Assuming it was struck at the same time as the coins, it can be dated to the early 1060s.



Figure 7.1 – E122:8700, one of two lead ‘mint weights’ found at Christchurch Place in 1973.⁷¹⁴

⁷¹¹ *cf* Map 1 in Appendix E.

⁷¹² Kinsella 2000.

⁷¹³ Galster *et al.* 1975 no. 247-8.

⁷¹⁴ Image © National Museum of Ireland

Taken in isolation, interpreting the purpose of these pieces is difficult. Fortunately, Marion Archibald has worked on a similar group of objects from contemporary sites in England.⁷¹⁵ Whilst it might be tempting to describe these objects as ‘trial pieces’, related to minting, Archibald has preferred an explanation of them as customs receipts. Customs and tolls are common in medieval towns and markets.⁷¹⁶ They are also known in Ireland where a further passage from the *Lebor na Cert* listed the tax due to the ‘folk of the royal citadel’ from merchants trading in Ireland.⁷¹⁷ The lead pieces may have existed to prove that these had been paid.⁷¹⁸ Archibald argues that they must have been officially-sanctioned pieces as they are struck from genuine coin dies. There is also frequent damage, normally a deliberate nick in the edge, which is explained as ‘cancellation’ after they have been used. She also notes that the find-spot of the tokens is normally at sites of ‘mints, customs or royal tax activities, with possibly more than one of these functions being carried out in the same place’.⁷¹⁹ In many ways there are similarities to the Dublin pieces. They were struck from coin dies, used for striking normal coins, meaning their purpose must have been official. They also appear to have been ‘cancelled’ with a hole drilled through the centre suggesting a completion of their function. There are quite rough edges around this drilling with little signs of wear subsequent to this, suggesting that the hole may have been created towards the end of their period of usage. The association that has been noted in relation to royal activities is probably equally relevant in the context of Dublin. It seems likely that the pieces were officially sanctioned, connected to toll-payment and may have been lost in an administrative centre of some form. Their presence at Christchurch Place (32) in a

⁷¹⁵ Archibald 1991.

⁷¹⁶ Middleton 2005; Samson 1992, 35.

⁷¹⁷ Valante 1998b, 250.

⁷¹⁸ Archibald 1991, 333.

⁷¹⁹ Archibald 1991, 333.

cancelled form might suggest that this was where they were returned after use and would accord well with the possibility of this being a mint. At the very least this must have been an area with some form of administrative function. It is possible that they may have been on their way to be ‘re-cycled’, at the mint, into new pieces in a similar way to the Coppergate or Clifford’s Castle pieces in York.⁷²⁰

It is impossible to prove that the area around Christchurch Place (32) was the site of the mint striking Dublin’s coins but, at least for the mid-eleventh century period where the lead pieces provide good corroborative evidence, it is a possibility. Further evidence in favour of such an interpretation can be found in the fact that this area produced quite a number of coin finds in the eleventh century.⁷²¹ In the absence of finds of coin dies, or documentary evidence, it is difficult to be certain but comparison with a range of other mints suggests that this area had an official, administrative purpose with circumstantial evidence which suggests that this may have been connected to minting.

7.2 Using coinage in Dublin

The study of the use of coins within towns has been revolutionised over the past half-century as modern archaeological techniques have increased the volumes of material available to study. Where previous scholars had to infer how coinage was used from a study of hoards from beyond towns, increasingly it is possible to consider coin finds from within the urban environment itself.

Dublin, in particular, has benefited from a very large increase in the amount of material available from within the town. It is possible to trace 125 single-finds of

⁷²⁰ Archibald 1991, 333.

⁷²¹ See Figure 6.6

coins that have been archaeologically excavated.⁷²² To this number can be added three substantial hoards all of which were found in the course of investigative work in the 1990s.⁷²³ All of these coins have been found in the 50 years since the beginnings of archaeological excavations in 1961. The only previously recorded find of coins from within the town is the poorly documented Christchurch Cathedral hoard, uncovered during the redevelopment of the cathedral in the late-nineteenth century. Overall, the number of finds compares very favourably with other European cities.⁷²⁴ This does not prove anything in and of itself, as the volumes of coins depends upon areas investigated and excavation techniques, but merely highlights the potential for analysis of Dublin's assemblage.

The enormous growth in material available to study across a number of European towns has led to numerous analyses, often with quite different methods. A variety of approaches to the analysis of these coins has been attempted and it is worth briefly outlining these.

The coinage from within York was amongst the earliest to receive a full publication. Elizabeth Pirie, with a substantial section regarding the Archaeological context by Richard Hall, published a catalogue of the early medieval finds from the town in 1986.⁷²⁵ This focused upon coins from the sites, particularly Coppergate, that had been excavated by the York Archaeological Trust but also contained a systematic listing of all coins that had been found within the town previously. The volume was largely a catalogue but included important interpretative material regarding two minting buildings at Coppergate. It also demonstrated the movement of the town

⁷²² See Appendix D, table 1.

⁷²³ Blackburn 2008, 99–101.

⁷²⁴ There are more single finds from London but Dublin has a greater number than York, Winchester or Trondheim. Stott 1991; Kelleher & Leins 2008; Pirie 1986; Biddle 2012; Risvaag 2006; However, Dublin is dwarfed by the number of finds from Dorestad; Coupland 2002.

⁷²⁵ Pirie 1986.

between the ‘Anglian’ and ‘Anglo-Scandinavian’ periods. Pirie returned to the subject in 2000 where the styca coinage of the town was placed within its wider hinterland context.⁷²⁶

The comparison between the townscape and hinterland was also an approach that was employed in the analysis of coin finds from Lincoln and Lincolnshire.⁷²⁷ The relationship between the two was discussed, particularly the issue of the similarity of chronological distribution between town and rural areas. The coinage was also placed into historical context through comparison with known attacks and settlements, primarily focusing upon connections with the vikings. Work on the coinage of Lincoln has recently been taken up by ten Harkel from a multi-disciplinary angle.⁷²⁸ She has combined finds from across the town, its shire and the Kingdom of Lindsey in her analysis. Her work considers the impact of the Viking arrival upon the production and use of money. In particular, the levels of monetisation, trade/communication networks and flexibility of practice are discussed.⁷²⁹

The coinage of Winchester has also been extensively published with the pioneering urban excavations of the 1960s and 1970s being the driving force behind a series of publications on various aspects of urban life.⁷³⁰ A volume focusing upon Winchester’s coinage has recently been published with finds from the early excavations (1961-71) included.⁷³¹ The excavated coins are listed but the strength of the work is in the systematic publication of every known coin struck at the mint in the early medieval period. The approach is thus to incorporate the finds into a study of the mint more generally. Emphasis is placed upon production of coinage with less

⁷²⁶ Pirie 2000.

⁷²⁷ Blackburn *et al.* 1983.

⁷²⁸ ten Harkel 2010.

⁷²⁹ ten Harkel 2010, 123–74.

⁷³⁰ Barlow & Biddle 1976; Biddle 2012.

⁷³¹ Biddle 2012.

emphasis upon how coinage was used within the town. The coinage, or more accurately the minting, within the town is also covered from a historical perspective in an earlier volume dealing with the highly descriptive ‘Winton Domesday’.⁷³² This details the spatial distribution of people within the town with a section considering the topographical setting of minting activities.⁷³³ The use of coinage within and beyond the town is largely beyond the scope of these volumes which focus more upon mint practice itself.

The coin finds from London are very numerous with several hundred tenth- to twelfth-century single-finds recovered within the town, reflecting extensive metal-detection of spoil.⁷³⁴ This number increases substantially when hoards are also included. On the basis of an analysis of findspots, Stott was able to demonstrate that coinage mirrored other evidence in showing the re-location of the town during the ninth century.⁷³⁵ Analysis of the origins of the coins was undertaken allowing for the patterns of trade and pools of circulation to be identified. The question of when coinage became an important part of town life is discussed, with a tenth-century date suggested.⁷³⁶

Generalising somewhat, the approach adopted in Britain has been to consider the coinage of a town as a whole. This approach allows for change through time and relationships with areas outside of the town to be considered. There has, with the exception of London, been less in the way of precise spatial analysis. Where this has occurred, it has tended to focus upon the topographic development of the town.

⁷³² Barlow & Biddle 1976.

⁷³³ Barlow & Biddle 1976, 396–421.

⁷³⁴ Stott 1991; This number has increased dramatically with the use of metal-detectors on archaeological spoil, *cf* Kelleher & Leins 2008.

⁷³⁵ Stott 1991, 288–9.

⁷³⁶ Stott 1991, 304.

Approaches in Scandinavia have differed somewhat from those employed in England. This is perhaps a result of different theoretical and methodological background. Perceptions of coinage amongst some Scandinavian scholars have emphasized the small numbers of coins in circulation, even in towns, arguing for a smaller gift or elite redistributive economy.⁷³⁷ This is a marked contrast to England where the size and administrative sophistication of the Anglo-Saxon and Norman coinages is often emphasized.⁷³⁸ Greater emphasis is often placed upon the immediate archaeological contexts of individual coins within certain Scandinavian scholarship.

In Sigtuna, analysis of the coinage has been conducted by a number of scholars. The production of coinage has been traced archaeologically with the excavations of Olof Skötkonung's mint buildings.⁷³⁹ Within this brief work, Malmer also argued that the coin finds from within the town, and the number of dies used to strike the coins, indicate that they were used as a part of everyday life rather than as an element within an elite gift-economy.⁷⁴⁰ Sigtuna was also considered by Ros who placed the analysis of coins within a wider interpretation of the administration of the town.⁷⁴¹ He argued for the importance of the king within the town suggesting that Olof Skötkonung was known as the 'coin-king' or 'coin-collecting king'.⁷⁴² The most precise analysis of the use of coins was conducted by Roslund who considered where coins and weights were found in relation to public/private space. He placed the coins within their immediate archaeological contexts to propose that most economic transactions were carried out in private space, not at the street frontage of each building plot.⁷⁴³

⁷³⁷ Lunden 1999; Schia 1989; However the opposite has also been argued. Gullbekk 2005; Risvaag 2006.

⁷³⁸ For example see Loyn 1984, 118–25; Stenton 1943, 527–8.

⁷³⁹ Malmer *et al.* 1991.

⁷⁴⁰ Malmer *et al.* 1991, 48 and 58.

⁷⁴¹ Ros 2001.

⁷⁴² Ros 2001, 264.

⁷⁴³ Roslund 1995, 154–6.

Carelli has considered the questions of coin usage in Lund.⁷⁴⁴ He utilised a *longue durée* approach, necessitated by the relatively small amounts of surviving/excavated material, dividing the period 900-1513 into six periods. He concluded that the period 1157-1241 was the important one for the use of money within the townscape as can be seen from an expanded number and distribution of coins.⁷⁴⁵ He also considered the context of each find, dividing them between secular and ecclesiastical sites. He noted a change between coin finds on the two with secular sites dominating until the twelfth-century when ecclesiastical sites produce more coins.⁷⁴⁶

A similar approach has been deployed by Risvaag in Trondheim.⁷⁴⁷ This considers a long sweep of history in order to discuss coins from within the town. Risvaag is not the only scholar to have worked on the town, but his research collates the greatest amount of material and contextualises the highly significant library site within the framework of the whole town. He deploys a number of methods including the consideration of the types of finds in relation to the presumed function of the areas from which they were recovered.⁷⁴⁸ This approach allows him to argue that throughout the period he investigated (1000-1630) coinage had a role within the town but that this altered from a largely secular one in the early period to one that was increasingly connected with archiepiscopal influence from the twelfth-century onwards.⁷⁴⁹

Scholars have adopted slightly different approaches in Britain and Scandinavia but both have elements that recommend them in the current context. The more ‘micro’ and archaeological approach that is often favoured in Scandinavia will be utilised to consider the precise context of coin finds from the town. This will attempt to address

⁷⁴⁴ Carelli 2005.

⁷⁴⁵ Carelli 2005, 26–7.

⁷⁴⁶ Carelli 2005, 23.

⁷⁴⁷ Risvaag 2006.

⁷⁴⁸ Risvaag 2006, 163–83.

⁷⁴⁹ Risvaag 2006, 187.

where and, ultimately, who was using coinage in the town. However, the agglomeration of all finds – a macro approach – can also prove a useful tool. It will be utilised to address questions of chronology regarding monetisation and to allow comparison with hoards. Considering coinage from the town as a single group will also be used to consider levels of control and authority in the urban environment.

7.2.1 Coin loss and recovery

Analysis of coinage within urban areas largely relies upon material from archaeological excavations. This is certainly the case in Dublin where only the Christchurch Cathedral coin hoard is known to come from any other context. Analysis of this material relies upon comparison of absolute numbers and coin types across various sites, both spatially and chronologically. Therefore, it is important to outline some of the factors affecting the loss and recovery of coinage in order to discuss an appropriate methodology.

The causes of variation in coin assemblages between and within archaeological sites have been divided into two broad categories. The first of these has been termed by Blackburn as ‘Primary Factors’, meaning factors affecting how many coins were lost originally.⁷⁵⁰ The assumption is that single finds from urban areas represent the casual loss of a coin. This loss can have occurred at any point but it is most likely to have been when coinage was being exchanged.⁷⁵¹ The number of coins recovered will be affected by the number of coins in circulation and also the number of times that coins were exchanged. These two factors are often considered archaeologically, representing the basis of most analyses of coinage within an urban area. Comparisons

⁷⁵⁰ Blackburn 1989b, 16.

⁷⁵¹ Blackburn 1989b, 17.

through space and time attempt to model the *amount of coinage* in circulation and/or the *intensity of its usage* through consideration of the coin finds.

For this to be an acceptable approach, it requires that – broadly speaking – the other factors affecting original loss and modern recovery are equal across time and space. A number of other factors that could influence the number of coins recovered from an archaeological site are summarised in Table 7.1. The other primary factors – size of coins, floor surface and value – are unlikely to have altered significantly between sites in Dublin.⁷⁵² The size of coinage does change amongst the Hiberno-Scandinavian coins but there is no evidence to suggest that a greater number of small coins were lost.⁷⁵³ Small size, and thus ease of loss, may be offset somewhat by a greater challenge of recovery. The floor surfaces were also quite consistent across the various Dublin sites, with a layer of organic material allowed to accumulate *in situ*.⁷⁵⁴ The value of a coin underwent change but it was always worth a fairly significant amount throughout the period and would have continued to be worthy of recovery.

Primary <i>Coin Loss</i>	Secondary	
	<i>Coin Survival</i>	<i>Coin Recovery</i>
Number of Coins used Number of Transactions Size of coins Floor Surfaces Value of coinage	Metal alloy Fabric of coin Burial Conditions	Use of metal-detector Use of sieve Size of coin Colour of coin Skill of excavator Excavation technique Time for excavation Area Excavated Truncation

Table 7.1 – Summary of factors affecting the numbers and types of surviving coins from urban assemblages

There are various elements that affect recovery rates of coinage – ‘secondary factors’ – and these are probably more significant than the ‘primary factors’. They can be broken down into survival and recovery. Considering survival, coins with low-

⁷⁵² Blackburn 1989b, 17–18; Frazer & van der Touw 2010.

⁷⁵³ None of the smallest group of coins – Group M – have been recovered to date.

⁷⁵⁴ Geraghty 1996; Wallace 1992b, 24.

silver content or thin copper coinages tend to corrode partially or completely, leading to their underrepresentation.⁷⁵⁵ The small number of twelfth-century bracteates from Trondheim can be partially explained by their fragile fabric.⁷⁵⁶ This is reasonably important in the context of the Dublin assemblage as the bracteate coinage of the twelfth century is struck in alloys with only a minimal silver content.⁷⁵⁷ These coins are very fragile when they are recovered and occasionally disintegrate upon their removal from the ground.⁷⁵⁸ It seems likely that the number of bracteates is quite underrepresented. The early silver coinages are quite consistent in their alloys and thus the assemblage probably has a constant rate of survival until the early twelfth century.⁷⁵⁹

Perhaps the most important factors in determining the number of coins that are found in any given site are those connected to artefact recovery. The skills of the excavators, coupled with the visibility of the coinage itself, are important but unquantifiable in this regard. Generally, the use of sieving or metal-detection is used as a means of overcoming the inevitable overlooking of some metal finds, and large numbers of coins have been found using this technique on other sites.⁷⁶⁰ The majority of significant sites in Dublin were excavated by a fairly large group of professional archaeologists in the 1970s and 1980s but, to the best of my knowledge, there was no systematic sieving or metal-detecting on any of these sites. Certainly, some coins were overlooked as later metal-detection of the spoil turned up further coins.⁷⁶¹ In more recent times, systematic use of metal-detectors has become the norm, increasing

⁷⁵⁵ Blackburn 1989b, 16–17.

⁷⁵⁶ Christophersen 1989, 4.

⁷⁵⁷ See section 5.1.2.

⁷⁵⁸ E71:3145, a coin from High Street, disintegrated completely upon its excavation. Similarly, E132:16285, a Fishamble Street coin, was deemed so fragile that it was conserved with attached sediment.

⁷⁵⁹ See section 5.1.2.

⁷⁶⁰ Kelleher & Leins 2008.

⁷⁶¹ O'Meara 1981.

the likelihood of finding coins.⁷⁶² Perversely, the sites that have produced the most coins are also those excavated without metal-detection. This would suggest that even the large numbers of coins that are listed from the major sites are probably an underestimation of the numbers originally lost there.

The number of finds and the relatively well-preserved stratigraphic sequence allows for the pattern of coin finds to be assessed in a chronological manner. Table 7.3 lists the number of coins found in each excavation across the period. These are codified in Appendix E with a number highlighted below. The coins are listed in chronological order, with fuller references, in Table 1 of Appendix D.

The areas excavated, in terms of their topography and size, will also affect the numbers and types of coins recovered. At the simplest level, with all else being equal, the larger a site is the more coins one would expect from it. Complicating the matter somewhat is the issue of truncation. Urban excavations often display evidence of truncation by later buildings on the same site. This means that, in practice, a site with a large footprint may have only a small section of early deposits remaining *in situ*. It has been shown that a quantification of the areas excavated and volume sieved can prove useful but it is impossible to quantify the effects of truncation on the excavations in Dublin in the same way.⁷⁶³ This represents the most significant issue affecting coin numbers and requires thought regarding an appropriate methodology.

⁷⁶² *Pers. Comm.* L. Simpson

⁷⁶³ Sindbæk 2007a, 123–5; Nordeide 1990, 136–7.

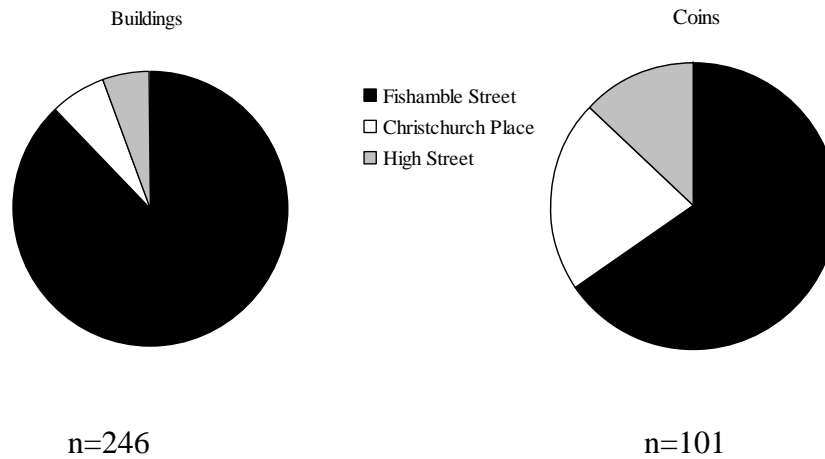


Figure 7.2 – Comparison of proportions of surviving buildings and coins from three major sites in Dublin

Given the good preservation of organic materials in Dublin and that fact that most sites have produced evidence of structures then utilising buildings as a proxy for the scale of the preservation of archaeological strata seems an appropriate course of action. This is visible in Figure 7.2 where the largest site, with the most surviving building footprints – Fishamble Street (28) – has also produced the greatest number of coins. Utilising buildings as a proxy for the survival of archaeological strata can also be useful chronologically. Fishamble Street (28) has an unbroken sequence of archaeological stratigraphy that stretches from the early tenth century into the mid-eleventh when it is largely truncated by later cellars.⁷⁶⁴ This is reflected in the number of buildings where those datable to the tenth century, 78 in total, significantly outnumber those datable to the eleventh, 47 in total. When all buildings are considered, as Figure 7.3 demonstrates, the underrepresentation of the twelfth century across the town as a whole is emphasized. This confirms the anecdotal suggestions of the excavators.⁷⁶⁵

⁷⁶⁴ Wallace 1992b, 5; Wallace 1992c, 52.

⁷⁶⁵ Wallace 1981.

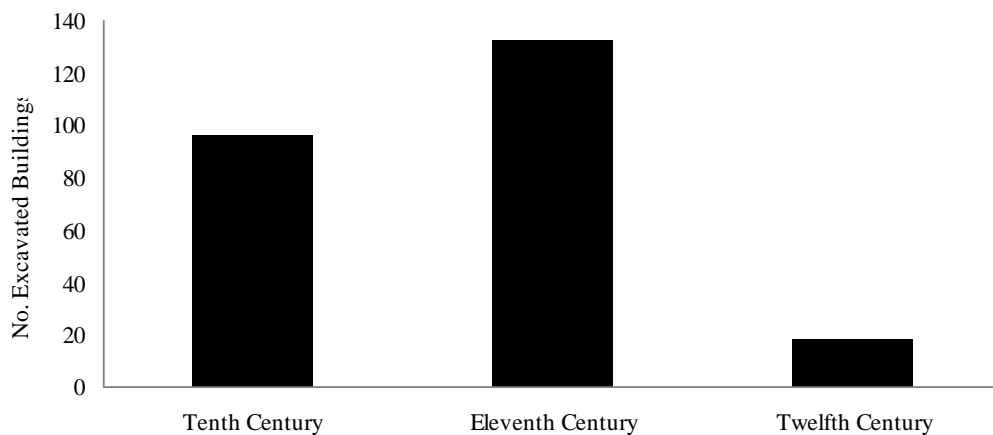


Figure 7.3 – Number of buildings excavated, arranged by century⁷⁶⁶

The following will pursue two parallel approaches. Initially, the analysis will focus upon the precise analysis of the context of finds. This will seek to question *where* coins were being used. Initially, coins will be compared with plots and buildings. This will then be broadened to consider the coinage on a site-based chronological basis. Ultimately, the whole assemblage will be considered chronologically to assess what can be learned with regard to monetisation and authority in the town. Blackburn argued that combining data from a number of sites is problematic but the Dublin data seems to be fairly consistently good with the exception of a probable underrepresentation, due to later truncation, of the twelfth century.⁷⁶⁷ Recognising this limitation, it should be possible to conduct a meaningful analysis nonetheless.

7.2.2 Coinage and building type

Coinage in the early medieval period has sometimes been viewed as a means of exchange for the upper stratum of society. This is a view that is based upon a perception that coinage had a high value and was generally only utilised within a

⁷⁶⁶ Fishamble Street (28), Christchurch Place (32), Winetavern Street (30), High Street (21) and Werburgh Street (34).

⁷⁶⁷ Blackburn 1989b, 18.

relatively small number of transactions within a highly ‘embedded’ economy.⁷⁶⁸ This is reinforced in an Irish context when legal texts are considered which relatively infrequently list coinage as an exchange good, focusing instead upon a variety of other materials.⁷⁶⁹ In chapter 4 above, it has been suggested that a large number of coins were struck in Dublin. Determining how these were used, by whom and where is the purpose of the remainder of this chapter.

Interpreting the way in which coins were used would be best served by analysing each find within its immediate context. Unfortunately, it is not currently possible to relate the Dublin coin finds back to their precise stratigraphy as post-excavation analysis is still on-going for many sites. However, as coins serve as good dating evidence, building sequences have generally been published with associated coin data.⁷⁷⁰ The coin-dated building sequences allow for a picture of which buildings, or more accurately which building plots, have produced coins to be built up. Coins can be confidently associated with 20 from a total of 121 building plots which have been published from High Street (21 and 24), Winetavern Street (30), Fishamble Street (28), Christchurch Place (32) and Werburgh Street (34).⁷⁷¹ These are summarised in Table 2 of Appendix D with the size, Wallace building type and associated coin finds listed.⁷⁷² As the table shows the material is dominated by the very large open area excavations at Fishamble Street (28). There are, however, smaller assemblages from other sites in the town that conform to similar patterns.

Coinage is a relatively rare find from across the various buildings with only around 17% of building plots being positively associated with coin finds. This is quite possibly connected with detection methods as small objects - such as coins - can be

⁷⁶⁸ Hodges 1982, 104–17; Nordeide 1990, 146; *cf* Naismith 2012a, 259–67.

⁷⁶⁹ See section 8.2.

⁷⁷⁰ Wallace 1992c, 52; Murray 1983.

⁷⁷¹ Murray 1983; Wallace 1992b; Wallace 1992c.

⁷⁷² Wallace 1992b, 9–17.

easily missed during archaeological investigation. It seems likely that coinage is, generally speaking, under-represented amongst the finds and that the recovered material is only a sample of that which survived. It should however be a reasonably random sample as there is little to suggest that recovery circumstance, other than in the instances outlined above, varied markedly between sites. It will be assumed, in line with the discussion above, that the coinage represents a reasonably consistent sample, but certainly not all, of the surviving material across the various excavations.

The buildings from Dublin have been divided into five categories on morphological grounds and it is assumed that each category of building had a somewhat different function.⁷⁷³ Work in Sigtuna has shown that coinage was more strongly associated with certain types of buildings, generally those some distance from the street frontage.⁷⁷⁴ It is possible to investigate the coinage of Dublin to determine whether it is more associated with any particular type of building. Table 7.2 plots the types of buildings that are found on plots from across Dublin in comparison to those where coins were found. It is impossible to be certain whether the coins are found within the buildings or not, they can generally only be connected to the plot. However, it is likely that material lost within the plot was connected to those who inhabited the building on it and thus can be informative about the type of people who were using coinage. In several cases a number of buildings are associated with one plot at a specific phase, where this is the case the largest building has been taken as the 'main' dwelling. This means that 'Type 1' buildings are possibly a little over-represented but this affects only two of the results and can be largely disregarded.

⁷⁷³ Wallace 1992b, 7–17; Boyd 2009, 273.

⁷⁷⁴ Roslund 1995.

	Buildings without Coins	Buildings with Coins
Type 1	77	17
Type 2	9	1
Type 3	4	2
Type 5	5	0

Table 7.2 – Buildings divided according to Wallace type

Table 7.2 shows the dominance of Type 1 buildings across all of the sites in question. This is a dominance that is reflected in almost every other site that has been excavated in Dublin. However, few of these were large enough to produce a series of whole buildings and thus they have been omitted.⁷⁷⁵ The coin finds closely reflect the general pattern of buildings across the town. ‘Type 1’, the typical dwelling, is the most common one associated with coinage with far smaller proportions of all of the other types. The only difference is the slight over-representation of ‘Type 3’ and absence of ‘Type 5’ buildings but both of these are in such small quantities that this can be explained away as statistical anomalies.

The similarity between plots with coins and those without would seem to suggest that coinage was not more likely to be found in association with any particular sort of building.⁷⁷⁶ It seems to be recovered in a reasonably consistent manner from across all of the building types represented in Dublin. This is potentially significant as the various functions and users tentatively suggested by Wallace for each type do not appear to be reflected in coin finds.⁷⁷⁷ If this suggestion of differing function and potentially users is correct, the fact that coins are found in association with a similar range of buildings would suggest that coinage was not necessarily restricted to certain people or connected to certain functions.

⁷⁷⁵ Excavations at Temple Bar West (37), Castle Street (40) and within Dublin Castle (43) have all produced evidence of buildings. However these are not yet fully published and are omitted. The numerous small excavations from across the rest of the town are likewise omitted as they are seldom large enough to produce a series of intact house footprints.

⁷⁷⁶ The suggestion that coins are associated with a building type has a χ^2 value of 2.53 where $p > 0.45$, meaning there is no statistical correlation.

⁷⁷⁷ Wallace 1992b, 7–17.

7.2.3 Coinage and building size

The excellent preservation of buildings from Dublin has allowed the size of the various types of buildings to be reconstructed. The average length (7.52m), width (5.30m) and internal area (39.77m²) of ‘Type 1’ buildings are often cited but these actually disguise a degree of variability.⁷⁷⁸ At Fishamble Street, the largest ‘Type 1’ building, FS 97, has 67.84m² of floor space which is three times that of the smallest, FS 14, at 19.22m².⁷⁷⁹ Anthropological parallels would suggest that building size can relate to material wealth with a larger building representing both a greater investment of resources and a symbol of status.⁷⁸⁰ That this was the case in Dublin might be suggested by the positioning, on multi-building plots, of the largest buildings towards the street front with the smaller, ancillary buildings behind.⁷⁸¹ That being said, the general similarity of housing form might suggest that social stratification was not very pronounced. Perhaps it is best thought of as a degree of differentiation within a generally ‘flat’ society.

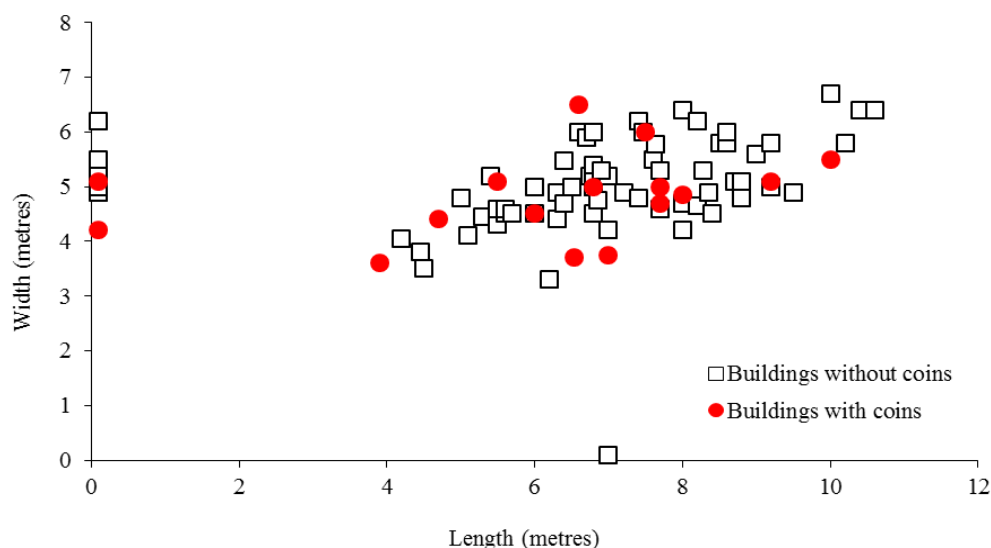


Figure 7.4 – A comparison of the dimensions of buildings with and without coins

⁷⁷⁸ Wallace 1992b, 10.

⁷⁷⁹ Wallace 1992c, 56.

⁷⁸⁰ Wilk 1983.

⁷⁸¹ Wallace 1992c, 29–41.

If coinage was concentrated in the hands of the elite then it might be expected that the larger buildings in Dublin would also be those that most coinage derives from. Figure 7.4 plots a comparison of the dimensions of buildings with and without coinage. Only 'Type 1' houses are plotted as there are too few other buildings to create a usable analysis. The comparison would suggest that coinage was as likely to occur on plots where there the main building is small as those where it is large. The mean dimensions of a 'Type 1' building with associated coin finds is 6.94m in length and 4.81m in width. This is slightly smaller than the mean for all 'Type 1' buildings (7.23 x 5.02m) but is within 5%. This would suggest that there is no particular house size that coinage is more likely to be found within.⁷⁸² Larger houses are no more likely to produce coinage than their smaller neighbours.

The interpretation of this distribution is much the same as the association of building type with coinage. It appears that a random sample of town dwellers lost coinage on their plot to be recovered by archaeologists in modern times. It also suggests that coinage was not confined to only the wealthy, as represented by their larger houses, living in these areas. It can be argued that very large numbers of coins were struck in the town.⁷⁸³ Furthermore, it is certain that the recovered coins represent only a small sample of those that were originally used as their generally high value would make their recovery of some importance even when they were dropped.⁷⁸⁴ Given these facts and that coins are found in a fairly well distributed sample of buildings then it would seem likely that coins were used by those in a majority, if not all, of the plots. If the buildings excavated in the central area of Dublin are typical

⁷⁸² Comparing building length and presence of coinage produces a χ^2 value of 5.64, when length is grouped into metre categories. This equates to $p > 0.48$. The low values of some of the categories suggest that this is not an entirely valid technique as some values produced an expected value below 1. However, even when the categories were changed to larger two metre groupings there was still found to be no relationship between house size and the presence of coinage.

⁷⁸³ See chapter 4.

⁷⁸⁴ See section 8.2.

then it can be argued that the use of coinage was probably familiar to all within the town. This is not to say that they were necessarily using it on a daily basis but the likelihood is that they used it at some point for some range of transactions. A minimal reading of the coin evidence, where its high value and extremely limited usage is stressed, is not supported by the evidence from Dublin. It is difficult to envisage whomever lived in CP 253/1, a building measuring only 5.5 x 5.1m, as part of any exclusive coin-using 'elite'. Coinage, within Dublin at least, was not used only by the upper stratum of urban society but quite possibly by everyone.

7.3 Chronological developments in coin usage

Widening the analysis to a town and site level, it can be stated that a significant number of coins have survived from a number of excavations across Dublin. Eleven separate sites have produced coins although this is only a minority of the total that have been excavated.⁷⁸⁵ The fact that a substantial number of sites have produced no coinage need not be deemed too significant as many sites were outside of areas associated with intensive pre-Norman settlement or were small rescue excavations. Most coin finds are concentrated in the three large excavations at High Street (21), Christchurch Place (32) and Fishamble Street (28), as is visible in Table 7.3. These three excavations account for over 80% of all single-finds from within the town. There are three hoards – two from Castle Street (41) and another from Werburgh Street (34) – from excavations in addition to a further antiquarian hoard from Christchurch Cathedral (in the vicinity of 31).

⁷⁸⁵ See Map 3 in Appendix E.

No.	Site	Square	C9th	C10th	Early C11th	Late C11th	C12th	Total
24		1962-3					1	1
		1		3				3
21	High Street	2					1	1
		3					17	17
		4	1		3		3	7
		1		4	9	6	2	21
32	Christchurch Place	2			11	5	5	21
		uncertain			2*	2	1	3
		1				1		1
30	Winetavern Street	2				4		4
		5					3	3
		FS I		1		4	2	7
28	Fishamble Street	FS II		8	8			16
		FS III		5	1	1		7
37	Temple Bar West			1				1
34	Werburgh St			2				2
27	Wood Quay			2			2	4
47	Bride Street					1		1
26	Winetavern Street						1	1
15	Back Lane						1	1
25	Patrick Street	B					2	2
		C					1	1
	All Sites		1	26	32	24	42	125

Table 7.3 – Breakdown of single finds by excavation

The number of finds and the relatively well-preserved stratigraphic sequence allows for the pattern of coin finds to be assessed in a chronological manner. Table 7.3 lists the number of coins found in each excavation across the period. These are codified in Appendix E with a number highlighted below. The coins are listed in chronological order, with fuller references, in Table 1 of Appendix D.

7.3.1 Coinage in the tenth century

The pattern of coin finds in the tenth century – illustrated as Figure 7.5 – is centred around Fishamble Street (28), on the river Liffey. These are finds spread over a number of the plots with only one plot associated with more than one coin. There are also a number of coins to the south, on the slightly higher ground, at Christchurch

Place (32). The smaller number of coins at Christchurch Place (32) might be explained in chronological terms as it appears the site was only occupied from the mid-tenth century. The Athelstan coins from Fishamble Street (28) suggest that the site was utilising coinage from the early part of the tenth century onwards. Even allowing for the chronological difference between the two sites it seems likely that Fishamble Street was of greater economic importance in the tenth century. There are a small number of coins further to the south and west at High Street. These coins are of interest as they suggest that the western area of the town may have been settled earlier than is often assumed or that the coins were lost along a route-way to the west of the tenth-century town.

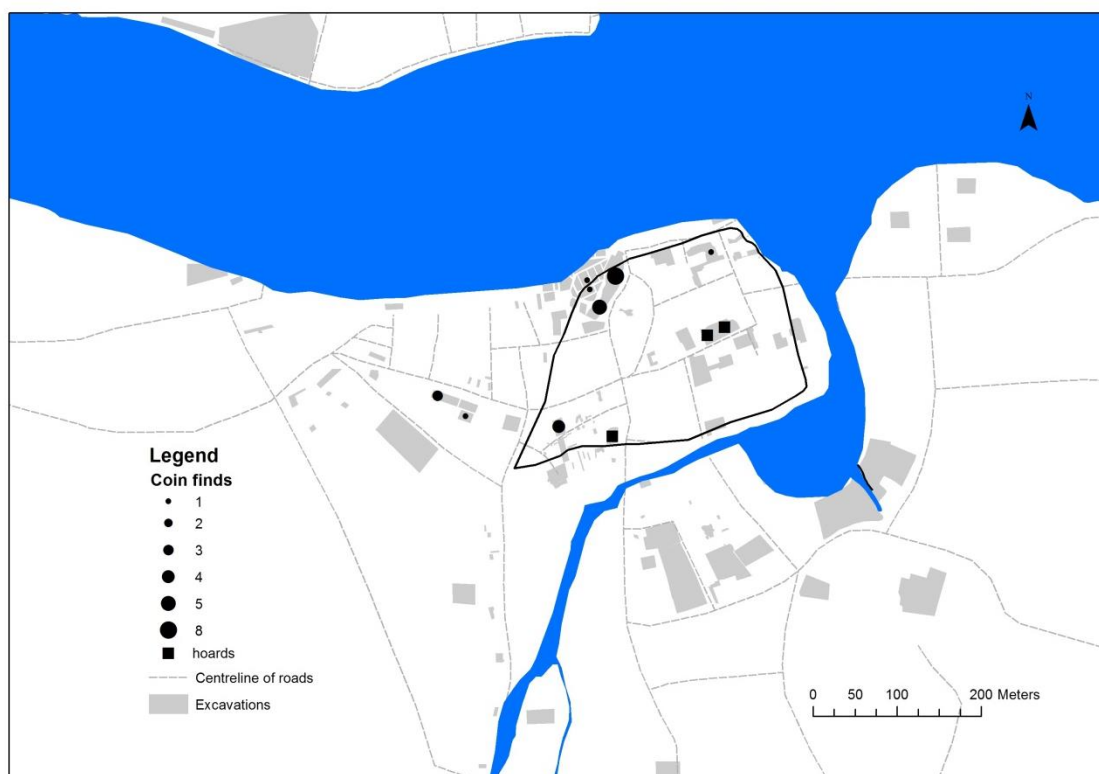


Figure 7.5 – Distribution of tenth-century coin finds

The presence of the three hoards within the town is of some interest as much for their composition as for their location. The three hoards are all of broadly comparable date, in the range *c.*985-*c.*995, and are reasonably uniform in the types and mints of

the coins that they contain.⁷⁸⁶ Some of the variation between the hoards can be explained through small groups of coins remaining together from the mint.⁷⁸⁷ The consistency of the hoards might suggest that there was something of a common pool of currency within the town.⁷⁸⁸ Such a suggestion would be broadly supported by the analysis of hoards from outside of the town where, again, a consistency of currency is emphasized.⁷⁸⁹ In the absence of later hoards from the town it is difficult to be certain that this continued to be the case beyond the tenth century but it seems likely, especially given the increasingly common usage of coinage in the town. It is significant as it suggests that, from a relatively early date, coinage was circulating within, rather than merely passing through, Dublin.

7.3.2 Coinage in the eleventh century

As Figure 7.6 demonstrates, the eleventh century saw elements of continuity with the tenth. The area from Fishamble Street (28) in the north to Christchurch Place (32) in the south, including Winetavern Street (30), boasts the greatest concentration of finds. The relative absence of finds to either the east or the west of this can perhaps be deemed significant as both of these areas have been reasonably extensively excavated. The absence of coinage in the eastern area of the town, where there was evidence of coinage in the tenth-century, and the west, where there is evidence in the twelfth, suggests that the pattern is a genuine one rather than merely a product of the positioning of areas of archaeological investigation.

⁷⁸⁶ Blackburn 2008, 121.

⁷⁸⁷ Blackburn 2008, 122.

⁷⁸⁸ Blackburn 2008, 122.

⁷⁸⁹ Bornholdt-Collins 2003, 265–74.

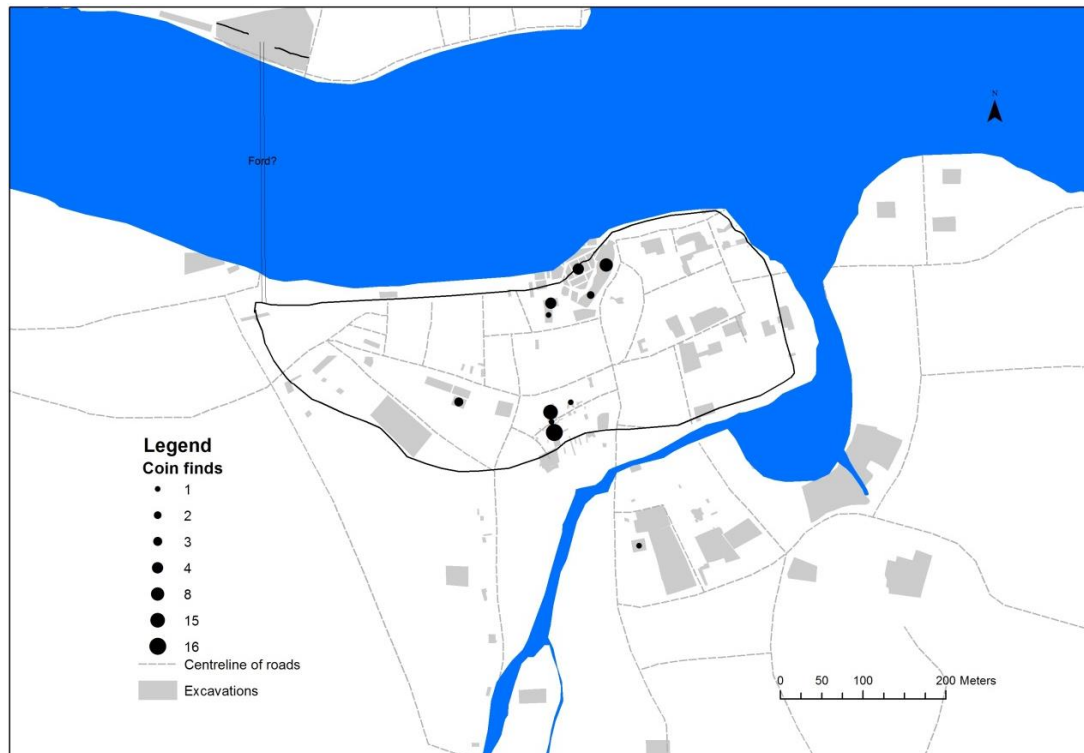


Figure 7.6 – Distribution of eleventh-century coin finds

However, continuity should not be stressed too much as within this central area, Christchurch Place (32) emerges as the most significant site for coinage. Whilst Fishamble Street (28) had truncated late-eleventh century layers the early part of the century was present and well excavated on both sites. In the period 1000-1060, Christchurch Place (32) has 17 coins to Fishamble Street's (28) 9 which is a reversal of the situation in the tenth century when finds from Fishamble Street (28) outnumbered Christchurch Place (32) by 14 to 5. It appears that the most intensive use of coin had shifted somewhat further to the south.

This shift is also mirrored somewhat in the variation of coin types between different sites. There is a slightly greater proportion of foreign silver at Fishamble Street (28) which might suggest that it was more closely aligned with international trade than other areas of the town. Such an interpretation would also be endorsed by its tenth-century assemblage of Anglo-Saxon silver which is the largest from across the town. The difference in assemblage may be explained by the topography of the

two sites. Fishamble Street (28) is sited very close to the Liffey whilst Christchurch Place (32) is further from the river and uphill somewhat. Both topography and coin assemblages might suggest that Fishamble Street was engaged more in international trade whilst Christchurch Place was perhaps a more general, or better regulated, area of exchange in the heart of the town. However, this point rests upon a very small number of coins and this interpretation is far from certain.

It should be noted that the eleventh century also saw the first coin find from outside the later walls where a single coin (no. 63) was lost at Bride Street. This is significant as it suggests that there was settlement beyond the area traditionally thought of as the Hiberno-Scandinavian town. Such an interpretation would agree with an increasing body of evidence for settlement in ‘suburbs’ to the north and south of the later walled town.

7.3.3 Coinage in the twelfth century

The twelfth century, visible on Figure 7.7, saw an expansion of the areas where coins are found with late bracteate coins (Group Q) occurring some distance to the north, west and south of most other coin finds. Coins at Winetavern Street (26) and Patrick Street (25) were found in residual layers behind Anglo-Norman river revetments. The Patrick Street (26) coins were found some way to the south of the walled town. It is unknown where the revetting material was drawn from but if it was taken from the immediate vicinity then it might suggest that there was a coin-using community that lived along the Poddle waterway to the south of the town.

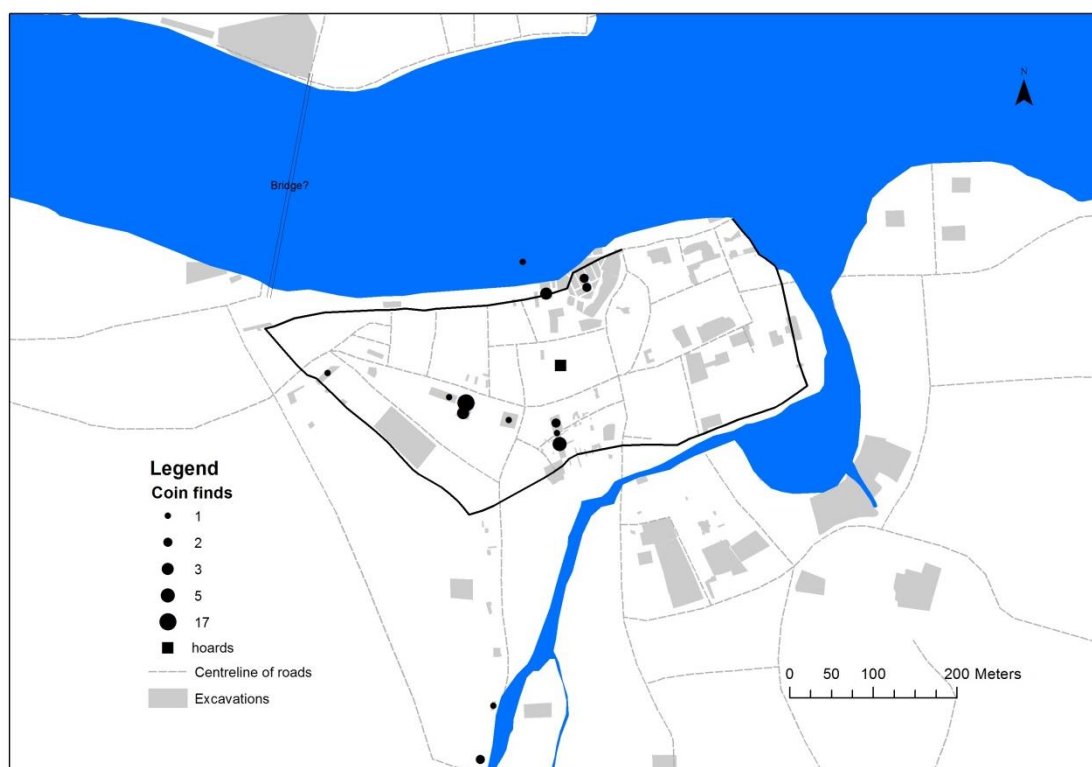


Figure 7.7 – Distribution of twelfth-century coin finds

In the heart of the town, the distribution of coin finds shows one significant change between the eleventh and twelfth centuries. High Street (21) emerges as the most significant site for the loss of coinage. Taken at face value, this is perhaps somewhat misleading as the 8 finds from Christchurch Place (32) suggest that it remained significant. Moreover, very few of the intact buildings at Christchurch Place (32) can be dated to the twelfth-century: these layers were significantly truncated in square 1 at Christchurch Place (32) and this is reflected in the concentration of coin finds in square 2.⁷⁹⁰ Similarly, the relatively small number of finds from Fishamble Street (28) is probably more connected to the site's truncation than it is to an absence of finds. That there are finds at all from the heavily truncated twelfth-century layers at Christchurch Place (32) and Fishamble Street (28) suggests that coinage was still important in these areas. However, it must be acknowledged that the number of coins from High Street (21) suggests its importance. It seems likely that the area in which

⁷⁹⁰ Murray 1983, 204.

coins were used within the town expanded somewhat from a north-south axis in the eleventh century, from Fishamble Street to Christchurch Place and somewhat further to the west during the course of the twelfth century. This move would mirror the gradual expansion of the town from east to west.

7.4 Considering coinage

7.4.1 Coins and markets

The changing position of coin finds within the town suggests that a significant majority of coins were used within a relatively defined space within the town. This area may have originally been that by the river at Fishamble Street (28), expanding south and uphill towards Christchurch Place (32) in the eleventh century and westwards in the twelfth. This process is summarised in Figure 7.8.

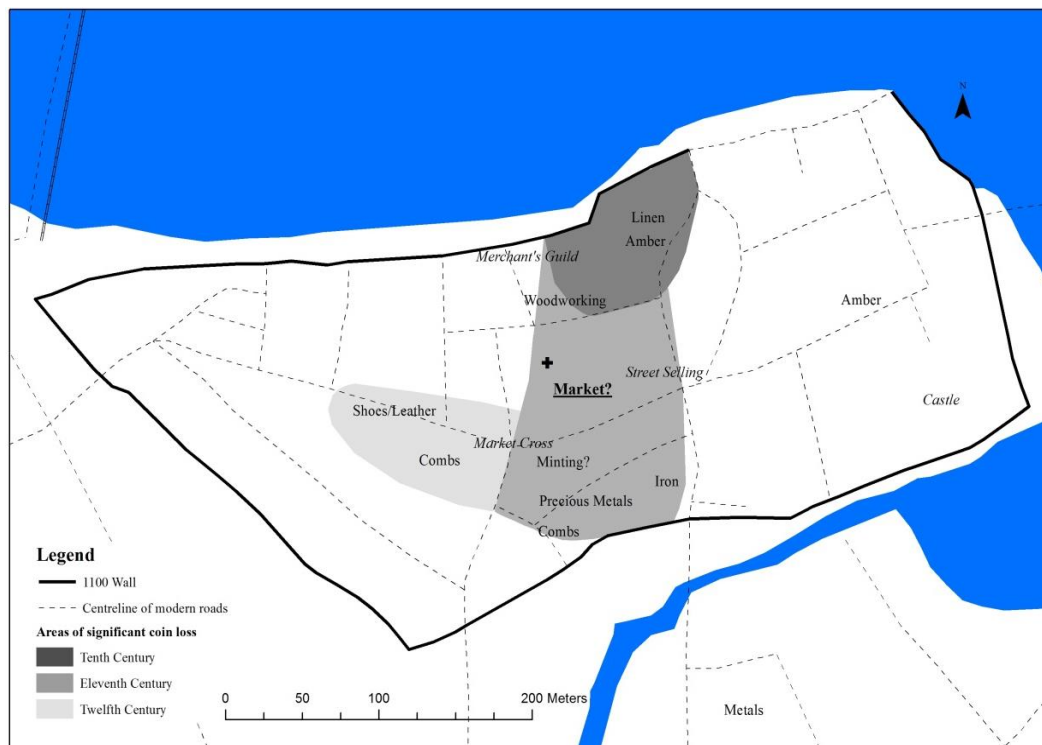


Figure 7.8 – Comparison of areas of coin usage and known economic activity

A concentration of single finds in these areas suggests either that they had a greater number of coins or, perhaps more plausibly, that these were the areas where more transactions were carried out. Similar patterns of find distribution are visible in York and Trondheim. In each a central area, with intensive coin loss, is detectable. At York, the area in and around Coppergate has produced a concentration of finds.⁷⁹¹ A central, coin-using area is also present at Trondheim where it is centred on a street formerly known as *Kaupmannastratet* (the ‘Merchant Street’).⁷⁹² The Trondheim parallel would suggest that the coin finds in Dublin are likely to be related to mercantile activity. This would accord with topographic evidence from the area around modern day Christchurch Cathedral. This was an area which had street-selling in the Anglo-Norman period, was the site of a medieval market cross and may have been the site of the eleventh-century mint.⁷⁹³ While all of this evidence is circumstantial, it does raise the possibility that this may have been the site of a formal marketplace in the early medieval period. Even if this suggestion is not accepted, the volume of coin finds from within the walled town suggest that trade occurred readily and frequently at the heart of the town, not only at an occasional market beyond its walls.

⁷⁹¹ Coins from this central area are known during the eleventh century from Coppergate, Jubbergate, Bishophill Senior, Skeldergate, Clifford’s tower and possibly the uncertain find from the ‘River Ouse’. Pirie 1986, with additions.

⁷⁹² Risvaag & Christophersen 2004, 76.

⁷⁹³ Clarke 2002, 8; Crawford 1911.

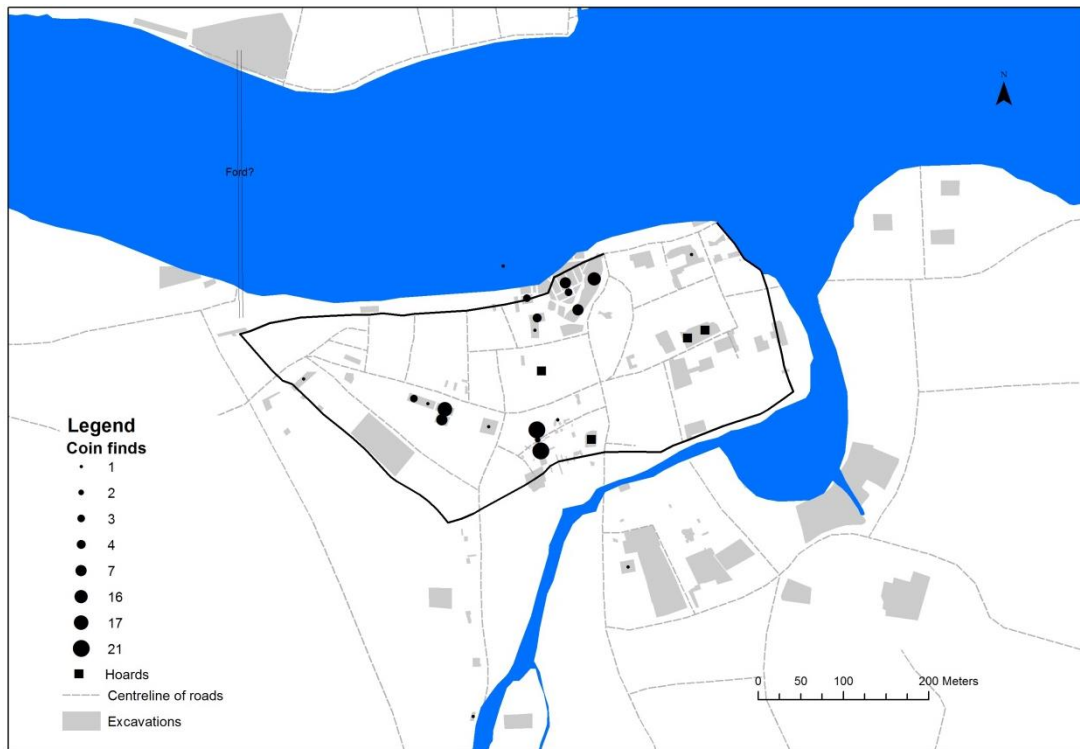


Figure 7.9 – Map of all coin finds from Dublin, 900-1170

Whilst there is a concentration of coin finds in the centre of the town, small numbers are found across most of the occupied area of Dublin, as is visible in Figure 7.9. Isolated finds at Back Lane (16), Temple Bar West (37), Castle Street (41) and Bride Street (47) all suggest that coinage was present across most of the area of the town. A distribution of this sort – generally widespread with a large central concentration – would suggest that coinage was known to those in most areas of the town but that its intense usage was largely confined to a commercial core. This is a point which is emphasized by the Castle Street hoards. These were deposited outside of this commercial core, implying that coinage was known and used by those who lived there. However the Castle Street Excavations (40 and 41) have an absence of single finds suggesting that coinage was not exchanged in the same volumes in this area. Similarly, in both York and Trondheim small numbers of coins are found across the breadth of the settlement but nothing to match the intensity of finds from the

central area.⁷⁹⁴ In each case, it would appear that the town had a relatively clearly defined centre. In this area, exchange using coinage occurred on a much more significant scale than was present across the rest of the town. Overall, whilst relatively small numbers of coins have been found in Dublin, it can be reasonably confidently asserted that many millions of coins were struck in the town and that this quite probably occurred in the area that could be deemed to be the coin-using, commercial core of the town. The evidence of the coinage would suggest that commerce was, both literally and figuratively, at the heart of the town.

7.4.2 Coinage and craft

When the evidence for the economy of the town and the coin finds are compared, as described in section 2.2 above and summarised as Figure 7.8, it must be noted that a strong connection between craft and coinage existed. The tenth-century production of flax and amber at Fishamble Street (27) is matched by a concentration of coin finds in this area. Similarly, the ‘metal-working quarter’ suggested for the area around Christchurch Place (32) in the eleventh century is matched by a large number of coin finds. It is most clearly demonstrated at High Street (21), an area of concentrated leather-working in the twelfth century, from which large numbers of bracteates have emerged. Wherever evidence has been found for significant production within the town, coin finds have matched this.

When Dublin is compared to York and Trondheim, similar patterns emerge. In York, a number of craft activities have been identified, with most centred upon a central area where coin finds are most common. A wider settlement is known as pottery finds, and ‘domestic’ crafts such as spinning and bone working, show that the

⁷⁹⁴ At York, single finds are known from areas quite distant from the centre of the town. These are finds from St. Mary’s abbey, Monk bar mount, Fishergate and Clementhrope: Pirie 1986, with additions. Risvaag 2006, 165–8.

settlement extended far beyond this productive core.⁷⁹⁵ In Trondheim, the period where coin finds are most pronounced (phases 1-4 on the library site, c.1030-1150) is also the period where craft activities such as leather and metal working are the most common.⁷⁹⁶ In each of these urban environments, craft activity overlapped with the use of coinage. In this context, coinage should probably be interpreted as a means of facilitating the exchange of commodities, manufactured by craft specialists, produced within the town. Coinage was not simply a medium of exchange for long-distance trade but facilitated the exchange of locally-produced craft items.

It is also notable that coinage was used in the exchange of relatively low-status materials including worked leather and wood.⁷⁹⁷ It is unlikely that these would have been particularly valuable, certainly in comparison to crafts such as precious metal working, but it appears that they were bought and sold nonetheless. This would suggest that there existed a market for almost all goods within the town. Dublin should not be envisaged as a high status emporium of exotic goods but somewhere in which the staples of everyday life were bought and sold.

This also raises an important point about commodity exchange. The exchange of bulky commodities, including foodstuffs, has been seen as an important element within the early medieval economy.⁷⁹⁸ Evidence from Dublin for exchange of this type is sparse as it is almost archaeologically invisible. There is a textual reference to the international supply of foodstuffs from Dublin and it is known there was a trade in skins.⁷⁹⁹ The fact that Dublin had a market for fairly low-value objects such as shoes or wood might suggest that it is possible that slaves, skins and food would have been exchanged in a similar manner. This is, of course, impossible to prove. However, the

⁷⁹⁵ Pirie 1986; Mainman & Rogers 2004, 462–3, 471, 475.

⁷⁹⁶ Nordeide 1990.

⁷⁹⁷ Comber 2008, 76, 108.

⁷⁹⁸ See chapter 1.

⁷⁹⁹ Harris 2003, 13–16; Taylor 1912, 21–3, 44, 65; O'Meara 1982, 35.

animal bone assemblage from Dublin suggests specific management of cattle resources and the economic exploitation of animals used elsewhere as pets.⁸⁰⁰ Similarly, the eleventh-century boom in slave-raiding matches the chronology of the expansion of Dublin and coin usage.⁸⁰¹ The coin finds certainly suggest that specialised production played an important role in the economy of Dublin. They also suggest that if leather and wood can be taken as a proxy for other bulkier commodities, then these may also have been significant, if largely archaeologically-invisible, for the town's economy.

7.4.3 The 'monetisation' of the town

The question of monetisation – by whom and how often coins were used – has been an important one within numismatic scholarship.⁸⁰² The question of when people began to use coinage is as valid in Ireland, which had no history of coin-use before the early medieval period. The *longue durée* approach utilised in Scandinavia is useful but is beyond the scope of the current study. It would also be impossible in the Anglo-Norman and later periods as coins are often far more poorly preserved and published. However, considering the coin finds in a chronological manner, as a means of considering the intensity of their usage, can be a useful means of analysis.

Figure 7.10 presents the number of coins found from all sites across the town, divided into centuries. It shows that there was a major increase in coin loss in the eleventh century: 50 coins were lost in this period which can be compared to 26 in the previous hundred years. The twelfth century is represented by a small decline to 42 coins lost. A more detailed breakdown of these figures is provided in Figure 7.11.

⁸⁰⁰ Wallace 1987a, 203.

⁸⁰¹ *cf* Holm 1986.

⁸⁰² In a Norwegian context: Gullbekk 2011a; Gullbekk 1998; Gullbekk 2005; Lunden 1999.

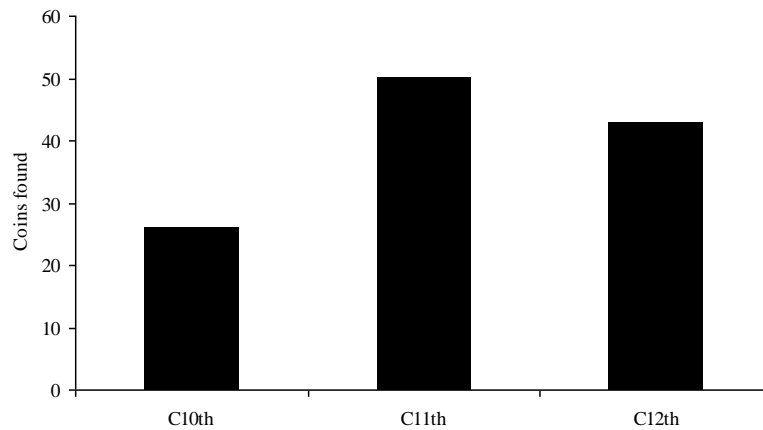


Figure 7.10 – Single-finds from Dublin excavations, arranged by century struck

At a simplistic level the figures would seem to suggest that coin use became more prevalent in the town during the late tenth and into the eleventh century, abating somewhat in the twelfth. Taking the first of these points, this would accord with the evidence from hoards which suggests that coinage became a more regular means of exchange, appearing to largely replace other forms of silver, during the course of the tenth century.⁸⁰³ Figure 7.11 shows that coinage struck from the 920s onwards was lost quite consistently in Dublin. The very early coin of Alfred might suggest this occurred even earlier but at a low, almost archaeologically invisible, level.⁸⁰⁴ The single find evidence would suggest that some Dubliners embraced a mixed silver, and ultimately coin-using, economy probably from *c.*920 onwards. It is impossible to be certain about the relationship of coinage to other forms of silver, in advance of their full publication, but it seems likely that Dublin broadly paralleled the situation in other areas of Ireland which continued to utilise mixed silver means of exchange into the latter half of the tenth century.⁸⁰⁵ This would certainly be suggested by finds of

⁸⁰³ Blackburn 2007b, 128.

⁸⁰⁴ No. 1 in Appendix D.

⁸⁰⁵ Blackburn 2007b, 129–30; Bornholdt-Collins 2010; see section 5.4.

weights which can be found in contexts through until the early eleventh century at Fishamble Street (27).⁸⁰⁶

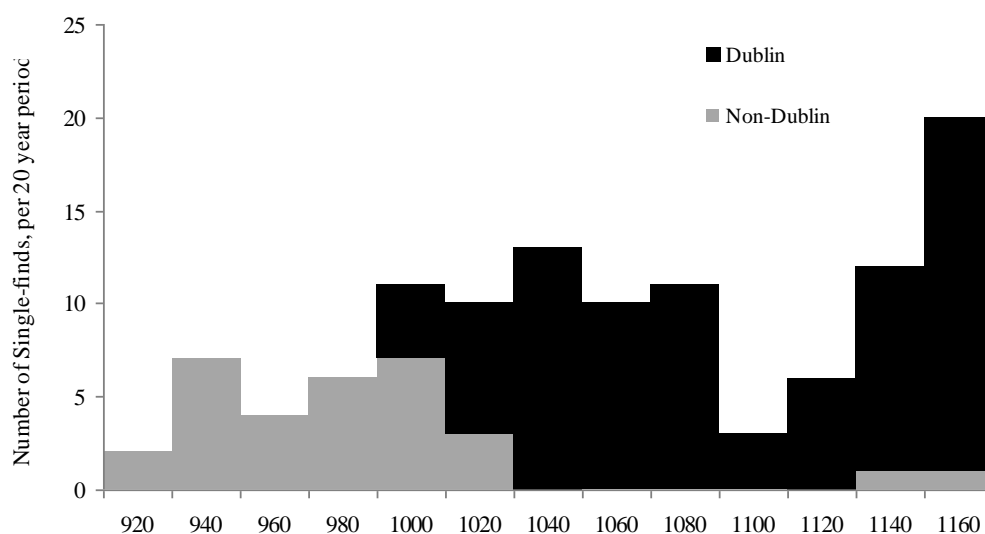


Figure 7.11 – Single-finds from Dublin

The apparent growth in coin use/loss in eleventh-century Dublin and subsequent slight decline in the twelfth is somewhat more difficult to interpret. This is because of the concentration of excavated layers that can be dated into the eleventh century. As discussed above, a proxy to demonstrate this fact is the number of buildings that have been excavated. There is a similar pattern in the numbers of excavated buildings when compared to the numbers of surviving coins, as is visible when Figure 7.3 is compared with Figure 7.10. This cautions against reading too much into the increase in coin numbers between the tenth and eleventh centuries. However, that the number recovered doubles between the periods and that there are consistently more finds when divided into shorter periods, as Figure 7.11 demonstrates, would suggest that the pattern is probably a genuine one. Further evidence in favour of such an interpretation would be the decision to begin to strike coins in the late-tenth century.

⁸⁰⁶ Wallace 2013, 305.

This may have been taken in an environment which was increasingly comfortable with the use of coinage.

The decline in coin finds in the twelfth-century is probably to a large extent illusory. Firstly, due to accessibility of materials, it has not been possible to quantify the number of early Anglo-Norman coins found in excavations so effectively the 'twelfth century' represents the period AD 1100-1170. There is also a skewing of evidence due to recovery circumstance rather than to an actual decline in the usage of coinage. Figure 7.3 shows that far less material has been excavated from the twelfth century. The number of coins declines to 75% of the eleventh century number but the decline in the number of buildings is far more pronounced with a drop to only 14% of eleventh-century levels. Twelfth-century coins are also very light and struck in poor silver meaning they are far less likely to survive. These factors would suggest that, at the very least, coin usage continued at a similar level into the twelfth century. It would seem likely that if similar amounts of twelfth-century strata, as compared to the preceding century, had been excavated from Dublin that a greater number of coins may have been found from this later period.

Overall the pattern would appear to be one of growth in the number of coin finds between the tenth and twelfth centuries. They grow from essentially nothing in the ninth century to be at their most prolific with the bracteate coinages of the mid-twelfth century. This growth in coin finds could be related to an increase in the supply of coinage – there were more coins to lose – and/or increasing regularity of usage – there were transactions equating with greater loss. There is evidence in favour of both interpretations. The pattern of finds in Figure 7.10 parallels the volume of currency suggested in chapter 4 for the eleventh century. This might suggest that supply governed the number used and lost. However, the volume of twelfth century finds

does not decline at anything approximating the decreasing volume of silver.⁸⁰⁷ This would imply that a smaller currency probably had a higher velocity of circulation, or the lighter-weight and lower value coins were used in a broader range of exchange relationships, as time progressed. Declining production is not matched in declining usage which is probably indicative of the growing regularity of the use of coinage within the urban environment.

7.4.4 Dublin's evolving (political) economy

The economy of ninth-century Dublin is elusive and beyond the scope of the current work.⁸⁰⁸ It is likely that hacksilver was used but the extent, scale and chronology of this process are uncertain as the silver finds and weights are yet to be fully published.⁸⁰⁹ Historical evidence suggests that raiding was an important element within the economy but contemporary evidence from England would caution against assuming that this was the sole, or necessarily dominant, economic function of Dublin.⁸¹⁰

In the tenth century, coinage became an increasingly important element within the town. This occurred from the 920s and may be connected to the close dynastic links between York and Dublin at this point, as has been suggested for the Isle of Man.⁸¹¹ The increasing amount of Anglo-Saxon coinage implies regular and, presumably peaceful, contact across the Irish Sea to England. This is also supported by the finds of significant amounts of imported pottery, in riverside contexts, from the early tenth century onwards.⁸¹² This may also be reflected in the distribution of coin finds, which

⁸⁰⁷ See section 4.3.5.

⁸⁰⁸ Simpson 2005.

⁸⁰⁹ A preliminary report on the weights, in advance of their fuller study has recently been published: Wallace 2013.

⁸¹⁰ Blackburn 2011b.

⁸¹¹ Downham 2007b, 29; Bornholdt-Collins 2003, 334–40.

⁸¹² Wallace 1987a, 217.

are weighted towards the area around Fishamble Street, close to the river Liffey. The coin finds parallel the other archaeological evidence which suggests a formalisation of, and greater permanence to, the town. While the settlement appears to have been quite transitory in the ninth century, in the tenth century there is a far greater sense of stability with encircling banks and more systematically laid-out streets. The period also saw the first traces of production within the town with metal- and amber-working occurring. It is tempting to view coinage, in this period, as closely aligned with trade along the Liffey, especially given the slight shift in distribution in the following periods. However, linen and amber production was also occurring in riverside areas. Thus while coinage and maritime trade can be linked this should not be to the complete exclusion of other forms of economic activity.

The eleventh century was a boom time for the town and this is visible in the evidence from the coins but also most other proxies. The century saw the defended area of the town double in size and the construction of a number of churches. The emergence, or concentration, of productive craft activities is also highly visible with metal-working at Christchurch place, wood at Winetavern Street and combs in a number of areas. What would appear to be an intensification of economic activity in the town is matched in the coin finds, which proliferate in this period. Determining what drove the success of the town is difficult but it is tempting to connect it with the success of specialist production. It seems likely that there was a market for even relatively low-value goods, such as wood and leather, within the town. There may have been a market for a range of other goods as this period also saw a peak in slavery and Barrett *et al.* have suggested that it may also represent the beginnings of significant trade in bulky commodities.⁸¹³

⁸¹³ Holm 1986; Barrett *et al.* 2004.

It seems likely that Dublin's economy was very diverse in the eleventh century with trade permeating into many aspects of its economic life. A wide range of activities – production, trade in high-value objects, trade in staples and slave-raiding – were a part of the economy of the town, likely on a commercial basis. The difficult question is the extent to which this is different to the economy of the town in the tenth century. The coins suggest that there may have been a slight shift, with a greater emphasis on production rather than longer-distance trade between these two periods. However, it is unlikely that either was ever pre-eminent. Exchange in commodities must have occurred early in the life of Dublin, to enable it to feed itself, whilst longer-distance trade out into the Irish Sea and beyond continued to play an important role within the economic life of the town beyond the tenth century.

A slightly less ambiguous change in the political economy of the town is the increased administrative control that is visible in the eleventh century. The patronage of churches, alongside the building of larger defences and beginnings of the mint, possibly in the centre of the town suggests that the urban landscape was probably under the authority of a king. This is perhaps mirrored in a shift of the coin finds, from the liminal space at the riverside Fishamble Street to the central space at Christchurch Place. This area may well have had market functions and it may suggest an increased regulation of trade. This need not be surprising as attempts at royal control over trade in towns are well known from contemporary England and it is not difficult to envisage something similar in Dublin.⁸¹⁴ Indeed, the effective exclusion of foreign coin and occasional renewal of the Hiberno-Scandinavian coinage, would suggest that this is highly likely.

⁸¹⁴ Screen 2007, 157–60.

The extent to which this apparent control over trade represented a new phenomenon at the end of the tenth century and throughout the eleventh is open to question. Wallace has postulated that a well-maintained weight standard existed in Dublin during the tenth-century.⁸¹⁵ He suggested in 1987 that its maintenance could be attributed to elite authority under some form of reeve, although in more recent work this suggestion is notably absent.⁸¹⁶ If weights were regulated, then coinage might be considered to be an extension of pre-existing controlling power within Dublin. There are two problems with such an argument. The first is the extent to which a well maintained standard is indicative of control. The similarity of the Dublin standard to other Irish areas and overseas standards, areas beyond the political control of the town, might suggest that weight standards were not necessarily administered within the town. Secondly, throughout the second half of the tenth century Dublin used increasing volumes of Anglo-Saxon coinage which was also the period when hoards came to be dominated by coins rather than bullion.⁸¹⁷ These coins were likely acquired through mercantile activity across the Irish Sea and it is difficult to envisage significant administrative control over this type of silver within Dublin. In such a context, the beginnings of minting in the late-tenth century should probably be seen as an extension, rather than a continuation, of political power.

The urban landscape was altered dramatically in the twelfth-century with the erection of the encircling stone wall. This may well be a continuation of administrative control, delineating official urban space from the unofficial beyond. This idea is strengthened by the fact that the walled area remained static while there was growth in the extra-mural suburbs.

⁸¹⁵ Wallace 1987a, 212-15; Wallace 2013; *cf* section 2.2.2.

⁸¹⁶ Wallace 1987a, 214; Wallace 2013.

⁸¹⁷ See section 6.2.3 and 7.3.1.

The coin finds remain in the central area of Dublin in this period although they shift somewhat to the west, towards High Street. Their number suggests that coinage remained an important element within the town. This can be contrasted to Trondheim where very few coins are known from the bracteate period.⁸¹⁸ This has been attributed to survival/recovery circumstance but the survival of so many base metal bracteates is suggestive of their significance for Dublin. In this period, the link between certain types of production and coinage is again emphasized. The number of bracteates from High Street (21 and 24), where shoe-makers were based, is very notable. It seems inconceivable that those producing the leather in this area were not familiar with coinage, in much the same way as the metal-workers at Christchurch Place (32) in the eleventh century. The twelfth-century, where evidence is much patchier, should probably be interpreted in much the same way as the eleventh. Coin use was still focused in and around a central area (the market?), with small numbers of coins spread across the rest of the associated settlement and a definite overlap between its use and craft activities.

7.5 Conclusions

The most important aspect of an analysis of the coinage of Dublin is the extent of coin-usage within the town. It has been suggested that there was a highly monetised population, with coin used by a wide range of people within the town. This is on the basis of the significant numbers of coins produced and their distribution within the town. It appears that coinage was not the preserve of an elite but something that was common to most town-dwellers. The use of coinage was a shared practice across most of the urban community and it seems possible that there was a shared coin-using mentality in the town. A mentality in which coinage was an important element for

⁸¹⁸ Schia 1989.

trade would help to explain why the use of coinage continued in the town, even when the coinage became highly debased during the twelfth century.⁸¹⁹ This led to a reduction in usage across much of Ireland but this was not the case in Dublin.⁸²⁰ In fact, the opposite may be true with debased bracteates being the most common find in the town. The presumably lower value of these coins may have opened the use of coinage up to an even greater number of transactions.

That a wide range of transactions were carried out in coinage is also suggested by the overlap of coinage with a variety of other economic activities. Coins are found in conjunction with materials suggestive of external, long-distance trade and also with evidence suggestive of specialised production. Determining which was of greater importance to the economy at any point is a difficult matter as it appears that both external exchange and specialised production were important aspects of Dublin's economy for the entirety of the archaeologically-visible period. They were probably both mutually reinforcing with trading networks helping to distribute objects produced within the town. The occurrence of coinage in the vicinity of this range of material suggests that this was, at least within the town, likely to have been carried out in a commercial manner. The variety and low-value would also suggest that there was a market, using coinage, for most goods rather than merely the most valuable objects. The unknowable element of this is the importance of commodities – such as slaves or provisions – to Dublin's economy. However, it is likely that these were significant given the chronological correlation between a peak in eleventh-century coinage and evidence for exploitation of these commodities.⁸²¹

The role of royal authority within Dublin is not insubstantial. The exclusion of foreign coinage from the town is suggestive of effective administration and it is not

⁸¹⁹ See section 5.1.2.

⁸²⁰ See section 8.4.2.

⁸²¹ Holm 1986; Barrett *et al.* 2004.

surprising that this occurred at a similar time to the provision of encircling banks and walls. These are likely to have been accompanied by taxes and tolls, as the finds of lead tokens would suggest. Indeed the beginning of a mint in the late tenth century is suggestive of an attempt to control, and tax, the economic output of the town. This could also be suggested by the re-orientation of trade from a riverside site to a more central site between the tenth and eleventh century. The period at the end of the tenth and beginning of the eleventh century emerges as a time where a controlling royal element, suggested as being the local Hiberno-Scandinavian king above, becomes visible in Dublin's economy.⁸²² However, the role of royal power does not appear to be as an agent of economic change. Coinage had been used in the town for a significant period before it began to be struck there and it would appear that the role of elite authority was the maintenance, and taxation, of an already important means of exchange rather than as an agent of substantial change in and of itself.

⁸²² See section 2.2 and 2.3.

Chapter 8 – Using coinage in early medieval Ireland

8.1 Introduction

Above it has been argued that coinage was produced on a significant scale and used extensively within the urban environment of Dublin.⁸²³ Beyond the town, the question of if, and how widely, coinage was used is of importance. This involves determining whether the Hiberno-Scandinavian coinage should be interpreted as a medium of exchange used widely across Ireland or one which was largely focused upon Dublin. In discussing this issue, the question of the authority behind the coinage and who its intended recipients were will be tackled.

Questions of use rely upon three complementary strands of evidence; hoards, single-finds and written evidence. The following is primarily a consideration of the archaeological evidence with the aim being to determine the chronological and geographical extent of coin usage in Ireland. Textual references are discussed briefly to provide a context for the fuller interpretation of the archaeological data. The combination of these three strands allows for discussion of who was likely to have used coinage in early medieval Ireland.

8.1.1 Earlier interpretations of coin usage

The use of coinage in Ireland was traditionally very conditioned by ‘Viking’ narratives. The use of coinage was deemed to be the sole preserve of the Vikings with isolated hoard finds indicative of historically-attested raids on the Viking towns by Irish kings.⁸²⁴ The split between coin-use and other means of exchange was along ethnic grounds with the Irish seen not to be users of coinage, and by extension largely

⁸²³ See chapter 4.

⁸²⁴ Dolley & Ingold 1961, 260.

uninterested in commerce, whilst the Scandinavian settlers were seen as enthusiastic proponents with a taste for both plunder and trade. This is a view that was overturned by Gerriets and Kenny who have fairly convincingly argued that the inland distribution of many coin hoards cannot exclusively be associated with ‘Vikings’ and their raiding activity.⁸²⁵ They suggest instead that the hoarding indicates that coinage was used amongst the Irish. Kenny’s work in particular pursued a spatial analysis, noting how the distribution of hoards was focused in certain polities which can be associated with the kingdom of Dublin but were not controlled by it.⁸²⁶

With regard to the precise question of how coinage was used, rather than where or by whom, discussion has largely centred upon delineating between coinage by tale, with a token value, and a metal-weight economy, where a coin’s value is determined by the amount of precious metal that it contains.⁸²⁷ Ideas that emphasize either dichotomy or simple evolution from one to the other have been largely rejected with emphasis placed upon adaptability and inter-connected use.⁸²⁸ Analysis of this type has helped to create a more nuanced view of precious metal usage in Ireland with simple, evolutionary models focusing exclusively on ‘Vikings’ abandoned and greater emphasis placed upon a diversity of practice.

However, focus has been placed upon the tenth-century in Ireland. This is the period where evidence is strongest, with about 65% of coin hoards dating to the period before 1000AD.⁸²⁹ The period between 850 and 950 is also thought to be when a majority of non-coin hoards were deposited.⁸³⁰ Given the distribution of the evidence, this chronological focus is understandable but it has meant that there has

⁸²⁵ Gerriets 1985a; Kenny 1987.

⁸²⁶ Kenny 1987, 512–13.

⁸²⁷ *cf* chapter 5.

⁸²⁸ Sheehan 2000; Sheehan 2004; Blackburn 2007b; Bornholdt-Collins 2010.

⁸²⁹ *cf* Figure 8.11.

⁸³⁰ Sheehan 2000, 51.

been relatively little discussion of coin-use in the eleventh century onwards. Patterns of coin-usage in the tenth-century are well discussed but the continuity of these, into the later period, have been largely ignored. Regularity of usage, contact with Dublin and the means of dispersal of coinage are all uninvestigated, despite being of fundamental importance to the interpretation of coinage in Ireland.

8.2 Coins and silver in the documentary evidence

A substantial body of textual material survives from Ireland.⁸³¹ Attempting to discuss the entirety of this material is unfeasible in the current context. The following is a survey of several strands of this material that can aid interpretation of the economic thought-processes behind coin use. This will focus upon units of value and the means of payment. In both cases the very sparse evidence for coinage will be discussed.

8.2.1 Units of account

Ireland's law texts, composed in the seventh and eighth century, delineate a reasonably rigid and consistent system of values.⁸³² The system of values can be summarised in the following manner:

$$1 \text{ bó mlicht} = \frac{1}{3} \text{ cumal} = 2 \text{ séts} = 1 \text{ ungae} = 24 \text{ screpul}$$

The *bó mlicht* (milch cow) was the basic, and most common, unit of reckoning.⁸³³ It had a fairly consistent set of relationships to the other units of value. The *cumal* literally meant female slave but appears to have become divorced from this

⁸³¹ Hughes 1972.

⁸³² Kelly 2000, 587; Kelly 1988, 112–16.

⁸³³ Kelly 2000, 58.

meaning.⁸³⁴ It was a high-status unit of value, connected with the honour price of kings.⁸³⁵ The *sét* was a unit of value which has both a specific and an abstract meaning. It meant simply an ‘item of value’ or was specifically a unit of value with a connection to cattle.⁸³⁶ It was generally used to reckon honour prices for those below the status of king, suggesting a slightly lower value than the *cumal*.⁸³⁷ The *sét* appears to have been more fixed than the *cumal* with quite separate laws giving consistent value for it, with slightly greater flexibility in the value of the *cumal*.⁸³⁸ The *ungae* and *screpul* were both connected to precious metals. Both are from the Latin system of values, loan words *uncia* and *scripulus* respectively.⁸³⁹ The *ungae*, meaning ounce, could be either in silver or gold but silver was more common.⁸⁴⁰ It had a set relationship with the *screpul* with one ounce equating to 24 *screpul*. The *screpul* is the lowest of the values in the above system of reckoning. In a number of small quantities it could be used to equate to different types of cow, sheep, hens and wool.⁸⁴¹ This was the situation when the majority of the law texts were written before AD 800, well before the use of coinage in Ireland which can only be detected significant volumes in the tenth-century.⁸⁴²

References to coinage within legal texts occur only in later glosses. The most common reference to coinage is the *pinginn*, three of which are normally equated with a *screpul*.⁸⁴³ The word is generally thought to be a borrowing from Old Norse but it could also be a borrowing from Old English.⁸⁴⁴ The word is unknown in the Old Irish

⁸³⁴ Kelly 2000, 591–2; Gerriets 1985b, 333.

⁸³⁵ Kelly 1988, 112.

⁸³⁶ Kelly 2000, 589–90.

⁸³⁷ Kelly 1988, 114.

⁸³⁸ Kelly 1988, 113–15.

⁸³⁹ Kelly 2000, 593; Meyer 1912, 1150, 1291; Stokes 1862, 40.

⁸⁴⁰ Kelly 1988, 114.

⁸⁴¹ Kelly 2000, 588.

⁸⁴² See section 8.5.1.

⁸⁴³ Kelly 2000, 594.

⁸⁴⁴ Kelly 2000, 594.

law texts, but is quite common amongst their Middle Irish glosses.⁸⁴⁵ It is also visible in the tenth-century *Sanas Cormaic* which defines *pinginn* in relationship with a *selland cernae*, another form of fixed measure.⁸⁴⁶ *Screpul* is described as deriving from the Latin *scripulus*, but there is no indication as to its value.⁸⁴⁷ Similarly, the *unga* is present in one recension of the text where its Latin origin is noted but further detail is not present.⁸⁴⁸ Means of valuation in *screpul* and *unga* continued into the eleventh century with references in the *Lebor na Cert* defining payments in both.⁸⁴⁹ Similarly, annalistic references from the eleventh and twelfth century describe numerous valuations in *unga* and occasionally in *screpul*.⁸⁵⁰

The emergence of *pinginn* as an additional unit of value during the tenth century does suggest that coinage had made an impact upon the system of reckoning in Ireland. However, this point should not be overstated as cattle continued to represent the most important means of value until at least the thirteenth century.⁸⁵¹ However, it is apparent that a system of valuation in which precious metals were a prominent part existed in early medieval Ireland.

8.2.2 Means of payment

The relationship between the highly schematised units of value that are set out in legal documents and the actual means of payment is far from straight-forward.⁸⁵² Interpreting how things were paid for is not simple because documentary evidence of this kind is very limited. There are two main areas that can give a glimpse into values and payments; land transactions and annalistic references.

⁸⁴⁵ Kelly 2000, 596.

⁸⁴⁶ Stokes 1862, 35; Meyer 1912, 1451.

⁸⁴⁷ Stokes 1862, 40; Meyer 1912, 1150.

⁸⁴⁸ Meyer 1912, 1292.

⁸⁴⁹ Dillon 1962, 116–17.

⁸⁵⁰ See Table 8.2.

⁸⁵¹ Dolley 1968; Kelly 1988, 113.

⁸⁵² Gerriets 1985b, 334.

The early medieval Irish land transactions are similar to charters in other areas of Europe recording the transferral of land, and occasionally also the price that was paid for it.⁸⁵³ A small number are recorded from eleventh- and twelfth-century Ireland, one is known from the Book of Durrow with another fourteen known from the Book of Kells.⁸⁵⁴ Amongst these 15 fragments the price that is paid for the land is recorded on 10 occasions with a summary of these provided in Table 8.1.

	Date	Price paid	
Kells 3	1087x94	eighteen ounces with other additional payments i.e. twenty ounces in effect	<i>xx. ungai</i>
Kells 5	1117x33	the price paid for it is...an ounce	<i>ungai</i>
Kells 6 ⁸⁵⁵	1161	three ounces of gold	<i>tri hungaib d'ór</i>
Kells 7	1114x17	The price is twenty-four ounces of silver	<i>unga d'argut</i>
Kells 9	1129x46	bought...for an ounce of gold i.e. eight ounces of silver is its equivalent	<i>ar ongai d'or .i. ocht n-ungai de argut</i>
Kells 10	1134x6	the price is four cows [...] of in-calf cows; two years after the murrain it was bought, and a cow fetched twenty penny-weights of gold at that time	<i>.xx. penginne d'or</i>
Kells 11 (1)	1133x54	its price is two ounces of gold and an ounce of silver	<i>dá unga de or ocus ongade argut</i>
Kells 11 (2)	1133x54	its price is twenty pennyweights and three ounces of gold ⁸⁵⁶ and twenty pennyweights of silver	<i>fiche pengindne ocus tri unga de or ocus fiche penginne de argud</i>
Kells 11 (3)	1133x54	bought for an ounce of silver	<i>unga de arcat</i>
Kells 12	1125x50	They made peace thereafter i.e. three ounces of silver were paid	<i>tri unga de argud</i>

Table 8.1 – Summary of payments from land transactions⁸⁵⁷

What is noticeable amongst these payments is the prevalence of precious metals in the reckoning of land values during the eleventh and twelfth centuries. The only value that is not calculated in precious metals is Kells 10 where the value is given as four cows. Even within this example the equivalent value in gold is given. The presence of gold and silver is, at nearly all points, given in the form of weighed silver, the ounce.

⁸⁵³ Davies 1982; Mac Niocaill 1990; Herbert 1994; Flanagan 1998; Valante 2006.

⁸⁵⁴ Valante 2006, 72; Best 1928; Mac Niocaill 1990.

⁸⁵⁵ Paid for freedom from billeting rather than land.

⁸⁵⁶ *Slapuris* included in the text at this point but left untranslated by Mac Niocaill. It may, possibly, relate to golden cloth. *Pers comm.* Denis Casey.

⁸⁵⁷ Mac Niocaill 1990; the twelfth-century dating is disputed by Herbert who argues for an eleventh century dating; Herbert 1994.

Unga appears to be an abstract unit of value in at least some of these examples as – in Kells 3 – eighteen ounces with additions is equated with twenty ounces. The ‘additions’ were presumably other materials making up the value of the other two ounces. The specification of ounces of gold and silver in Kells 9, 11 (1) and 11 (2) is understandable given the mixed metals being described. However, the specificity of Kells 6, 7, 11 (3) and 12, when only one metal was being used, suggests that payment may have actually been in silver. Whilst the presence of precious metals is very clear, the role of coinage is much less certain. Kells 10 and 11 (2) both contain references to *pinginne*, translated by Mac Niocaill as ‘pennyweights’. It would appear that in this context they are referring to a unit of value rather than an actual means of payment. There were no gold coins in early medieval Ireland so the *pinginne d’ór* must refer to a value rather than a means of payment. It seems likely that *pinginn* is used as a means of adding precision to the amount of gold rather than as indicative of mixed weighed and coined precious metal in these records.

Annal	Year (s. a.)	Type	Ounces		Cows	Hostages	Other	Other references
			Gold	Silver				
CS	1005	Gift	20					<i>AFM, AU</i>
<i>AFM</i>	1029	Ransom	3	60	1200		140 British horses	Sword of Carlus <i>ALC, AU, CS</i>
CS	1066	Gift	30					<i>ATig</i>
<i>AFM</i>	1068	Tribute					screaballs and offerings	
<i>AFM</i>	1088	Ransom	x	x	x		Horses	flesh-meat <i>ATig, CS</i>
<i>ATig</i>	1090	Theft		7			Reliquaries	
<i>AFM</i>	1094	Tribute					screaballs and offerings	
<i>AI</i>	1095	Tribute	20					
<i>AFM</i>	1096	Tribute	30		100	8		
<i>AFM</i>	1103	Gift	8		160			<i>AU, ALC</i>
<i>AFM</i>	1106	Tribute		0.5	7		7 sheep	
<i>ATig</i>	1115	Gift					jewels, horn, and goblets	<i>AFM, CS</i>
<i>AI</i>	1120	Tribute	x				horses	
<i>ATig</i>	1143	Gift	x					
<i>AFM</i>	1151	Theft	200				sixty jewels	drinking horn of Brian <i>ATig</i>
<i>ATig</i>	1156	Bequest	100	60 marks	x		horses	+ others <i>AFM</i>
<i>AU</i>	1157	Gift	60		120		Townland at Drogheda	<i>ATig, AFM</i>
<i>AU</i>	1157	Gift	60					
<i>AU</i>	1157	Gift	60					
<i>AFM</i>	1162	Tribute	140					<i>AClon</i>
<i>ATig</i>	1163	Tribute	100					<i>AFM</i>
<i>ATig</i>	1165	Tribute	x			x		
<i>AU</i>	1166	Gift	x		160		clothing	
<i>AFM</i>	1167	Tribute	100			7		<i>ATig</i>

Table 8.2 – References including gold or silver in the Annals, 1000-1170

The annals provide details of a significant number of exchange relationships. Eleventh- and twelfth-century entries involving silver and gold are tabulated in Table 8.2. Most involve payments to or from royalty, frequently involving the church and thus are slightly more varied than the Kells records, describing a number of elite transactions. The references give an impression of what was an appropriate means of payment for these types of transactions in the eleventh and twelfth centuries. Gold, cows and land were all commodities that could be used as a means of payment but there is no mention of coinage and very little of silver. On each of these occasions, where it is explicitly mentioned, the unit of reckoning is an ounce and gold is much more common than silver. Even given the slightly more diverse means of payment recorded in annalistic references there is very little evidence for coinage being used as a means of payment. This is perhaps most clearly illustrated by the eleventh-century

Book of Rights contained within the *Book of Uí Maine* where even the moneyers of Dublin are charged a *screpul* rather than a *pinginn*.⁸⁵⁸

The sparse references to coinage may be in part explained by the fluctuating nature of the medium itself. In chapter 5, the metrology and fineness of the coinage are shown to be of variable character. This variation occurred on a scale of tens of years which would present a problem for either jurists seeking to relate coinage to a fixed system of values that had existed for hundreds of years or those looking to codify the transfer of property or the payment of renders. This variability of silver is visible in the annals where there is a reference to ‘60 marks of refined silver’.⁸⁵⁹ This would suggest that there was ‘unrefined’, presumably base, silver and this is certainly reflected in the contemporary coinage which underwent significant debasement during the twelfth century. The scarcity of silver in the twelfth century may also be reflected in its high value versus gold. This is emphasized by Kells 9 where the equivalency of gold to silver is given. This is at a ratio of 1:8, which is very low. It would normally be expected that this ratio would have been closer to 1:10 or 1:12.⁸⁶⁰ In a situation where there was such variability in the coinage it seems unlikely that a fixed value of coinage could be created to accord with legal documents. The *pinginn* may have been an idealised and relatively static unit with a fluctuating relationship with actual coinage. In short, a *pinginn* is unlikely to have simply equalled one Hiberno-Scandinavian coin.

A search using the *Dictionary of Irish Language* for references to *pinginn* highlights the fact that the term is utilised in biblical contexts but is virtually unknown

⁸⁵⁸ See section 2.2.5.

⁸⁵⁹ *ATig* 1156.

⁸⁶⁰ However, Mac Niocail admits that the reconstruction of the text at this point is uncertain; Mac Niocail 1990; Naismith 2012b.

elsewhere.⁸⁶¹ The only references that I have been able to trace amongst the textual materials that may be suggestive of coin-use are two annalistic references. Both are later interpolations within the *Annals of Ulster* meaning that their date is a *t.p.q.* rather than the date they were written.⁸⁶² The first of the annalistic entries is recorded in the *AU* in 1032:

‘A sixth-measure of oaten grain,
Or a third-measure of dark purple sloes,
Or of acorns of the brown oak,
Or of nuts of a fair hazel cluster—
All are to be had in full abundance
At Ard Macha [Armagh] for one penny.’⁸⁶³

The other reference is an undated addition to the *AU* entry for 1097:

‘A great harvest of nuts in this year: thirty years since the other harvest of nuts to this harvest i.e. the year of the white nuts, i.e. a ‘sixth’ of nuts could be had for one penny’.⁸⁶⁴

In both of these cases the use of penny (*pinginn*) is used in conjunction with a food stuff to emphasize its abundance in that year. This is an important point as it implies that there is a ‘normal’ price for these types of food-stuff and that, in the year, it was far lower than would have been expected. The 1032 reference is also of interest as it shows that coinage was being used within an ecclesiastical environment. Armagh

⁸⁶¹ <http://www.dil.ie>. For example, Stokes 1890, 2832; Stokes 1909, 3859.

⁸⁶² Both are absent from the *Annals of Loch Cé* which is very close to the *Annals of Ulster* in this period, perhaps suggesting that they were copied from another source or later. *Pers. comm.* D. Casey.

⁸⁶³ *AU* 1032, *cf AFM* 1031

⁸⁶⁴ *AU* 1097, *cf AFM* 1097.

has produced a number of coin finds and it is argued below that the church was an important element in the use of coinage in Ireland. Whilst this is only one reference, it is nonetheless important as it shows that the buying and selling of a range of commodities, and potentially a coin-using mentality, are to be found at Armagh.

The 'normal' price in each of these examples was conceptualised in *pinginn* but, as is outlined above, whether this refers to an actual coin or an idealised means of value is uncertain. What is certain is that the low-value means of value, the *pinginn*, was used, on at least a fairly regular basis, to purchase commodities of this type. Whilst *unga* and *screpul* are recorded in the significantly-sized transactions related to land and kings, it is *pinginn* which is used for the purchase of foodstuffs. This may suggest that the reason behind the sparse references to coinage in written sources is that the relatively low value of coinage was beneath the level that was visible in early medieval written sources. Texts describe transactions that are very seldom commercial; they represent the exchange of land, tribute, gift or ransoms. All of these interactions are on a large-scale, encompassing the payment of multiple ounces of metals, tens of cows and other materials. It may be that the types of economic transactions that are described are simply too valuable for coinage to be a useful means of describing them. For reference, an ounce of silver, if the ratio of the law glosses (1 ounce = 24 scruples = 72 *pinginn*) is accepted, would be of greater value than the majority of coin hoards that survive from Ireland.

Overall, the evidence from a very brief survey of textual sources is largely unhelpful for interpreting the usage of coinage in early medieval Ireland, as there are almost no direct references to it. They do show that precious metals were an important part of units of reckoning, in certain types of document they pre-dominate. *Pinginn*, form a low value part of this system of reckoning but it seems doubtful that a *pinginn*

unambiguously equalled one coin. It is more likely that the *pinginn* was an idealised version of the coin and probably had a flexible relationship to the changeable medium of the actual coinage. Such an interpretation would be suggested as, on two occasions where references are to low value commodities, they indicate that coinage had a commonly understood purchasing power but that this could alter depending upon differences in supply.

8.3 Interpreting finds

8.3.1 Hoards

Hoards have been the traditional way of considering the use of coinage in the early medieval period. They can be considered in an almost limitless number of ways; chronology, metrology, proportions of types, wear and location are all possible angles of enquiry.

Discussions around hoarding have often become embroiled in debates around the reasons behind their deposition. This can, broadly speaking, be broken down into two schools of thought. The first emphasizes the economic aspect of hoards whilst the second places a greater emphasis upon the ritual context of hoards. The following will pursue an 'economic' reading of hoards. This is not to downplay the importance of potentially ritual aspects to hoarding as these have been suggested as being of relevance in some Irish contexts.⁸⁶⁵ However, in their work on Ireland, Graham-Campbell and Sheehan argue that coinage was less likely than other objects to have been treated in such a manner.⁸⁶⁶ Similarly, the evidence of the coin hoards does not suggest ritual abandonment of most hoards. Whilst a significant proportion of finds come from ecclesiastical contexts, they are not generally associated with the sacred

⁸⁶⁵ Graham-Campbell & Sheehan 2009.

⁸⁶⁶ Graham-Campbell & Sheehan 2009, 90.

space of these areas. For example, the Clonmacnoise hoard in Ireland is buried well outside of the enclosure itself whilst a majority of finds from both Armagh and Downpatrick are remote from the centre of the settlement. While an ‘economic’ perspective will be followed, classifying the reasons behind why a particular hoard was deposited will not be attempted. Pinning any particular hoard down to the precise reasons behind its deposition is very difficult and often misleading. The hoards will be assumed to represent a reasonably consistent sample of the coinage that existed before their deposition.

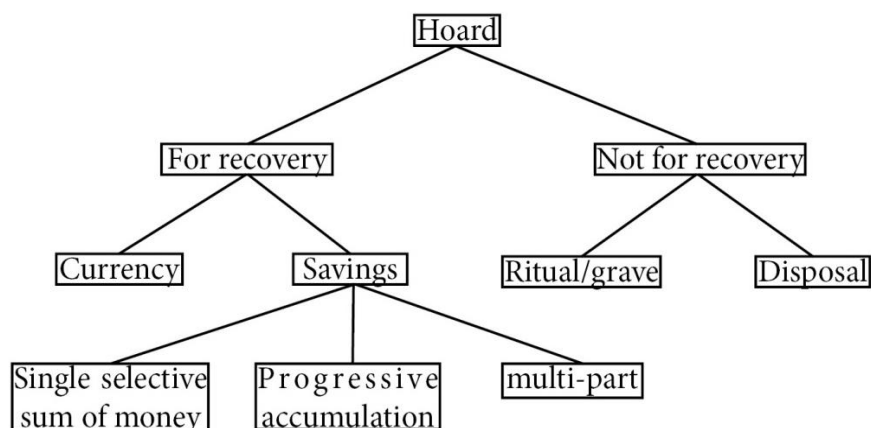


Figure 8.1 – Classification of hoards⁸⁶⁷

It is important to note that even within this broad interpretation, various types of hoards have been postulated. Grierson suggested ‘accidental losses, emergency hoards, savings hoards and abandoned hoards’ as a means of classifying these.⁸⁶⁸ Blackburn has subsequently modified this classification, dividing hoards according to the manner in which coinage was accumulated rather than the event surrounding its deposition.⁸⁶⁹ The major distinction is between hoards deposited with recovery, or the opposite, as the aim. Within the ‘for recovery’ element the major distinction is between ‘currency’, representative of the coins in circulation, and ‘savings’, which

⁸⁶⁷ Blackburn 2005a, 27.

⁸⁶⁸ Grierson 1975, 130.

⁸⁶⁹ Blackburn 2005a, 13.

imply a degree of selectivity. Genuine currency hoards are unusual but tiny hoards, often referred to as purse hoards, such as that from Tonyowen (dep. c. 1035), with only three coins, might be an example of such a hoard.⁸⁷⁰ More common are savings hoards, acting as a safe store of wealth before the advent of banking. There is a great variety of hoards of this type but certain factors, such as warfare can trigger chronological concentrations. This is quite clearly demonstrated in the context of ninth-century England where the actions of the Viking Great Army can be seen in the deposition of a large number of hoards in the 870s.⁸⁷¹ Other types of savings hoards are known including some where coins are added over a number of years or potentially generations.⁸⁷² Small parcels amongst relatively chronologically-diverse material are known from the Kirk Michael 1972/5 hoard and it has been interpreted as a savings hoard by Bornholdt-Collins.⁸⁷³ Amongst the non-recovery types of hoards, ritual deposition, often religious or funerary in nature, does occur in an early medieval context.⁸⁷⁴ It has been suggested as of some importance in an Irish context when discussing silver hoards but with less certainty in relation to coin hoards.⁸⁷⁵ The important element to take from the discussion of hoard 'types' is that the relationship between the circulating medium and hoards is not straightforward. A number of factors could influence hoarding and the (non-)recovery of these. Any simple correlation between numbers of hoards and the amount of monetary activity is incorrect. Similarly, according to hoard circumstance coinage may have been selected before their deposition. This may mean that higher weight, more aesthetic or more recent coins might be over-represented in hoards when compared to the circulating

⁸⁷⁰ Blackburn 2005a, 14; Kenny 1987, 521.

⁸⁷¹ Blackburn 2003, 24.

⁸⁷² Grierson 1975, 135.

⁸⁷³ Bornholdt-Collins 2003 Appendix VII, 66.

⁸⁷⁴ Blackburn 2005a, 13.

⁸⁷⁵ Graham-Campbell & Sheehan 2009.

medium. To combat biases within individual hoards they will be analysed as a unit. Furthermore, concentrations of hoards, either chronologically or spatially, will not be equated with the presence/use of more coinage unless this can be confirmed by other evidence, particularly single-finds.

8.3.2 Single-finds

Single-finds are usually connected to chance loss and can be contrasted to hoards where a number of factors may have influenced the make-up of the hoard and the decision behind its deposition. The chance loss element of single-finds is of particular importance as they should, with recovery circumstances being equal, provide a random sample from the circulating currency. This means that single-finds can be used as a proxy for 'monetary activity'.⁸⁷⁶ They allow for both geographical and chronological comparison; areas or periods where there was significant monetary activity should produce a greater number of single-finds than areas or periods where there was little or none.

Assuming an even recovery, the number of single-finds recovered is influenced by two main factors. The first is the amount of coinage in circulation. If this is a large amount then it would be expected that a greater number of single-finds would exist. The other factor is the velocity of circulation. It is assumed that the most likely point at which coins are liable to be lost is when they are being exchanged.⁸⁷⁷ As the number of times a coin was exchanged, its velocity of circulation, increased then the volume of single-finds would be expected to grow in proportion. Determining between these two factors when examining the numbers of single-finds is quite difficult, as it

⁸⁷⁶ Blackburn 1989c.

⁸⁷⁷ Blackburn 2003.

requires the availability of reasonably accurate information regarding the intensity of production.

Comparing the absolute numbers of single-finds or hoards between different modern countries is also something that should be avoided. Differing laws regarding treasure and metal-detecting exist across Europe and this makes recovery, and reporting, of finds quite variable. In Ireland, metal-detecting is illegal meaning that relatively few finds of coins are known.⁸⁷⁸ For example, the 200 early medieval single-finds from Ireland can be contrasted to the nearly 2000 that are available to study for the contemporary period in England.⁸⁷⁹ Thus, the following will only consider single-finds from within Ireland.

Decade	Finds
2000	4
1990	25
1980	17
1970	90
1960	45
1950	1
1940	3
1930	1
1920	
1910	
1900	
Pre-1900	20

Table 8.3 – Time of recovery, by decade

Single-finds have rarely been part of discussions regarding the usage of coinage in Ireland and this is primarily due to their low numbers. These are collated in Appendix F and number 206 for the period 600-1170.⁸⁸⁰ Because of the illegality of metal-detecting, the finds are heavily biased towards excavations. As Table 8.4 demonstrates a majority of coins have been recovered in the past fifty years with the increasing recovery rate almost entirely attributable to the growth of archaeological,

⁸⁷⁸ Kelly 1994.

⁸⁷⁹ Naismith 2013.

⁸⁸⁰ A card catalogue of Irish single-finds compiled by W. Seaby and maintained by R. Heslip in the Ulster Museum cannot currently be traced but will probably include further unknown specimens.

largely rescue or developer-led, investigation. Around 80% of single-finds are from excavation contexts with the remainder representing a mixture of chance finds and illicit detecting. Figure 8.2 shows that the coinage of the eleventh and twelfth centuries is overwhelmingly recovered from excavation contexts. Over the two centuries 92% of single-finds have been discovered in this manner, with nearly all twelfth-century finds (98%) coming from archaeological investigations.

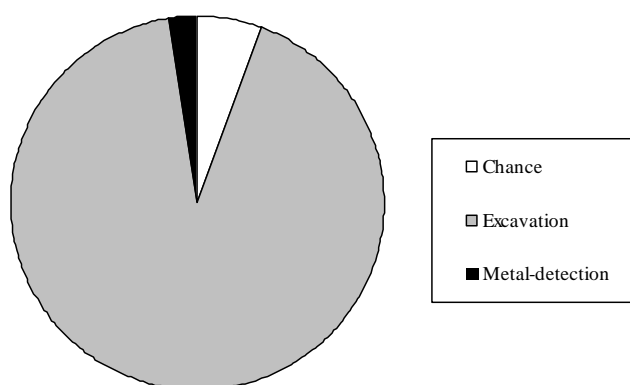


Figure 8.2 –Sources of single-finds of coins, c.1000-1170

This excavation data, especially with the relatively small sample of 206, is prone to some biases and it is important to take these into account. This is particularly the case when attempting to consider coin usage in a geographic manner where concentrations of excavations can skew single-find results. Table 8.5 presents a summary of the number of early medieval coin finds, hoards and excavations per county. The coins are those recorded in Appendix F, the early medieval excavations are those collated by the EMAP project whilst the total excavations is data taken from Bennett's yearly *Excavation* report which provides a summary listing of every excavation in Ireland from 1970 to 2008.⁸⁸¹ Each county has also been ranked by the number of single-finds in addition to the number of archaeological investigations that have occurred in the county. Whilst merely considering the number of excavations is quite a crude control,

⁸⁸¹ Kerr *et al.* 2010b; summaries of Bennett's excavation reports available via <www.excavations.ie>.

it would be better to consider size, type and excavation technique, it can nonetheless provide a control for an analysis of single-finds. For example, Armagh has produced a significant number of single-finds, the third highest ranked county in Ireland, despite being subject to only a relatively small number of archaeological investigations, ranking in the lower half of counties. If it were as extensively excavated as other counties then an even greater number of finds might be expected. Conversely, the counties of Mayo, Galway and Tipperary have been relatively extensively excavated, including a number of early medieval sites, but have only limited evidence for single-finds. The table would suggest that the distribution of single-finds is not merely a product of recovery circumstance. If it were, a closer correspondence would be expected between the number of single-finds and the amount of excavation.

County	<i>Number</i>				<i>Rank</i>		
	Single finds	Hoards	EM Excavations	Excavations	Single finds	EM Excavations	Excavations
Dublin	123	14	33	2300	1	1	1
Meath	17	8	31	2064	2	2	2
Armagh	5	3	5	218	3	18	27
Westmeath	4	12	7	617	4	13	13
Roscommon	3	0	3	468	=5	22	18
Clare	3	0	11	699	=5	9	11
Limerick	3	3	15	1003	=5	6	6
Cork	3	3	30	1549	=5	3	3
Longford	2	0	1	154	=9	28	30
Offaly	2	5	3	397	=9	23	21
Down	2	4	14	402	=9	8	20
Kerry	2	0	15	736	=9	7	10
Waterford	2	1	23	542	=9	5	17
Wicklow	1	4	1	417	=14	26	19
Londonderry	1	1	4	273	=14	20	24
Kildare	1	5	4	1043	=14	19	5
Sligo	1	0	6	560	=14	14	16
Louth	1	7	10	960	=14	10	7
Antrim	1	2	27	642	=14	4	12
Leitrim	0	0	0	198	=20	32	29
Cavan	0	0	0	205	=20	31	28
Carlow	0	0	0	236	=20	30	25
Monaghan	0	0	1	152	=20	29	31
Laois	0	2	1	339	=20	27	23
Wexford	0	2	1	579	=20	25	14
Donegal	0	1	2	390	=20	24	22
Fermanagh	0	0	4	110	=20	21	32
Tyrone	0	1	5	228	=20	17	26
Kilkenny	0	3	5	837	=20	16	9
Tipperary	0	1	5	1239	=20	15	4
Mayo	0	0	8	569	=20	12	15
Galway	0	0	10	842	=20	11	8

Table 8.4 – Summary of single-finds, hoards and excavations (early medieval and all excavations), per county.

There is no way to confirm that the patterns suggested from this evidence are representative, rather than merely a product of recovery circumstance. However, if single-finds from the early medieval period (Table 8.4) are compared with those from the medieval period (Table 8.5) quite different patterns emerge. For example, some counties in the west and north of Ireland, poorly represented amongst the early medieval material become much more visible. This is seen in co. Tipperary in the west. Similarly, in the north, both Antrim and Down produce far more medieval finds. This is mirrored in the hoard record where areas poorly represented in the period pre-

1170 become much more prevalent after this.⁸⁸² There is no reason for medieval silver coins to be more readily found than their early medieval counterparts which would suggest that, broadly speaking, the early medieval distribution is representative, within the limitations outlined above, of the areas of likely monetary activity. It might be imagined that an expansion of finds, as has occurred recently in England, might reinforce patterns drawn from small samples in the 1980s as has been the case for some English analyses.⁸⁸³

⁸⁸² Dolley 1972.

⁸⁸³ *cf* Blackburn 2003.

County	Sites with medieval coins	Hoards	Total Excavations
Dublin	7	1	2300
Meath	8	2	2064
Armagh	1	2	218
Westmeath	1	0	617
Roscommon	4	3	468
Clare	3	7	699
Limerick	4	2	1003
Cork	0	4	1549
Longford	0	0	154
Offaly	2	2	397
Down	5	10	402
Kerry	2	0	736
Waterford	0	2	542
Wicklow	2	1	417
Londonderry	1	1	273
Kildare	4	1	1043
Sligo	0	1	560
Louth	0	2	960
Antrim	7	12	642
Leitrim	1	1	198
Cavan	0	2	205
Carlow	0	0	236
Monaghan	0	1	152
Laois	1	0	339
Wexford	1	0	579
Donegal	0	0	390
Fermanagh	1	1	110
Tyrone	0	0	228
Kilkenny	7	0	837
Tipperary	7	1	1239
Mayo	0	4	569
Galway	3	1	842

Table 8.5 – Sites with excavated medieval coins, arranged for comparison with Table 8.4⁸⁸⁴

8.3.3 Hoards, single-finds and circulation

The following will discuss the use of coinage in both a geographic and chronological manner. In spatial terms, single-find data will be assumed to represent a reasonably random sample of the circulating currency with the hoard data taken to represent the presence of, but not necessarily the active use of, coinage near to the area of its deposition. Where hoards and single-finds overlap it is likely that this was

⁸⁸⁴ Single-finds data drawn from excavation summaries available via <www.excavations.ie>. Hoards data from Dolley 1972.

an area of coin usage. The single-find data will also be at the heart of the chronological discussion as it is likely to represent a much more random picture of the circulating currency than the hoards, which may well be conditioned by other circumstances.

In both cases the datasets are quite small so, where appropriate, data from the period 900-1170 has been aggregated. This creates larger datasets but even these are small samples. However, even small absolute numbers can yield useful results. Gareth Williams has demonstrated that it is possible to offer meaningful analysis from even smaller numbers of finds.⁸⁸⁵ Similarly, the relatively small number of single-finds analysed by Blackburn in the late 1980s exhibited a pattern that has been broadly confirmed by the much larger number of finds that have been found in the interim.⁸⁸⁶ The number of tenth- to fifteenth-century English finds considered in Blackburn's 1989 article is comparable to the numbers that are currently available from Ireland. Thus, whilst the small number of finds would urge caution, it is hoped that the conclusions drawn below will hold up as more finds emerge.

8.4 Where was coinage used?

8.4.1 A zone of monetary activity

All coin finds from 900 to 1170 are mapped in Figure 8.4. The first point to emphasize from this is the absolute pre-eminence of Dublin. Whilst Co. Dublin is the most heavily excavated area in Ireland, this alone cannot explain its disproportionately large number of finds. As Figure 8.3 shows, over half of all single-finds come from the town. This is a massive over-representation compared to the amount of excavation that has occurred there. It seems that, throughout the period, the

⁸⁸⁵ Williams 2006; *cf* Gullbekk 2011b.

⁸⁸⁶ Blackburn 1989c, 73; Naismith 2013.

town was the most likely place for coin to be used. This is unsurprising because it is likely that Dublin was the first place to use coinage, from the early tenth century, and it was the only major pre-Norman mint.

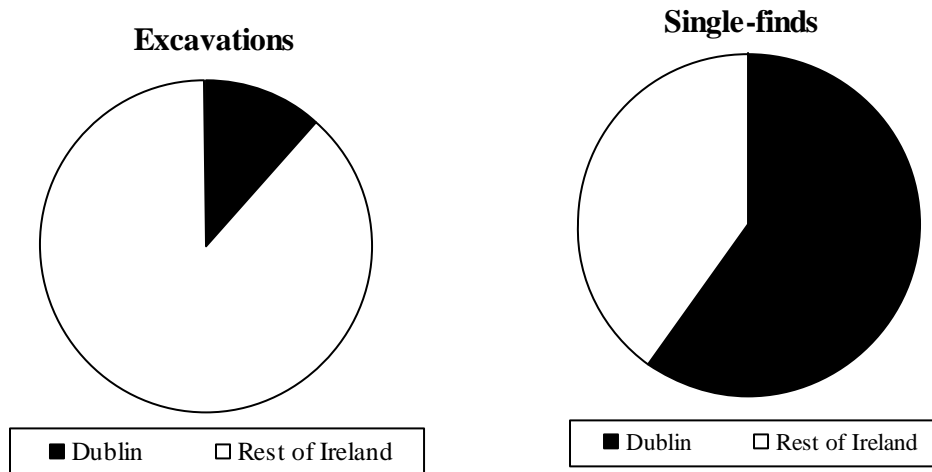


Figure 8.3 – Comparison of early medieval excavations and single-finds

The importance of Dublin is also visible in the distribution of finds in the Irish interior. As has been noted by a number of authors the hoards are arrayed in an arc around the town leading to the suggestion that Dublin acted as the conduit of silver into Ireland.⁸⁸⁷ The single-finds would suggest that, rather than being somewhere that silver simply passed through, Dublin probably represented the place that it was most likely to be used. The number of finds from the town suggest that it had an economy which was far more monetised than any other part of Ireland. Dublin was the earliest consistently coin-using area, has evidence for monetary activity on a scale that dwarfs all other Irish sites and was the only mint in Ireland. Its importance for coin usage in Viking-Age Ireland cannot be overstated.

⁸⁸⁷ Dolley & Ingold 1961; Gerriets 1985a; Kenny 1987; Sheehan 2000; Blackburn 2007b, 66.



Figure 8.4 – All Irish coin finds (c.900-1170)

The presence of coinage in Dublin can be contrasted to the almost complete absence of coin finds from the north and west of Ireland. Connacht and Ulster have virtually no coin finds, either single-finds or hoards, between AD 900 and 1170. It is unlikely that this distribution is overly biased, probably broadly representing the areas of early medieval monetary activity. It can be contrasted to the thirteenth to fifteenth centuries, where coins are known across both areas, suggesting the distribution is not

one of find circumstance.⁸⁸⁸ Counties such as Galway or Mayo have been subject to a reasonable degree of archaeological investigation and have produced no finds of Viking-Age coins.⁸⁸⁹ It seems likely that these were areas where the economy had no need of coinage throughout the Viking Age. The distribution highlights the fact that, as Kenny has previously noted, Ireland had a regional economy with enormous variety between different areas.⁸⁹⁰

The evidence of the finds would also suggest that, beyond Dublin, monetary activity was geographically confined. Hoards might suggest a semi-circular area around Dublin as a coin-using area but the single-finds seem to suggest that coin-use was confined even within this arc, largely to the north-west of Dublin. The single-finds suggest that coin usage was most common in Mide and Brega with Northern Leinster, to the south of Dublin, less engaged with monetary activity. Geographic limits to this zone have been suggested in Figure 8.5. This zone of monetary activity forms a *c.*7500 sq. kilometre area around Dublin, largely to its north and west. At the edge of this to the west is Clonmacnoise with most finds contained within the modern counties of Dublin, Westmeath, Meath and Longford. 60% of hoards and 80% of single-finds can be placed within this area. This is an important point as it highlights the fact that coinage in Ireland was an enormously regional phenomenon.⁸⁹¹ The area from which there are significant numbers of hoards and single-finds, which appear to be indicative of relatively active coin use, is very constrained representing only around 10% of the total area of Ireland. This is not to say that other areas never used coinage but more to make the point that it is likely that the majority of coinage in Ireland never made it more than around 120km from Dublin.

⁸⁸⁸ Dolley 1972.

⁸⁸⁹ *cf* Table 8.5.

⁸⁹⁰ Kenny 1987, 519–20.

⁸⁹¹ *cf* Kenny 1987.



Figure 8.5 – Area of intensive coin usage

8.4.2 Chronological developments in the use of coinage

Whilst it is possible to draw general conclusions from an agglomeration of all of the data, there is notable variation in distribution within the period 900-1170. Figure

8.6, Figure 8.7 and Figure 8.8 represent coin finds from Ireland in the tenth, eleventh and twelfth centuries respectively.

Figure 8.6 shows that the tenth-century is dominated by finds from the zone of monetary activity that is defined above. The overlap of coin hoards and single-finds to the north and west of Dublin would suggest coinage was being actively used in these areas with the coin hoards representing deposits of wealth that had circulated in the area near to its deposition. The connection to Dublin is frequently emphasized when considering these hoards. It is, of course, important as it is likely that the town represented the entry point for silver into the Midlands and close economic connections may have encouraged coin use in this area. However, the single-finds would suggest that coinage was not only used for exchange with the town but that it also formed a valid means of exchange within some areas of inland Ireland.

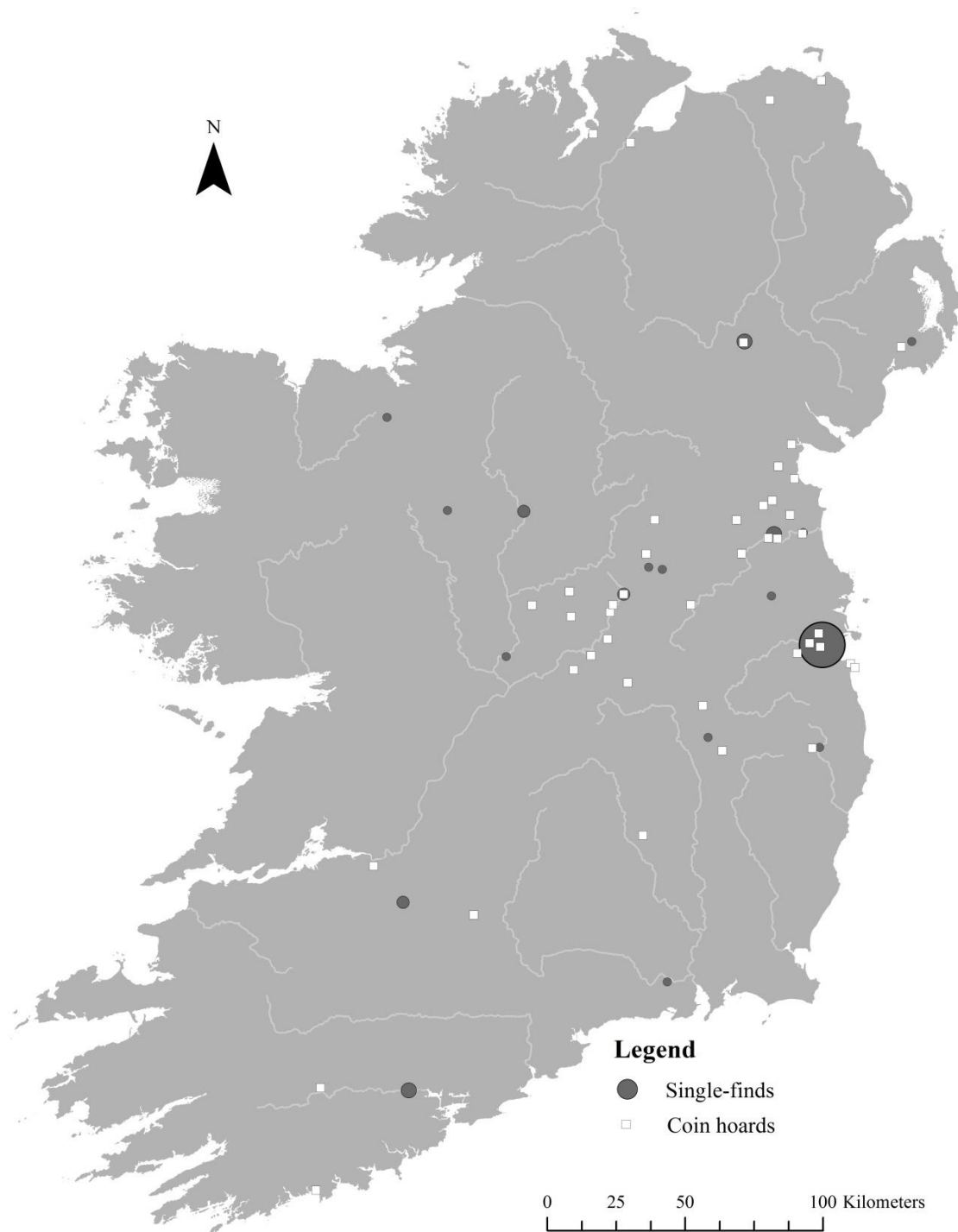


Figure 8.6 – Irish coin finds from the tenth century

The only other concentration of finds is in the extreme north with four hoards clustered along the north coast of Ulster. Three of these hoards (Burt, Ballycastle and Derrykeighan) were deposited *c.*970 with the other deposited earlier in *c.*910. Given the almost complete absence of single-finds from the north of the country it seems

unlikely that the coins in the hoards were part of regular exchange using coinage in this area. Given their coastal location, it seems more likely that they are indicative of routes to the North Atlantic rather than exchange within Ulster itself. They should perhaps be considered alongside the hoards from the Western Isles of Scotland which also show a clustering around *c.*970.⁸⁹²

The eleventh-century pattern of coin finds is displayed in Figure 8.7. The first point to note is the continued dominance of Dublin, it is the most common place to find coins during this period. The figure also shows that, broadly speaking, there is a continuity of finds in the Irish midlands between the tenth and eleventh centuries. There are fewer hoards but a general similarity in the number of single-finds. Finds from Ardagh, Tipper, Clonmacnoise and two imprecise 'Irish Midlands' coins show that coinage was being used into the 1080s. To these can be added hoards with deposition dates that span the entire century. The evidence would suggest that coinage remained important for the Irish midlands from the tenth, into and throughout the eleventh century. It would also suggest both a coin-using mentality and continued, regular contact with Dublin.

⁸⁹² Graham-Campbell 1995; Blackburn 2007b, 135–7.



Figure 8.7 – Irish coin finds from the eleventh century

The geographical scope of monetary activity appears to expand somewhat during the course of the eleventh century. This is difficult to prove from the map, where relatively small numbers of findspots are shown but Table 8.6 suggests that coinage was spread across greater distances in the eleventh century than it had been in the tenth. This expansion may be visible in a slight growth in coin finds in the south-west. This was an area with a small number of silver finds from the tenth century. In the

eleventh, single-finds from Beal Boru and Inish Cealtra can be added to hoards at Limerick and Adare. All of the finds from this area can be placed within a relatively defined chronology stretching from *c.*1020 to *c.*1070. These finds are clustered around Limerick and up the River Shannon. This area would appear to have been the economic, as well as the political, heartland of Munster in the eleventh century.

Century	No. of finds where findspot is certain	Average distance of single-find from Dublin
10 th	25	111km
11 th	18	150km
12 th	14	47km

Table 8.6 – Average distance of find-spots from Dublin

Whilst the evidence should not be overstated the relatively small, but concentrated, number of finds in Munster is suggestive of some monetary activity. This was not particularly widespread and appears focused around Limerick. The increase in the number of finds certainly suggests that area was becoming more familiar with coinage and the absolute number of finds compares favourably with most other areas of contemporary Ireland.



Figure 8.8 – Irish coin finds from the twelfth century

As Figure 8.8 demonstrates, the distribution of twelfth-century finds is quite different to the preceding period. There is a geographic constriction of the coinage in this late period with a small number of sites and hoards producing coin finds. A slightly larger total of single-finds come from a much smaller number of sites. This is also made clear in Table 8.6, which shows that single-finds are largely found in areas quite close to Dublin. To illustrate the point, single-finds of the twelfth century have

been found at five sites with Dublin (43), Knowth (8) and Trim Castle (4) producing numbers of single-finds that make them amongst the most productive in the whole period. The sites with single-finds are also geographically constricted with only the shadowy and uncertain Drumbo coin being found at a distance greater than 50km from Dublin. In this regard there is a contrast between hoards, all but one found over 100km from Dublin, and single-finds, nearly all found within 50km. The geographical constriction can be interpreted in a chronological manner. The area which had monetary activity shrank over the course of the twelfth century. It could be tempting to envisage the change as connected to a decline in the archaeological visibility of secular settlement in the corresponding period.⁸⁹³ However, the alteration in the pattern of coinage is not entirely constrained to raths, with some of the major ecclesiastical settlements including Armagh and Clonmacnoise, also showing a similar pattern.

The reason behind the decline should probably be sought in the worsening alloy of the coins themselves. The hoards which are found far from Dublin date from the early part of the twelfth century, with coins struck in good silver, while the single-finds, found much closer to the town, are later and struck in debased silver. In the area with the longest history of coin usage, Dublin and the zone of monetary activity to its north and west, an essentially copper currency may have been viable. Across the rest of Ireland, where coinage was a more recent or ephemeral phenomenon, the decision to cease striking in good silver may have destroyed trust in its value. Without the link to the inherent value of silver, and with no long-term commitment to coin usage on either a political or mercantile level, it is perhaps unsurprising that areas beyond the immediate vicinity of Dublin ceased to use coinage in the twelfth century.

⁸⁹³ *cf* Kerr *et al.* 2009.

8.4.3 Circulation and royal authority

The above has sketched an impression of the changing geographical pattern of coin-use in Ireland. The political geography of Ireland has been disregarded but it is potentially important. Ireland had multiple levels of authority for much of the early medieval period. The overlap between this political geography and the use of coin finds is a point worthy of exploration as both Kenny and Gerriets have suggested that there is a link between the political relationships of Dublin and the distribution of coin finds.⁸⁹⁴ If this were the case it would suggest a role for Irish kings in encouraging/enforcing the use of coinage within their territories. It might also suggest that the kings illustrated on the anonymous Hiberno-Scandinavian coins were the Irish over-kings that claimed authority over Dublin rather than a local, Hiberno-Scandinavian elite. To consider this question three case-studies will be considered. These will compare the known political geography of Ireland with the coin finds to see if a relationship existed between areas of Irish royal authority and the use of coinage. Several maps have been created which compare coin finds with recorded raiding activity. The raids are those described in the Annals for the years when the various kings ruled Dublin and where the modern site of these raids can be confidently identified. The reason for comparing finds with raids is that the sites of raids are likely to lie outside the territory controlled by that king.

⁸⁹⁴ Gerriets 1985a; Kenny 1987.

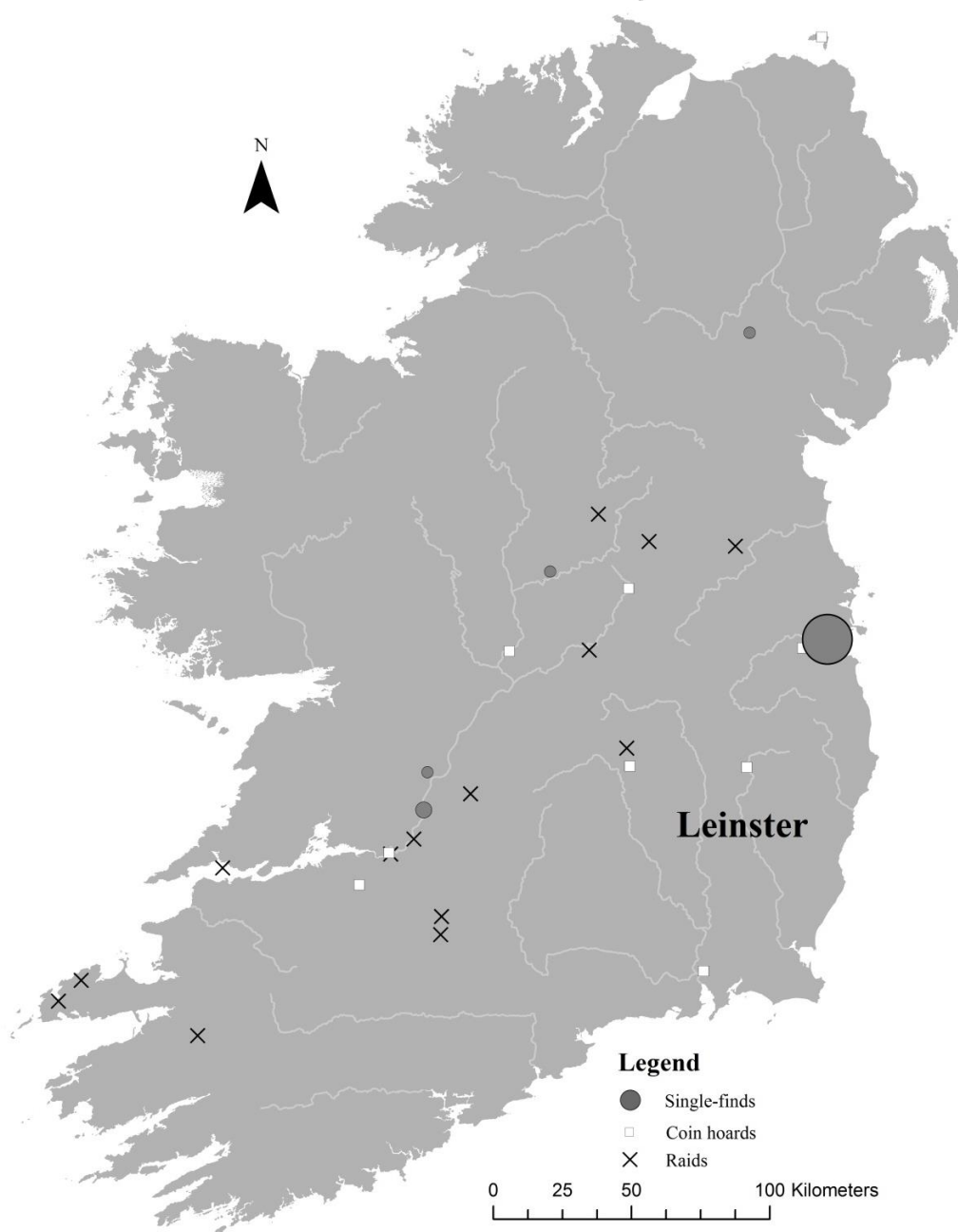


Figure 8.9 – Map of coin finds potentially lost during the domination of Dublin by Diarmait mac Máel na mBó (c.1052-72) and his raids, as recorded in the annals.

The first case-study is the career of Diarmait mac Máel na mBó. He was the king of Leinster and was also able to claim the kingship of Dublin in the period between 1052 and his death in 1072. His power was based in the Uí Chennselaig heartlands in southern Leinster.⁸⁹⁵ The rough area of Diarmait’s immediate control is visible in Figure 8.9 which demonstrates that he raided to the north and west of Leinster on a

⁸⁹⁵ MacCotter 2008, 130–1, 249–54.

relatively frequent basis. Most coins finds, excluding those in Dublin, are found outside of the area over which Diarmait exercised authority. The almost complete absence of coin finds from Leinster, especially when compared to the finds from Munster, is noticeable. The coin finds in this period are more common in areas around Limerick, in the lands controlled by the rival Uí Briain dynasty of Munster, than they are in the territory of Diarmait. The only hoard that could be argued to be sited within the territory of Uí Chennselaig is the Dunbrody hoard. The evidence of both the hoards and the single-finds suggest that most monetary activity occurred outside of the territories controlled by Diarmait mac Máel na mBó, the over-king of Dublin in the period 1052-72.

A very similar pattern is observable with the domination of Dublin by Munster around the year 1100. The ruling kings of Munster, Tairdelbach ua Briain and his son Muirchertach, claimed authority over Dublin for much of the period between 1072 and 1114, with an eight-year period where they were displaced.⁸⁹⁶ The distribution of coin finds and their raiding activity is presented in Figure 8.10. The pattern of raiding confirms that the south-west of Ireland, the kingdom of Munster, was probably directly under their control with most areas to the north and east of this beyond their authority. It is again noticeable that most coin finds are in the area beyond Ua Briain authority. This is somewhat counter-intuitive as it would be imagined that during their domination of Dublin, more finds would be expected in the vicinity of Limerick, the Uí Briain heartlands. In fact, the opposite is true with the period immediately preceding their domination of Dublin (*c.*1020-70) being the peak period for coin-use in the southwest of Ireland. Coin finds actually decline in Munster during the Uí Briain control over Dublin in the late-eleventh and early-twelfth century.

⁸⁹⁶ See section 2.1.2.

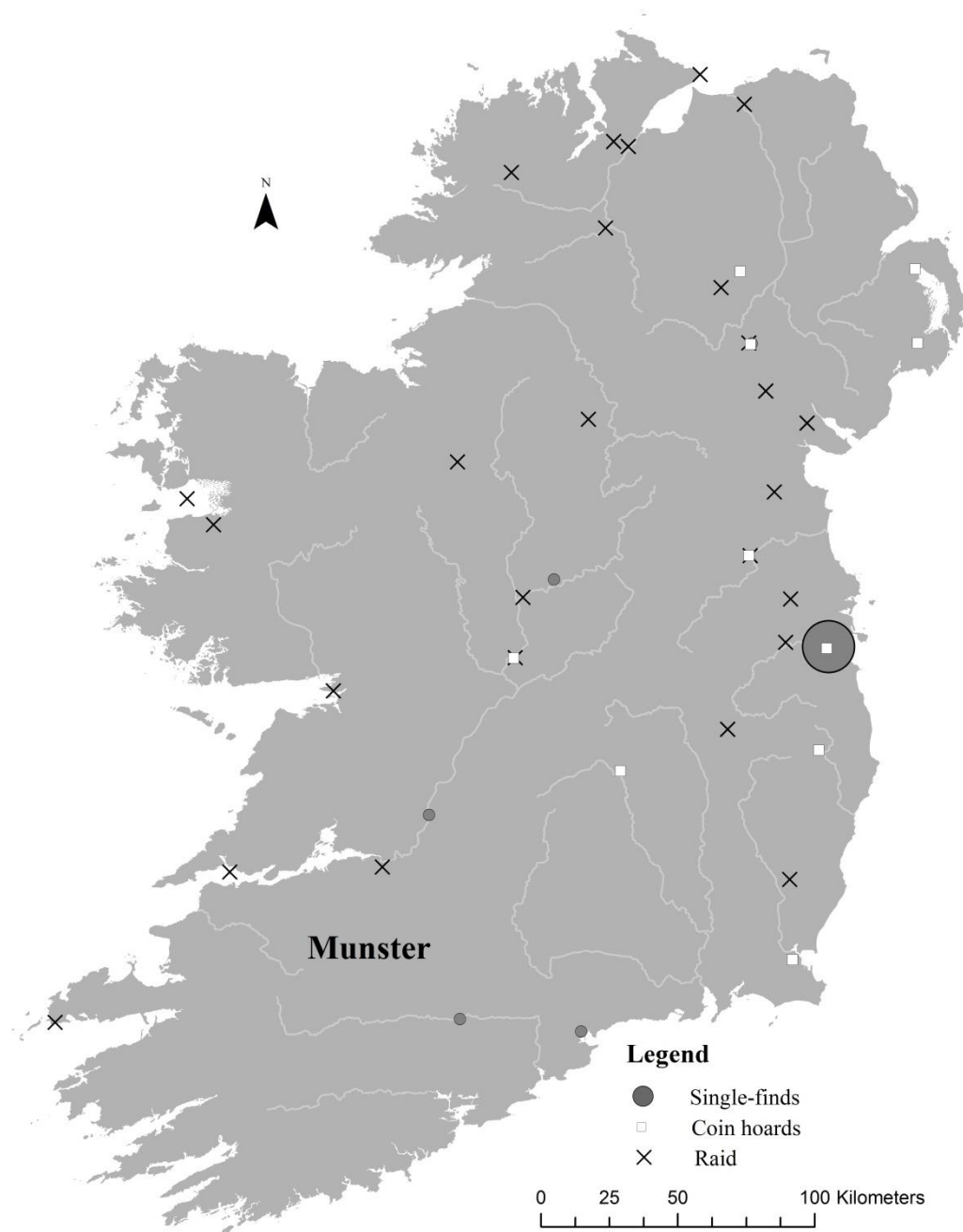


Figure 8.10 – Map of coin finds potentially lost during the domination of Dublin by Tairdelbach and Muirchertach Ua Briain (c.1072-86, 1094-1114) and their raids, as recorded in the annals.

The final case-study is an examination of finds from the kingdom of Mide. Kenny noted that there was a concentration of hoards within the territory of the Clann Cholmáin, the rulers of Mide during the tenth century.⁸⁹⁷ This dynasty was heavily involved in the political affairs of Dublin during the course of the tenth century which corresponds with a peak in the hoarding activity in the area. This area which Kenny

⁸⁹⁷ Kenny 1987, 512.

described as the ‘present county of Westmeath, the western half of Offaly and the western fringe of Meath’ has indeed produced a significant amount of coin finds, sitting at the heart of the area that has been described as a ‘zone of monetary activity’ above.⁸⁹⁸ A summary of these finds is provided in Table 8.7. The table includes three ‘Irish Midlands’ finds which are likely to come from this area but which cannot be definitely placed here. From the table, it is clear that Kenny was right to highlight the fact that there is a concentration of coin hoards in this area during the course of the tenth century. However the single-find evidence, largely uncovered since Kenny published his work, suggests that this was an area that continued to use coinage throughout the eleventh century. This is an important point as the power of Mide, and its political connection with Dublin, waned dramatically during the eleventh century. Byrne described the kings of Mide after 1020 as being ‘doomed...to debility’.⁸⁹⁹ This enormous political change is not manifest in the coin finds which were lost throughout the eleventh century. The coins suggest that there was still quite regular contact between Dublin and the midlands even if the elite political relationship had fundamentally altered.

⁸⁹⁸ Kenny 1987, 512.

⁸⁹⁹ Byrne 1973, 269; Ó Corráin 1972, 120.

Hoard	Deposition	Single-find	Striking
Lough Ennell	c.910		
Geashill	c.920		
Durrow	c.940		
Newtownlow	c.955		
Killyon Manor	c.955		
Oldcastle	c.960		
Lough Lene	c.965		
Rahan 1	c.970	Clonmacnoise	Pre-995
Rahan 2	c.970	Disert	c.973-5
Kilkenny West	c.970	Mullingar	c.985-91
Mullingar	c.985	Mullingar	c.985-91
Derrymore	c.1000	Clonmacnoise	Post-995
Collinstown	c.1000	Ardagh	Post-995
Mullingar	c.1025-50		
Tonyowen	c.1040		
Clonmanoise	c.1070	Tipper	c.1065-75
		Irish Midlands?	c.997-1003
		Irish Midlands?	c.1020-40
		Irish Midlands?	c.1080-5

Table 8.7 – Summary of finds from the western part of the kingdom of Mide

In each of these three case-studies political geography, at least as far as it is represented within raiding patterns recorded in the annals, does not match the pattern of coin finds. In the case of the kingships of Diarmait mac Máel na mBó and the Uí Briain kings their domination of Dublin is not matched by a corresponding increase in the number of finds within the areas that they controlled. The reverse is the case with the kingdom of Mide which had coin finds that correlate well with its political importance in the tenth century but does not have a corresponding drop in finds that could be associated with its fall from a major kingdom to one of greatly reduced importance during the eleventh century. In short, it made relatively little difference, in terms of the use of coinage, whoever claimed overlordship over Dublin. The role of Irish kings in encouraging the use of coinage seems negligible. It seems more likely, given the distribution of coin-finds in the vicinity of Dublin that it was perhaps more regular contact at a level of society beneath this that was the driving force behind decisions to use coinage.

8.4.4 Coinage beyond Ireland

While the distribution of coinage within Ireland is the primary focus, it is important to consider the other areas where it is found. It is unsurprising that Hiberno-Scandinavian coins are found in significant numbers in the Insular world. They came to dominate the currency of the Isle of Man during the course of the eleventh century, as is demonstrated in Figure 8.11, despite the existence of a mint on the island.⁹⁰⁰ A similar dominance of coined silver can be found in areas of Scotland although the greater presence of weight-adjusted ‘ring money’ means that their use is more ambiguous in this context.⁹⁰¹ Their near absence from England should not be deemed too significant. While a handful of coins are known from English contexts, it is likely that almost all Hiberno-Scandinavian coins would have been turned into English coins upon arrival in their ports.⁹⁰² This finds some support in the similarity of alloys in mints around the Irish Sea.⁹⁰³ While impossible to prove, given the trade that is known to have occurred between Dublin and England, it seems very likely that significant numbers of coins were exported there from Dublin.⁹⁰⁴ The presence of Hiberno-Scandinavian coined silver in areas beyond Ireland is important when ‘wastage’ is considered in relation to the volume of silver.⁹⁰⁵ The finds also suggests that, for much of the eleventh century that Hiberno-Scandinavian silver was functioning as a *de facto* currency for a number of areas in the Irish Sea, in a similar way to Anglo-Saxon coins had in the tenth. The dominance of the Irish Sea by coins from Dublin, over and

⁹⁰⁰ Data from Bornholdt-Collins 2003; Bornholdt-Collins *et al.* forthcoming.

⁹⁰¹ Williams 2006.

⁹⁰² Blackburn 2008, 103 and 134.

⁹⁰³ See section 5.1.1.

⁹⁰⁴ See section 2.2.

⁹⁰⁵ See section 4.3.4.

above those from England, concords well with imagery which would suggest transnational users were its audience.⁹⁰⁶

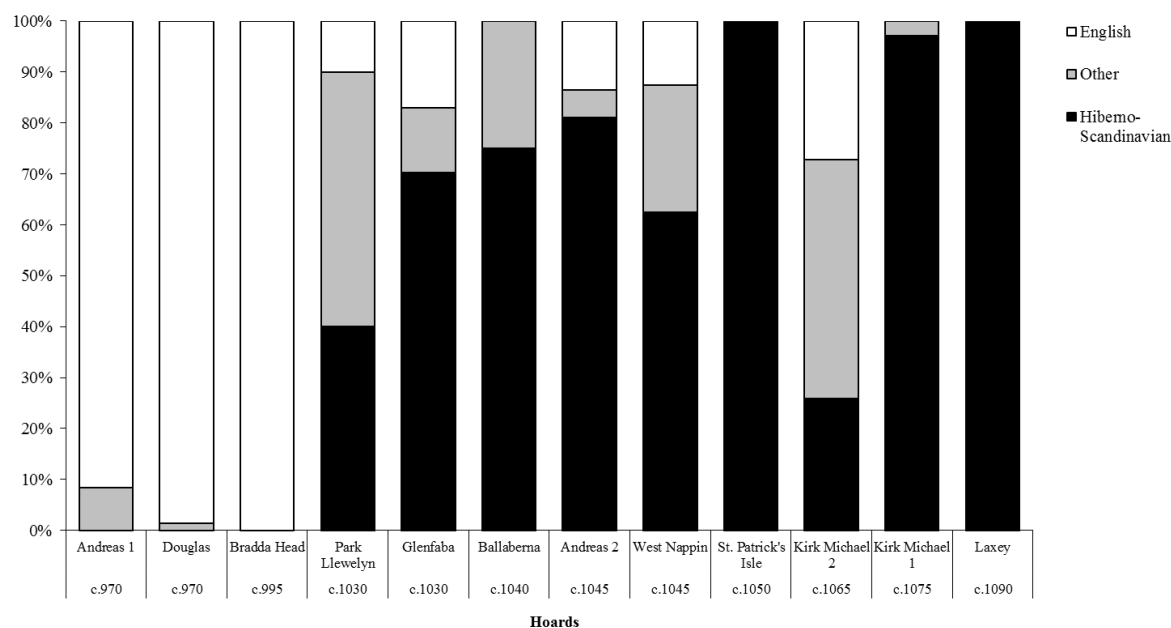


Figure 8.11 – Origins of coins within Manx hoards

Moving further afield, there are finds of Irish coins in a number of contexts beyond the Insular world. They are most common in Scandinavia in the early part of the eleventh century. Indicative of the export of Hiberno-Scandinavian coins is the fact that at least 78 Group B Hiberno-Scandinavian coins are known in the Stockholm collection and amongst a slightly larger sample (Figure 4.7), across more of Scandinavia, this figure can be revised into the hundreds.⁹⁰⁷ These coins were exported in substantial numbers but their volume is consistently dwarfed by Anglo-Saxon coins in Scandinavian hoards.⁹⁰⁸ Coins from Dublin ultimately reach as far East as the Baltic.⁹⁰⁹ Moving further afield, there are two hoards and at least one single-find of Hiberno-Scandinavian coins from northern Italy.⁹¹⁰ The finds must be linked with

⁹⁰⁶ See section 6.1.

⁹⁰⁷ Blackburn 2008, 127.

⁹⁰⁸ Blackburn & Jonsson 1987.

⁹⁰⁹ Dolley 1979.

⁹¹⁰ Dolley & Lane 1968; Orlandoni 1983, 112-14; Serafini 1951.

pilgrimage routes, as is emphasized by the single-find which derives from Rome itself. The Scandinavian finds emphasize the wide trading routes that connected Dublin with much of northern Europe. Similarly, other finds emphasize the movement of those from the Irish Sea across much of contemporary Europe.

8.5 When was coinage used?

8.5.1 The expansion of coin use

Chapter 9 The chronological distribution of the single-finds is charted in Figure 8.12. The first point to note from this figure is that the single-finds would suggest that the tenth century witnessed the beginnings of coin-usage in Ireland. Before this period there had been only a smattering of coin finds in Ireland, seven English coins datable to the ninth century to which can be added a further seven, undated dirham finds. The steadily increasing numbers of single-finds would suggest an expansion of monetary activity in Ireland during this period. This view would accord well with that offered by the hoards which suggest that coinage became an increasingly important element within hoards during the mid- to late-tenth century.⁹¹¹ Before this it appears that silver was primarily in non-numismatic form.⁹¹²

⁹¹¹ Blackburn 2007b; Bornholdt-Collins 2010.

⁹¹² Sheehan 2000.

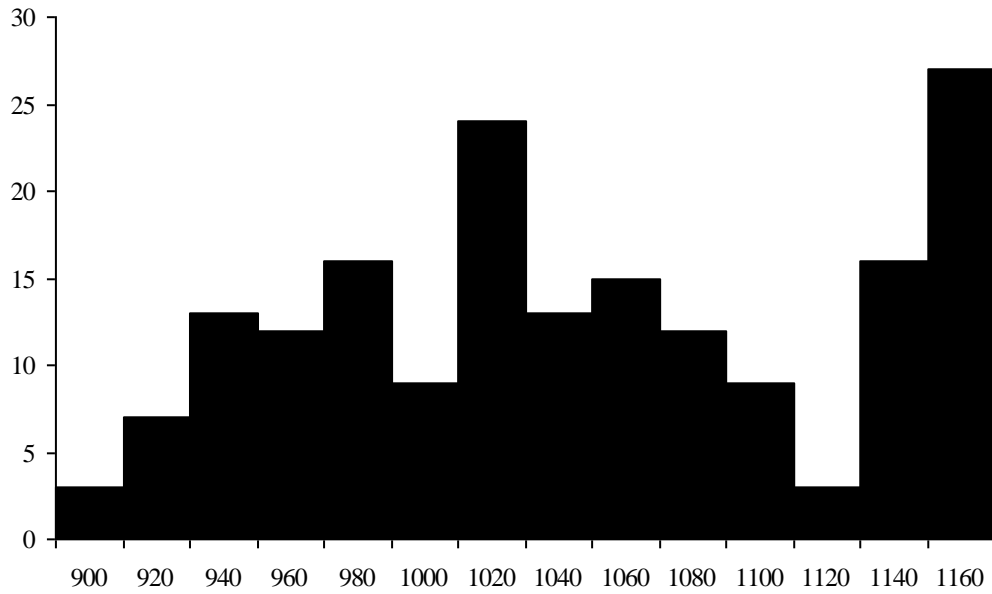


Figure 8.12 – Chronological distribution of Irish single-finds, c.900-1170

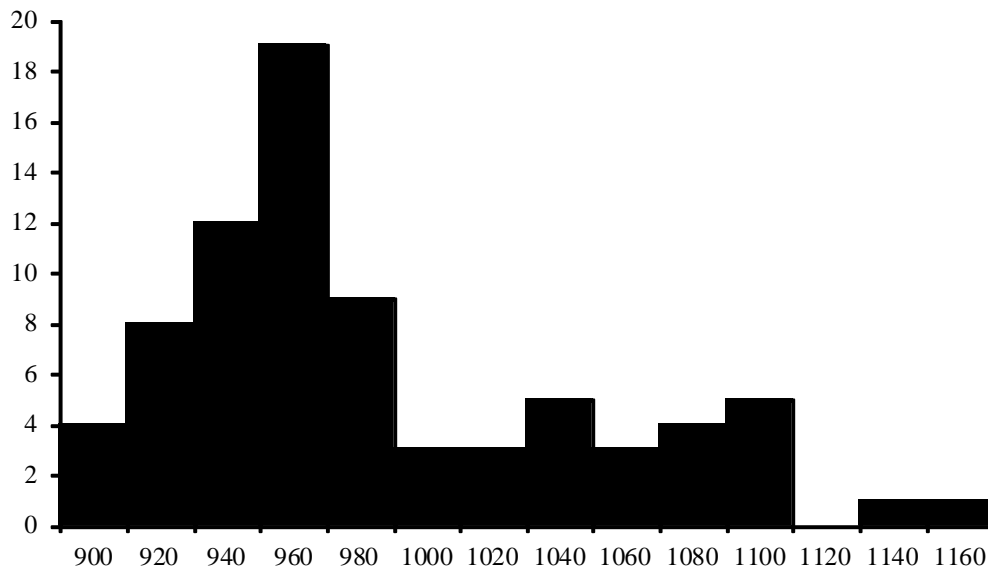


Figure 8.13 – Chronological distribution of Irish coin hoards, c.900-1170

The single-find evidence would suggest that coinage continued to be used on a similar scale into the eleventh century. This is a point worthy of emphasis as the coin hoards suggest that the tenth century was the most important for the use of coinage in Ireland. Figure 8.13 shows that there is a significant peak to hoarding activity during the tenth century, centred on *c.970*, which is not matched in the single-finds.

Hoarding activity is certainly at its peak in the tenth century with the number of hoards deposited *c.*970 outnumbering the combined twelfth-century total. It might be tempting to view the tenth century as a period where more coinage was present and available for hoarding. However, as discussed above, the number of hoards is not a good indicator of the presence of coinage and the single-find evidence gives a quite different impression. It is far more consistent across the period; at no point is there the same dramatic spike as is visible in the hoard record. Indeed, the period around *c.*970 does not appear particularly remarkable in the single-find record. The reasons behind this divergence can only be interpreted within the context of differing deposition circumstances. The evidence of the single-finds suggests that any simple equation of the availability of coinage and numbers of hoards is patently false. Where spikes occur in the single-finds they do not match the size, or chronology, of the peak in hoards. The single-find evidence shows that across much of the period 940-1080 there was a comparable amount of coinage being lost, suggesting broadly similar levels of monetary activity during the period. It seems likely that the single-finds represent the underlying monetary trends with unusual peaks in hoarding attributable to other factors.

Significant monetary activity during the eleventh century is suggested by the single-finds. This is what would be expected as this was the period when Dublin produced its own coinage. The relative importance of this coinage is emphasized as coins of Group F (*c.*1020-40) are a very common Irish single-find. The early-eleventh century appears to represent a period where coinage was at its most plentiful, or was used most intensively, in Viking Age Ireland. It would certainly appear to represent a high-point, with numbers of single-finds growing during the tenth-century and peaking in first half of the eleventh century.

8.5.2 Contracting monetary use

In the hundred-year period after this peak there is a decline in single-finds, reaching a nadir in the early years of the twelfth century. It seems likely that this should be considered within the context of a declining availability of coinage. Above it has been suggested that the eleventh century saw a gradual reduction in the volume of currency and also a marked decline in the weight of the coins.⁹¹³ The decline in single-finds probably mirrors this with the smaller pool of currency making coinage a scarcer commodity. This decline is quite visible in the finds from within Dublin suggesting that the decline emanated from the town. That it also occurs in areas beyond this highlights the relatively close and consistent connections between town and areas beyond this.

8.5.3 The twelfth-century explosion

In contrast, the sudden explosion of finds in the mid-twelfth century is remarkable and it is one of the most important aspects of the single-find evidence. Hoards are almost non-existent for the period after the opening years of the twelfth century. This has often been taken as indicative of a coinage which somewhat peters out, with poor quality and light-weight coins.⁹¹⁴ This is an idea which must be dismissed as the bracteate coins are amongst the most common single-finds of the entire period. This is despite their extreme fragility, suggesting that the surviving numbers are probably an underestimation compared to the more robust silver pennies.⁹¹⁵ The recovered numbers rival the early-eleventh century peak but interpreting this large number of

⁹¹³ See sections 4.3.5 and 5.2.1.

⁹¹⁴ Dolley 1966a, 87.

⁹¹⁵ Late bracteate coinages are very fragile due to their high copper content. At the High Street excavation in Dublin one coin disintegrated before it could be conserved. Another coin, from the Fishamble Street excavations, was conserved alongside sediment as it was deemed too fragile to remove it.

single-finds is not simple. It is tempting to think that their production, as light-weight pieces of very low silver, suggests that they may well have been a reaction to a shortage of silver in Ireland. After a period of declining finds and metrology, the sudden explosion of single-finds would suggest the debased, and presumably lower value, bracteates were a very active part of a monetary economy. They may either have been struck on a far larger scale than has previously been envisaged or perhaps, due to their lower value, used for a greater number or range of transactions. It is tempting to draw parallels with the ninth-century styca coinage of Northumbria where copper-alloy coins replaced silver and appear to have been struck on a far greater scale, presumably to compensate for their lower value.⁹¹⁶

Their absence from hoards, especially the much debased late coins, is worthy of note. It is at this point that the contrast between the single-finds (Figure 8.12) and the hoards (Figure 8.13) is most marked. It seems likely that the bracteate coins, whilst indicative of a relatively active monetary economy, were probably unworthy of hoarding. They may have had less of the normal functions of early medieval coinage than their earlier counterparts, serving largely as a means of exchange but with less importance placed upon them as stores of wealth.

8.6 Who was using coinage?

The above has considered the areas and periods in which silver circulated within Ireland. This provides a framework for discussing the people involved in this process. Whilst it is impossible to determine exactly who was using coinage, especially in the absence of more specific written references, the types of sites and configuration of the hoards allow for comments to be made about the regularity of contact between the

⁹¹⁶ Metcalf 1987.

coin-producing town and coin-consuming rural areas and how this relationship may have been mediated.

8.6.1 The regularity of exchange

The evidence from both hoards and single-finds emphasizes the importance of Dublin and also the regular contact that coin-using areas of Ireland had with the town. From the end of the tenth century Dublin produced its own coinage and was reasonably effective at enforcing the use of these coins, rather than the other types of silver that must have entered from the Irish Sea. This change was not instantaneous with some English coins still circulating alongside those struck in Dublin. However the change was, by the mid-eleventh century, fairly complete.

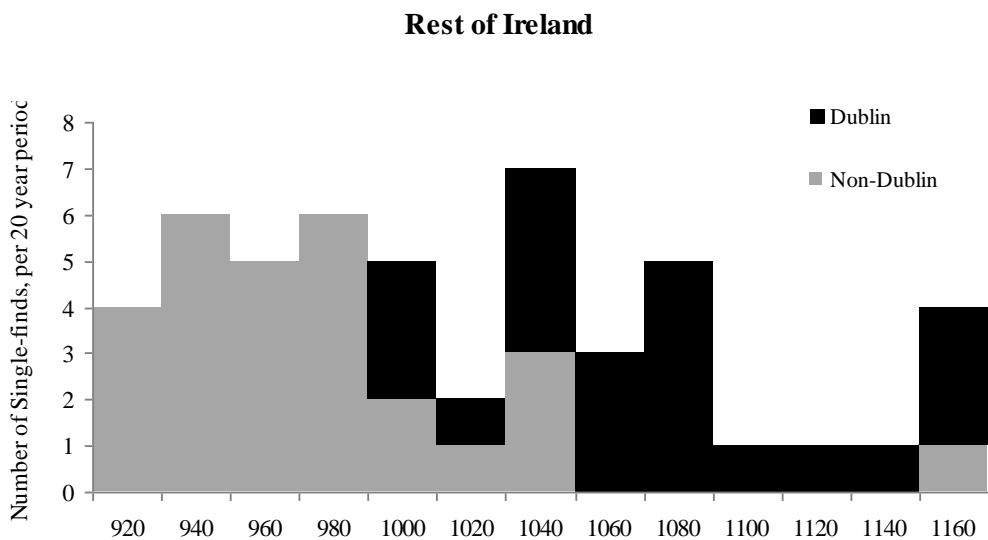
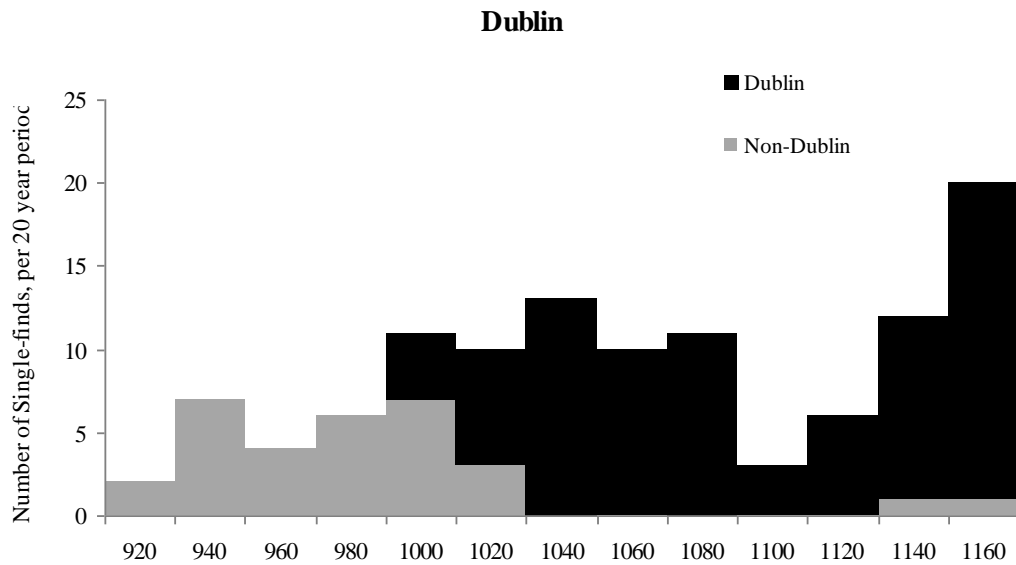


Figure 8.14 – Comparison of Dublin and the rest of Ireland’s single-finds, divided by place of production, c.900-1170

This change in the form of the currency is visible across all coin-using areas of Ireland. Figure 8.14 shows a comparison of single-finds, divided according to their place of striking, between Dublin and other areas in Ireland. It shows that there are similarities in the chronology of the switch between foreign and Hiberno-Scandinavian coinage. Dublin was using some foreign silver into the 1030s the rest of Ireland continued a little later. This is also visible in the percentages of foreign silver

that are present within the hoards.⁹¹⁷ Figure 8.14 demonstrates this change with the figures emphasizing the relatively rapid change. It seems that the change in Dublin's currency also altered the circulating coinage across all coin-using areas of Ireland. That this occurred near-simultaneously suggests that there was regular economic contact between Dublin and other coin-using areas. If there was not, then it would be expected that English coins would have continued to circulate for longer periods beyond Dublin. It also suggests that, as has been discussed from a geographic perspective above, that Dublin was central to the use of coinage. Significant numbers of foreign coins are not present in any area of Ireland. If there was large-scale, direct trade between areas outside of Dublin and England or other coin-using economies then it would be expected that a small amount of foreign silver would have entered the pool of currency. That this does not occur suggests that Dublin must have acted as the conduit for almost all of the external exchange, or at least all that used silver, which was occurring in Ireland.

⁹¹⁷ See section 6.2.3.

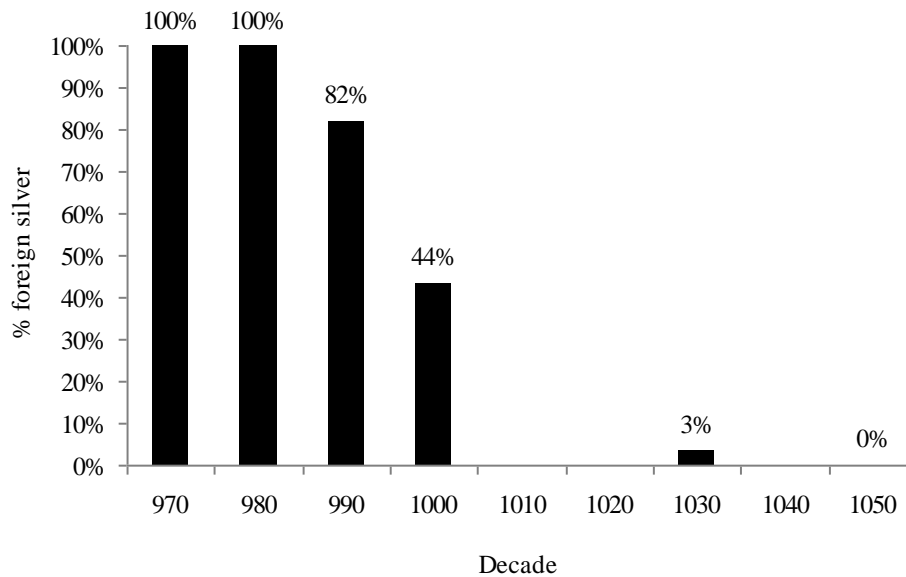


Figure 8.15 – Percentage of foreign coinage in quantifiable Irish hoards, c.970-1050

The regularity of the contact between Dublin and other areas of Ireland also suggests a relatively rapid velocity of circulation. Quantifying the rapidity by which coinage circulated is very difficult in Ireland as recoinages complicate the picture but relatively few ‘old’ coins are found in hoards. If circulation were slow, meaning coins were infrequently re-minted, then a variety of old currency would be expected within the circulating medium. The Clonmacnoise hoard contains coins that are up to 30 years old at its deposition whilst Dunamase may have coins as old as 25 years but these are the exception. Most hoards have relatively short periods represented in the surviving coin, which are indicative of a currency that was under-going quite rapid turn-over. An illustration of the point can be found in the hoards of the 1090s with coin types of the Glendalough hoard (c.1090) showing almost no overlap with the parcel of coins that passed from the Irish Sea Region to Northern Italy to be deposited there in c.1100. Within a ten year period, there had been significant renewal of the circulating currency indicating relatively active changing, and presumably circulation, of coinage.

8.6.2 The role of the church

Whilst consistent and regular contact between Dublin and rural areas outside of the town is suggested, how this occurred is difficult to determine as there are fewer finds. However, looking at the types of sites that coins occur on can help to interpret the interaction between the town and other areas of Ireland. It seems that much of this contact may have been mediated through the church as there is a concentration of finds around religious houses. If urban areas are excluded then the single-finds show an over-representation of ecclesiastical sites. Around 13% of non-urban, early medieval excavated sites are determined to be of ecclesiastical nature.⁹¹⁸ This is a much lower percentage than the single-finds where 33% of finds are from an ecclesiastical context. Whilst secular contexts for coin finds are still the majority it is likely that this might be reversed if excavation had occurred more evenly across the site types.

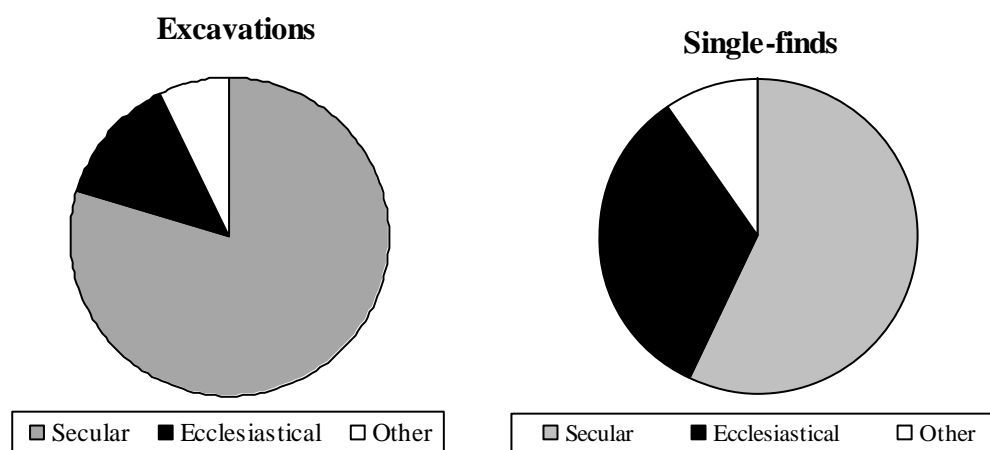


Figure 8.16 – Comparison of early medieval excavations and coin finds, defined by site type (excluding urban finds)

⁹¹⁸ Kerr *et al.* 2010b.

Integrating the single-finds with the hoards it is noticeable that several ecclesiastical settlements have produced a number of finds.⁹¹⁹ Several coins have been found at Armagh (six single-finds and two hoards, *c.*780-1110), Glendalough (three hoards, *c.*940-1100), Clonmacnoise (two single-finds and one hoard, tenth and eleventh century), Inish Cealtra (two single finds and one hoard, *c.*1030-1100?). Other ecclesiastical settlements, including Ardfert, Derrykeighan, Rahan and Ardagh, have also produced evidence for the use of coinage.⁹²⁰ The consistency of finds at ecclesiastical settlements is in contrast to most other sites outside of Dublin where few can claim any more than either a single-find or a hoard. The presence of multiple finds means that it can be argued that there was a consistency to coin loss over relatively significant periods of time at ecclesiastical sites. The numbers of coins found at ecclesiastical settlements and their loss over a period of time is suggestive of at least semi-regular coin-use at some churches, although not on a scale to rival Dublin.

The distinctive ‘monetary zone’ that is described above may also be explained by this ecclesiastical link. Figure 8.17 maps the concentration of coin finds with the large enclosed ecclesiastical settlements, as modelled by Swan.⁹²¹ The clustering of significantly-sized ecclesiastical enclosures is in the area to the west of Dublin. This is unsurprising as this is where the best agricultural land is to be found.⁹²² The highest proportion of ecclesiastical settlements in Ireland was found within this area and these houses had extensive rights to land which were immune from many of royal dues.⁹²³ It may be that the economic relationship between Dublin and this area of Ireland was strongest because of the economic surplus that was being generated from extensive

⁹¹⁹ *cf* Bradley 2008, 331.

⁹²⁰ See Appendix F; Dolley 1965; Hall 1974, 77.

⁹²¹ Swan 1983, 275.

⁹²² Edwards 1990, 51.

⁹²³ Byrne 1973, 269.

land-holdings on good lands immune from local dues. The question of how Dublin provided raw materials, including food, for itself may possibly be found in the centralising and surplus-generating ecclesiastical settlements of the Irish Midlands.⁹²⁴

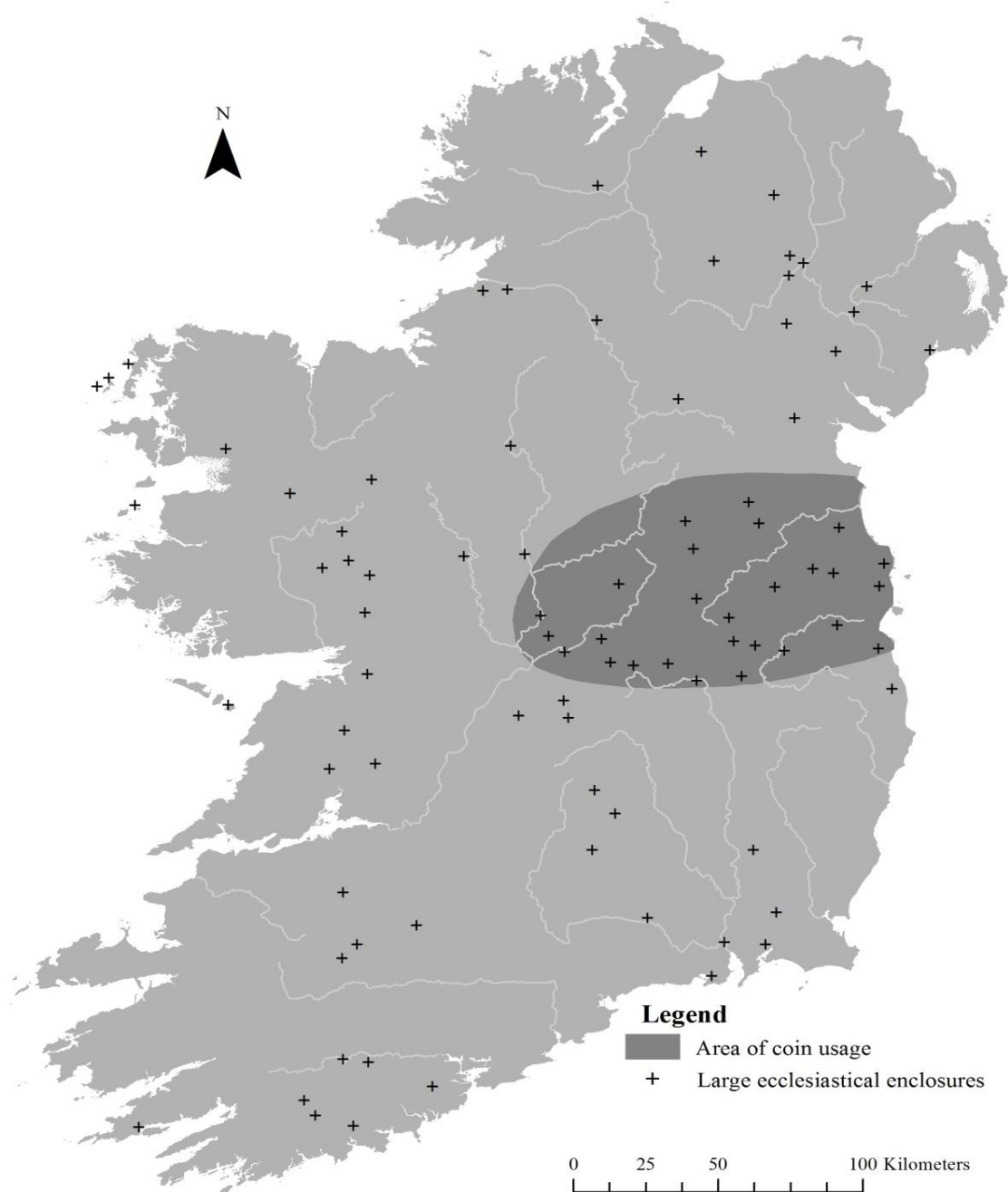


Figure 8.17 – Comparison of coin finds and large, enclosed ecclesiastical settlements

⁹²⁴ Geraghty 1996.

That Dublin should be involved in economic relationships with ecclesiastical centres is unsurprising. Ecclesiastical settlements have, although not without controversy, been described as ‘monastic towns’ in some literature.⁹²⁵ Much of the debate on this issue has revolved around questions of definition and dating with objections raised to descriptions of towns in Ireland before the ninth-century.⁹²⁶ However, after AD 900 the argument is a much stronger one with Bradley arguing that ‘during the tenth century, the fusion of secular and ecclesiastical power, together with a developing economic system based on redistribution, transformed a few of the more important ecclesiastical sites into monastic towns’.⁹²⁷ The focus on this later period is borne out by evidence from Clonmacnoise with the eleventh and twelfth century seeing an alteration of faunal remains that indicate specialised production of bone and antler.⁹²⁸ At a number of other ecclesiastical settlements there is evidence for craftspeople and traders which suggest that these areas acted as ‘a focus for regional trade’.⁹²⁹ This view would accord well with the evidence of the coinage which does suggest both a significant economic role and a link to the urban environment for ecclesiastical sites.

8.6.3 Coinage and the other Hiberno-Scandinavian towns

The distribution suggested for the use of coinage in Ireland largely excludes the other Hiberno-Scandinavian towns. Only a single coin of definitively pre-Norman date have been unearthed in Waterford despite relatively extensive excavation within the town.⁹³⁰ Similarly, Cork and Limerick have both produced a single coin.⁹³¹ The

⁹²⁵ Doherty 1985; Valante 1998a; Bradley 2008; Etchingham 2010.

⁹²⁶ Etchingham 2010.

⁹²⁷ Bradley 2008, 354.

⁹²⁸ Soderberg 2003, 637.

⁹²⁹ Bradley 2008, 355.

⁹³⁰ Appendix F; *cf* Lewis 1837; Hurley et al. 1997.

⁹³¹ See Appendix F.

contrast between the similarities of the towns to Dublin in terms of, for example, building architecture, and the differing levels of coin finds is thus striking.⁹³² Determining whether this is a genuine distribution or an artefact of differing survival/recovery is difficult.⁹³³ There has been minimal excavation of early medieval material in either Cork or Limerick so little can be read into the absence of coin finds. The situation in Waterford is a little different but there are hoards found in the vicinity of the town which suggest that there were likely to be coins within it. The Knockmaon and enormous Dunbrody Abbey hoards are both found close to the town.⁹³⁴ These finds might suggest that it was likely that coinage was present within the town, with the near absence of single-finds suggesting that it was used far less than in Dublin. This may have been restricted to certain areas of the town, mirroring the general distribution of Dublin, which may still be unexcavated.⁹³⁵ Alternatively if further excavation confirms an absence of finds in the town then Dublin's relationship with York can be interpreted to be of greater importance. It is the mid-tenth century when significant numbers of coins begin to emerge from Dublin's excavations, shortly after a proportion of its population returned from coin-using England.⁹³⁶ It may be that this population brought with them knowledge of coin-use which helped to encourage its use in Dublin, to the exclusion of other areas.⁹³⁷

8.7 Defining coin-use in Ireland

The above has considered the use of coinage in Ireland by examining hoards and single-finds with a brief survey of some textual evidence. From an examination of the distribution of finds it is possible to trace some general patterns in monetary activity.

⁹³² Wallace 1992a; Boyd 2009.

⁹³³ See section 7.2.1.

⁹³⁴ Dolley 1966a, 57, 67-8.

⁹³⁵ Hurl 1997; *cf* section 7.4.1.

⁹³⁶ See section 7.3.

⁹³⁷ *cf* Bornholdt-Collins 2003.

The first, and perhaps most crucial, element is the absolute centrality of Dublin to coin-usage in Ireland. Finds suggest that the town was the most likely place in Ireland for coins to be used. However, they also suggest that coin-use was not merely contained within the urban environment. It is possible to trace a zone of monetary activity, roughly 7500 sq. km, to the north and west of the town where a majority of coinage was probably used. This area is particularly visible in the period 900-1100 and was at its maximal extent during the course of the eleventh century. Subsequently, there was a rapid contraction of the area, but not intensity, of coin use in the twelfth century which is probably to be connected with the debasement of the coinage which transformed it from a silver to a copper-alloy currency.

This shifting pattern of coin usage should not be defined along ethnic lines. The distribution of coins within the 'zone of monetary activity' can be contrasted to the postulated area of the kingdom of Dublin.⁹³⁸ While Dublin's hinterland was focused upon the town and the areas immediately to its south along the coast, the use of coinage extends a significant distance inland. These are areas which were never controlled by the kings of Dublin. This is a point previously noted by Gerriets who used it to argue that coinage was used by Irish as well as Hiberno-Scandinavian in Ireland.⁹³⁹ While Gerriets predominantly focused upon tenth-century material the distribution of coinage in the later period would support her arguments. Coinage was not restricted to the Hiberno-Scandinavian settlers in Ireland but was adopted, in certain areas, by Irish as well. Ethnicity, if such a concept is valid in the early medieval period, was not a decisive factor in the use, or otherwise, of coinage in Ireland.

⁹³⁸ See section 2.1.2 and Figure 2.2.

⁹³⁹ Gerriets 1985a.

Similarly, distribution does not appear to have been greatly influenced by Irish royal authority, as has been implied in the past. The domination of Dublin by kings of Munster or Leinster did not lead to an increase in coin finds within those kingdoms. The converse is also true in Mide where the decline of the kingdom and its links to Dublin are not reflected in a reduction of coin finds. The finds would suggest that little importance should be ascribed to Irish kings when considering the use of coinage. This is a view that would be supported by the written documents which suggest that kings, either when reckoning or paying, were far more likely to utilise ounces, often of gold, rather than coins. This is not to say that kings were not ever coin-users but merely to note that decisions to use coinage should not be interpreted in the context of royal power.

It seems more likely that coin-use must be connected to proximity and regularity of contact with the urban environment of Dublin. The types represented in hoards across Ireland follow the patterns of the currency in Dublin and suggest that there was fairly regular contact between the town and the zone of monetary activity. This contact may have been mediated through ecclesiastical centres as there is an over-representation of coin finds at these sites. The distribution of coin finds also corresponds with areas of the densest concentrations of major religious houses. Ecclesiastical settlements appear to have served an increasing number of economic functions in the tenth to twelfth centuries, producing agricultural surpluses but also, increasingly, as centres of production. An interpretation where these served as redistributive centres, regularly interacting with Dublin is also borne out by the only unambiguous textual reference. This suggests that coin was used, on at least a semi-regular basis, to buy and sell foodstuffs in a ecclesiastical environment.

The last point to emphasize is the relatively constricted nature of coin usage in Ireland. Whilst there is some fluctuation in the zone of monetary activity described above, on the whole it is relatively consistent and also quite small. Strictly speaking, Pre-Norman Ireland was not coin-using but Dublin and a small area around it were. The small size of this area is important as the amount of coinage that is thought to have been struck in Dublin was not circulating far from its point of origin.⁹⁴⁰ That quite possibly millions of coins were contained within this small area suggests that, at least in places, there would have been quite extensive amounts of silver present. Thus, while the area may appear limited, the scale and velocity of monetary activity within this area must be emphasized.

⁹⁴⁰ See chapter 4.

Chapter 9 – Conclusions

This thesis has analysed the Hiberno-Scandinavian coinage of Dublin with the intention of considering early medieval Ireland's economy and political authority – with a particular focus on the intersection between the two. Chapters 1 to 3 provided the background to the analysis, laying out the pre-existing literature, historical and archaeological evidence. Each of chapters 4 to 8 focused upon analysis of the coinage from a different perspective; considering scale, administration, political authority, urban and rural usage. Here I bring together the strands from across these chapters, returning to the larger issues outlined in chapter 1. Initially the focus is drawing conclusions regarding the production and usage of coinage in Ireland. Broader discussions of economy, authority and economic agency are then possible. In the analysis of the economy, how monetised and commercial it was is of pressing importance. When considering authority, whether coins can be interpreted as political objects will be tackled. Finally, in exploring economic agency these two themes will be combined to question the extent to which political elites played a role in shaping the economic change that is visible through the evidence of the coinage.

9.1 Production

One of the essential elements of the study was to question how many coins were struck. This is an issue of fundamental importance for studies of coinage in many medieval contexts.⁹⁴¹ How 'monetised' was the economy? In absolute terms, it was suggested that the volume of currency, during the eleventh century when evidence is strongest, was likely to number comfortably over one million coins with 'normal'

⁹⁴¹ Gullbekk 1998; Lunden 1999; Gullbekk 2005; Mayhew 1995; Allen 2001; Allen 2006b; Jensen 1983; Bolton 2012.

mint output numbering tens of thousands of coins annually.⁹⁴² Volumes of this scale are comparable with the most prolific mints in contemporary England.⁹⁴³ Within its immediate context, Dublin probably represented the most significant mint in the Irish Sea reflecting a dominance of trade in the region. The importance of the city's maritime connections is also suggested by the homogeneity of silver alloys between Dublin and Chester which seem to suggest a pool of Irish Sea silver.⁹⁴⁴ Dublin was the most important mint, and in all likelihood commercial centre, in its immediate context.

Whilst much coinage was struck in early medieval Ireland, there was significant chronological variability. In broad terms, Ireland underwent a gradual reduction in the volume of circulating silver. A peak in the early eleventh century when *c.*1.8 million coins were struck from *c.*2500kg of silver, declined to *c.*1.2 million coins struck from *c.*600kg of silver a century later.⁹⁴⁵ Relevant data are unavailable from the mid-twelfth century onwards but qualitative data suggest that this pattern continued with ever diminishing volumes of silver.⁹⁴⁶ This hypothesis is supported by the pattern of single-finds. They peak in line with the growth in production, and decline in proportion to the shrinking volume of silver.⁹⁴⁷ The important observation is that the monetary economy of Dublin and Ireland was not static. It underwent dramatic expansion and subsequent contraction. If analysis were to be extended into the thirteenth century then the volumes of silver would suggest a dramatic increase, with the recoinage of the 1250s striking around four times the amount that had been

⁹⁴² See chapter 4.

⁹⁴³ See section 4.3.5.

⁹⁴⁴ See section 5.1.1.

⁹⁴⁵ See section 4.3.5.

⁹⁴⁶ See section 4.4 and 5.3.

⁹⁴⁷ See section 8.5.

achieved in the early eleventh century.⁹⁴⁸ There was no inevitable move towards an increasingly monetised economy. Instead there was a distinct ebb and flow to the use of money, much of which must have been connected with the availability of silver.

The maintenance/alteration of weight and silver standards illuminates the extent of political control over production, which can be compared with other medieval coinages.⁹⁴⁹ The gradual reduction in Hiberno-Scandinavian weight standards, alongside increasingly stylised imagery, has occasionally been perceived as evidence for a decline in standards or oversight at the mint.⁹⁵⁰ This issue was considered by comparing the accuracy of weight achieved in Hiberno-Scandinavian Dublin with Norway and England. It is apparent that the weight standard was relatively well-maintained; certainly on a par with Norway although significantly less precise than in England.⁹⁵¹ However, greater degrees of precision were found in discussion of the silver standards which were consistently high, generally in excess of 90% fine.⁹⁵² This was the one constant within the production of the Hiberno-Scandinavian coinage, remaining static as iconography and weight fluctuated. Explanations pertaining to the iconographic or weight variety of the coinage must look beyond technical deficiency. The appearance, fabric and silver of the coinage were careful and considered, implying effective oversight.

Building upon this, the question of who provided this administration, the authority behind the coinage, can be addressed. That this is uncertain stems from the fact that few of the coins name kings for whom they were struck. Moreover, Irish royal figures, often the 'high-kings', played major roles in the political life of Dublin from

⁹⁴⁸ Seaby 1974, 43.

⁹⁴⁹ Gullbekk 2009, 129–34; Petersson 1969; *cf* Blackburn 2008, 104–6.

⁹⁵⁰ Dolley 1966a, 129; *cf* Dolley 1987.

⁹⁵¹ See section 5.2.

⁹⁵² See section 5.1.2.

the mid-eleventh century.⁹⁵³ In short, one must ask whether the coinage be conceived of as ‘Irish’ or ‘Hiberno-Scandinavian’? With the exception of a small twelfth-century issue, it is argued that all the coins were struck in Dublin. The evidence also suggests that the authority over this production was also located within Dublin itself. The Hiberno-Scandinavian kings of the town probably provided oversight and administration for the coinage.⁹⁵⁴ There is little in the iconography that suggests Irish royal influence and the patterns of coin-usage across Ireland did not alter with the changing political allegiance of the mint-town.⁹⁵⁵ The coinage was ‘Hiberno-Scandinavian’, deriving from within Dublin itself.

Moving beyond who the authority behind the coinage was, is evidence for royal power evident upon the coins themselves? This question can be considered through an analysis of iconography, a technique employed elsewhere to comment upon the political and religious significance of medieval coins.⁹⁵⁶ The Hiberno-Scandinavian coinage had a distinctive and repetitive visual vocabulary which drew inspiration from religious motifs (stigmata and *Agnus Dei* are both represented) and other commercially successful coinages, particularly those of England.⁹⁵⁷ The importance of royal iconography was also explicitly discussed and a relatively limited political subtext was suggested. This is most clearly demonstrated in the decision to abandon the use of the bust, embodying the royal persona, in the early twelfth century. Geometric designs, drawing upon imagery from contemporary English coins, were used instead.⁹⁵⁸ It appears that the ideological potential of the Hiberno-Scandinavian coinage was not fully exploited by political rulers. That ‘commercial’ rather than

⁹⁵³ See section 2.1.

⁹⁵⁴ See section 8.4.3.

⁹⁵⁵ See sections 6.1.5 and 8.4.3.

⁹⁵⁶ See section 6.1.

⁹⁵⁷ See section 6.1.2.

⁹⁵⁸ See section 6.1.4.

‘political’ imagery was used may reflect the fact that there was a contested political system, with overlapping authority, within Dublin.⁹⁵⁹

9.2 Usage

Determining the extent of the use of coinage falls within the broader discussion of monetisation, which has been a preoccupation of much research.⁹⁶⁰ It has important implications for the extent of commercial exchange within the early medieval economy.⁹⁶¹ A comparison of the types and sizes of buildings within Dublin suggests that the use of coinage was widespread, with buildings as small as 5.5m by 5m producing coins on excavation.⁹⁶² As suggested above, it is likely that millions of coins were struck in Dublin, indicative of the volume of silver that was being brought to the town to be turned into local currency. Given this large number and the widespread distribution among Dublin’s buildings it is suggested that a majority, if not all, eleventh- and twelfth-century Dubliners were familiar with coinage. This is not to say that it was an everyday currency. Nonetheless, its usage, at least for some transactions, seems to have been common across the town. A maximal view of the monetary economy is thus suggested for Hiberno-Scandinavian Dublin.

When this analysis is broadened out to consider how consistent the use of coinage was beyond the town a much more equivocal answer is arrived at. When coin finds are considered spatially the distribution suggests that there was a ‘zone of monetary activity’ centred upon Dublin and the Irish midlands which remained consistent for much of the tenth to twelfth centuries.⁹⁶³ Dublin was at the heart of this monetary zone. The concentration of finds suggests that coinage was more likely to have been

⁹⁵⁹ See section 6.1.6.

⁹⁶⁰ Gullbekk 1998; Lunden 1999; Gullbekk 2005; Gullbekk 2011a; Mayhew 1995; Allen 2001; Allen 2006b; Bolton 2012.

⁹⁶¹ Gullbekk 2005.

⁹⁶² See section 7.2.3.

⁹⁶³ See section 8.4.1.

used there than anywhere else in Ireland. Beyond this, in a 'zone of monetary activity' arranged in an arc between 70 and 120km to the north and west of Dublin, it is suggested that coinage was used, rather than merely hoarded. However, the number of transactions was probably not comparable with the town. Outside this relatively constricted area, particularly in the north and west of Ireland, coinage was an unusual occurrence. In these areas coins are usually found in hoards, with no matching single-finds, implying only a very restricted usage.

The varying intensities of coin usage in Ireland may also reflect differing mentalities. It has been suggested that coin usage may have been a shared urban experience and it seems likely that they were given a token, 'over-value' at least in certain circumstances within the town.⁹⁶⁴ Beyond Dublin, evidence is patchy but suggests that a stronger link existed between a coin's value and its volume of silver. The clearest indication of this distinction is the fact that the token, copper currency of the twelfth century only functioned in and around the town. Whilst it is clearly a sketch, the distinction between Dublin and rural areas does seem a legitimate one. Differing practices, reflecting different mentalities, appear to have characterised these two areas. This disparity is perhaps also reflected in Irish textual evidence, which lacks clear references to the use of coinage. Where the means of exchange are mentioned they tend to focus upon commodity money and silver valued by its weight.⁹⁶⁵ Coinage, as distinct from other types of silver, made no significant impact upon the ecclesiastical writers of early medieval Ireland.

This apparent divergence between written evidence, where coinage is virtually absent, and the archaeology, where coinage has been argued to be common at least in certain circumstances, is particularly confusing when the relationship between Dublin

⁹⁶⁴ See section 5.4.

⁹⁶⁵ See section 8.2.

and the zone of monetary activity is considered. Dublin, clearly the centre of coin use, appears to have close and consistent contact with coin-using areas in the Irish interior. Coin types circulating in Dublin, and in areas beyond, quite closely reflected one another. This is most clearly demonstrated by the beginnings of the Hiberno-Scandinavian coinage where Anglo-Saxon coins were replaced by the new Dublin coinage, with rural patterns altering in line with those of the town within a short period of time.⁹⁶⁶ This rapid and regular contact may well have been mediated through ecclesiastical settlements which display the only major concentrations of coin finds beyond the urban environment of Dublin. The presence of coins on ecclesiastical sites despite their absence from texts written within those contexts is puzzling.⁹⁶⁷ This paradox is returned to below.

Some of the variability that can be traced in a spatial analysis is also visible when usage is considered from a chronological perspective. For a starting point, it is clear that coinage is virtually unknown before the tenth century, although the relative importance of hacksilver to the economy in the ninth century does complicate analysis.⁹⁶⁸ During the course of the tenth century a growing number of single-finds of whole coins point towards increases in the amount of ‘monetary activity’ within Ireland.⁹⁶⁹ It seems likely that this reflected both a larger volume of coinage in circulation and an increase in the number of transactions that could be carried out using the coinage. This trend continued in the early eleventh century as both the record of single-finds and estimates of production suggest that this was the high point for coin-usage in pre-Norman Ireland. Millions of coins are likely to have been struck and, presumably, a fairly significant number of these were actively used. While the

⁹⁶⁶ See section 8.6.1.

⁹⁶⁷ See sections 8.2 and 8.6.2.

⁹⁶⁸ Sheehan 2000; Sheehan 2007; Blackburn 2007b; Bornholdt-Collins 2010.

⁹⁶⁹ See section 8.5.

velocity of circulation is difficult to estimate, the fact that the alloys of the Irish Sea homogenised between the tenth and eleventh centuries is suggestive of an increasing frequency of coin usage.⁹⁷⁰

Dwindling silver availability in the late-eleventh and twelfth century saw a gradual reduction in the weight standard of the coins, a decline in the number struck and a corresponding drop in the number of finds. This trend culminated in the twelfth-century abandonment of a high silver alloy and striking of base-metal bracteates.⁹⁷¹ This debasement enabled a larger number of coins to be struck from the dwindling stock of circulating silver. It had a dramatic effect upon the use of coinage, with the finds distribution highlighting the fact that only the area immediately around Dublin continued to use the token, copper currency.⁹⁷² Beyond the town and its environs the use of Hiberno-Scandinavian coinage ended. The differing geographical responses to the production of bracteates highlight the varying importance ascribed to coinage in early medieval Ireland. That the token currency was produced and continued to be used in the town highlights the importance of coinage to Dublin. It had become a significant means of exchange in this urban context and, despite a silver famine, a desire for coinage remained. This suggests a deeply-rooted coin-using mentality within the town. The lower-value bracteate coins are found in large numbers within Dublin and may even have been used in a wider range of transactions than had previously been the case. For much of Ireland, conversely, the twelfth century saw a retreat of the monetised economy. From a chronological perspective, the twelfth century bracteate coins highlight the fact that commerce using coinage did not undergo an inexorable advance but could expand and contract quite dramatically. The

⁹⁷⁰ See section 5.1.1.

⁹⁷¹ See section 5.1.2.

⁹⁷² See section 8.4.2.

monetary economy was at its peak in the eleventh century, receding in geographical terms over the next century and quite dramatically in the twelfth.

When considered in the language of ‘monetisation’ it appears that Ireland was not evenly, and certainly not fully, monetised at any point in the early medieval period. There was certainly a monetary economy outside Dublin but this is likely to have been small, when considered as a fraction of the whole. However, in certain situations, using coinage may not have been that unusual. The point to emphasize is that the use of coinage was quite uneven in its distribution, both chronologically and geographically.

9.3 Economy

One of the crucial elements within discussion of the medieval economy has been considering the extent of commercial exchange, particularly seeking to focus upon the chronology of, and the means by which it became significant.⁹⁷³ In an Irish context, the importance of commerce has often been interpreted as minimal, largely restricted to urban environments.⁹⁷⁴ Where suggestions of inland, Irish markets have been made they have met with fierce criticism.⁹⁷⁵ While there has been some archaeological investigation of this issue, predominantly study has been historical which has made questions of chronology and quantification difficult.⁹⁷⁶ In this thesis coinage has been utilised to suggest that exchange, presumably largely commercial in its character, occurred more frequently than might be envisaged, at least within certain circumstances, in Ireland.

⁹⁷³ See section 1.2.

⁹⁷⁴ Comber 2008, 167; Doherty 1980, 67; Comber 2001; Etchingham 2010; Wallace 1987a.

⁹⁷⁵ Valante 1998a; Etchingham 2010; *cf* Bradley 2008.

⁹⁷⁶ Doherty 1980; Doherty 1982; Gerriets 1985b; Gerriets 1985a; Swift 1998; Etchingham 2010; although *cf* Comber 2001.

9.3.1 Commerce in spatial perspective

The first and most clear point is that much, perhaps a majority, of commerce was indeed centred upon Dublin. This is hardly revolutionary as most proxies – be they ceramics,⁹⁷⁷ exotic imports⁹⁷⁸ or written evidence⁹⁷⁹ – all suggest that commercial activity was common in Dublin. Coinage was likely to have been known to all within the town without necessarily being in ‘everyday’ usage. The distribution of finds in small, presumably poor buildings and associated with leather-working, a low-status activity, has led to the suggestion that it is likely that most town dwellers were familiar with the use of coinage.⁹⁸⁰ This would imply that a commercial mindset permeated the town, with many transactions being driven by the potential for economic gain. This is a finding which mirrors observations from much of the rest of Europe where towns are often seen to be the centres of coin usage and commerce.⁹⁸¹ The coin finds suggest that Dublin was a significant driving force behind alterations in the early medieval Irish economy with commerce, where it occurred, radiated outwards from the town.

It is much more difficult to make similar arguments for Ireland’s other towns as these have virtually no coin finds. This is perplexing as eleventh-century Waterford, in particular, was fairly substantial, shows evidence of imported ceramics and has been quite extensively excavated.⁹⁸² Explanations for this may lie in the differing scale of Dublin. Hoards are arrayed in an arc around the town suggesting that it represented the main entry point and most likely place for the use of silver in Ireland.⁹⁸³ However,

⁹⁷⁷ Wallace 1987a, 217–18; McCutcheon 2006, 36, 59.

⁹⁷⁸ Heckett 1987; Wallace 1987a, 211, 219.

⁹⁷⁹ Wallace 1987a, 224–5; Hudson 1999, 42; Valante 1998b, 256–7; Hudson 2005, 42; Valante 2008, 131.

⁹⁸⁰ See section 7.2.

⁹⁸¹ Johanek 2000; Risvaag & Christophersen 2004.

⁹⁸² Hurley *et al.* 1997.

⁹⁸³ Kenny 1987; See section 8.4.

this is unlikely to explain the complete absence of coinage from other towns as it is clear from the imported pottery that commerce was occurring there.⁹⁸⁴ Explanation may perhaps be sought in the fact that Waterford and other Hiberno-Scandinavian towns became subsumed into Irish polities earlier and more completely than Dublin.⁹⁸⁵ The continuation of a Hiberno-Scandinavian king in Dublin and apparent indifference towards coinage on the part of Irish kings may explain the absence of coinage elsewhere.

Although numbers are smaller, coin finds suggest that a 'zone of monetary activity' existed around Dublin which remained quite stable from the tenth to the twelfth century. The contact between town and rural areas was regular, with coin types closely mirroring one another. The routes by which this exchange occurred are uncertain but there is some evidence for concentrations of finds at ecclesiastical sites.⁹⁸⁶ The monetary relationship, likely indicative of more widespread economic contact, was also concentrated in the area of Ireland with the greatest agricultural potential.⁹⁸⁷ There is slight evidence that ecclesiastical settlements were becoming more commercial from the eleventh century, with markets and specialised 'mass-production' emerging.⁹⁸⁸ This is likely to be through their contact with the town. The transformative economic role of the church can be stressed as ecclesiastical sites seem to be one of few places where coinage was actively used outside of the urban environment.

More broadly, the evidence for commercial activity outside Dublin is quite limited. The absence of coin finds across the majority of early medieval Ireland is likely to be representative of more socially-embedded exchange. This would accord

⁹⁸⁴ McCutcheon 1997.

⁹⁸⁵ Duffy 1992.

⁹⁸⁶ See section 8.6.2.

⁹⁸⁷ See section 8.6.2.

⁹⁸⁸ Bradley 2008.

with a view of the Irish economy presented in written documents which appears very largely based upon customary dues and redistribution.⁹⁸⁹ There is little to suggest that there was wide-spread commercial exchange in much of rural Ireland. This is a pattern which is paralleled elsewhere in contemporary Europe, such as in Norway where significant differences in commerce between urban and rural areas are postulated.⁹⁹⁰

Caution must be used when analysing coinage as it was not the only means of exchange, merely the most archaeologically visible.⁹⁹¹ Other means of exchange (livestock and textiles being clear examples) may have fulfilled similar functions, but this is beyond the scope of the current work.⁹⁹² Nevertheless, coins are among the clearest indicators of a commercial mindset. Coinage flourished in towns as, in the language of economic anthropology, Dublin represented the least ‘socially embedded’ economy in early medieval Ireland. Exchange at all other sites, with the partial exception of some ecclesiastical settlements, was probably more socially embedded. Indeed, the inherent variability of the Hiberno-Scandinavian coinage may have contributed to the growth of the market economy. It is likely to have led to the constant need to renegotiate value and price. The huge variety of commerce within medieval society is the point to emphasize. It seems likely that a fairly lowly but specialist shoe-maker in Dublin had a commercial mindset, using coinage, when kings in the west of Ireland were engaged in reciprocal and redistributive economic relationships. The town, bringing together a range of people of quite different backgrounds, saw the greatest freedom for the pursuit of profit, the least socially-

⁹⁸⁹ See section 8.2.

⁹⁹⁰ Gullbekk 2011a.

⁹⁹¹ Kelly 1988, 112–16; Kelly 2000, 587; Gullbekk 2011b; Gullbekk 2011c; Skre 2011.

⁹⁹² Kelly 1988, 112–16.

embedded exchange. Elsewhere a commercial mindset certainly existed, but it appears that it was very much reliant upon connections with the town.

9.3.2 The chronology of economic change

There is also an important chronological development to economic change. There is little surviving archaeological evidence to suggest significant commercial exchange in eighth-century Ireland, while the £40,000 of silver in circulation in the thirteenth century is suggestive of very significant commerce.⁹⁹³ The chronology of the period between is the focus of this thesis. The issue of when significant commerce, as suggested by circulating silver, began is difficult to assess as one could argue that the metal-weight silver hoards of Ireland represent commercially-exchanged means of payment before the issue of coinage. However, the peak in coin finds and increasing homogeneity of silver alloys in the early eleventh century suggest that this can be seen as the point at which commerce became significant in an Irish context. This is not to say that it was not present before, or that there was not significant growth in commerce later. Imported pottery of the seventh-century and the vastly larger circulating currency of the thirteenth century certainly highlight these qualifications, but the point can be made that the eleventh century is likely to have witnessed more commerce in Ireland than there had ever been before.⁹⁹⁴ This commercial boom appears to be matched in the topography of Dublin which almost doubled in size between AD 1000 and 1100.⁹⁹⁵

It is difficult to sustain a similar argument for the twelfth century when there was a contraction of both the production and use of coinage across most of Ireland. There

⁹⁹³ Seaby 1974, 43.

⁹⁹⁴ Edwards 1990, 69–72; Seaby 1974, 43.

⁹⁹⁵ See section 2.3.

were certainly fewer coins in circulation.⁹⁹⁶ This is a particularly important point as it is possible to argue for ‘economic boom’ in the eleventh century and ‘commercial revolution’ in the thirteenth.⁹⁹⁷ The evidence for twelfth century Ireland can be argued to stand in contrast to both of these periods. However, it is difficult to ascertain whether this represented a decline in the volumes of commerce or the use of other means of exchange. In Dublin during the twelfth century, economic resources appear to pour into building, with a stone defensive wall and churches constructed across the landscape, but there is little to suggest substantial growth in Dublin’s population.⁹⁹⁸ The area enclosed within the walls of the town doubled in size over the course of the eleventh century but shows much less pronounced expansion in the twelfth.⁹⁹⁹ If the eleventh century can be characterised as an ‘economic boom’ then it is difficult to make similar arguments for the twelfth, perhaps stagnation or retraction can be envisaged on a broad scale.

The chronology of monetary expansion and subsequent decline in the twelfth century is found to be matched in a number of other areas of Europe. The volume of single-finds decreased significantly during the course of the late-eleventh century and into the twelfth in England, recovering only late in the century.¹⁰⁰⁰ Qualitative measures from across Europe are similarly revealing. Norway, for example, struck increasingly base, light-weight coins as the period progressed and various parts of central Europe struck inferior or no coin at all.¹⁰⁰¹ The evidence from Ireland fits into this wider picture but goes a step further allowing quantification to a greater extent. Around one quarter of the weight of silver was circulating in *c.*1100 as in *c.*1000 in

⁹⁹⁶ See sections 4.3.5 and 8.5.

⁹⁹⁷ For discussion of the ‘commercial revolution’ see Spufford 2002, 12–59.

⁹⁹⁸ See section 2.2.4.

⁹⁹⁹ See section 2.4.

¹⁰⁰⁰ Allen 2012, 320.

¹⁰⁰¹ Skaare 1995, 16–27; Gullbekk 2009, 133–7; Spufford 1988, 95–9.

Ireland, although part of this decline was offset by a lowering of the weight standard. This represents a huge fall in the volume of coinage and must have had serious effects upon commerce. If the early eleventh century represented something of an ‘economic boom’ then it seems that it was followed up by more of ‘bust’. Only with the ‘commercial revolution’ of the thirteenth century do levels of coinage increase significantly. If the evidence of the coinage is accepted at face-value then debates about the chronology of the beginning of significant commercial activity on a European scale can be suggested to depend upon questions of scale.¹⁰⁰² The eleventh century was more commercial than any period preceding it, and very probably the century that followed, but it is perhaps dwarfed in comparison with the thirteenth century.

9.3.3 Determining economic change

It is possible to describe the *when* and *where* of the emergence of commerce within the Irish economy but pinning down *why* is more difficult. What were the roles of long-distance trade, manufacture and the exchange of commodities? Each of these has been suggested as being potentially important aspects of the process.

It is clear that long-distance trade played an important role within the economy of Dublin. Proxies such as ceramics and imported metalwork are suggestive of such, although their importance beyond the town is much more questionable.¹⁰⁰³ The coin finds certainly imply that trade was an important element within economic change. The initial riverine distribution of coin finds in Dublin, likely indicative of trade up the Liffey and out into the Irish Sea, and subsequent centralisation of exchange at what is likely to have been a marketplace, suggest the importance of trade for the

¹⁰⁰² *cf* Barrett 2012, 4.
¹⁰⁰³ Wallace 1987a.

town's economy.¹⁰⁰⁴ Exchange across the Irish Sea was probably sizable, based upon analysis of alloys and the amounts of silver being struck.¹⁰⁰⁵ This international trade was something catered for in producing the coins, with silver standards and imagery influenced from England.¹⁰⁰⁶ The distribution of coin finds at ecclesiastical sites, with their need for imported wine, and with evidence of increased market function coinciding with the expansion of Dublin in the eleventh century, is certainly suggestive of the fact that trade played an important role within an increasingly commercial Irish economy.¹⁰⁰⁷

Manufacturing must also be seen as an important element of the shift in the medieval economy. In seeking explanations for economic change the role of this manufacturing has been increasingly suggested as significant.¹⁰⁰⁸ It is clear that some of the economic growth in the eleventh century can be connected with craft activities. This is most apparent in Dublin where specialism in metals in the eleventh century and leather in the twelfth are accompanied by concentrations of coin finds.¹⁰⁰⁹ It is clear that the specialists in these crafts were involved in commercial activity and it is highly likely that their livelihoods were maintained by their ability to sell their wares, with little connection to agricultural activities. The overlap of coinage and shoe manufacture at High Street also highlights the fact that it was not merely high-value materials which were being commercially exchanged as the working of leather was a low status activity in early medieval Ireland.¹⁰¹⁰ The town, with dedicated areas manufacturing different types of material, appears to have had craft specialists producing even low-value, bulky products to be sold. Economic growth should not be

¹⁰⁰⁴ See chapter 7.

¹⁰⁰⁵ See sections 4.3 and 5.1.1.

¹⁰⁰⁶ See sections 5.1.2 and 6.1.2.

¹⁰⁰⁷ Bradley 2008; section 2.2.3.

¹⁰⁰⁸ Sindbæk 2007a, 126–7; Callmer 2003.

¹⁰⁰⁹ See section 7.4.2.

¹⁰¹⁰ *cf* Comber 2008, 76, 108.

solely attributed to low volume, high-status exchange of materials but to trade and the manufacture of a range of objects. Moving beyond the town, the emergence of specialist craft activity at ecclesiastical sites can also be seen to parallel the use of coinage. For example, it is in the eleventh century that Clonmacnoise began to work bone in quantities which suggest non-domestic consumption, a chronology which coincides with the emergence of coins at the site and possibly also formal market activities.¹⁰¹¹

The final element, and that which coinage is perhaps least qualified to answer, is whether the economic change that is visible in the eleventh century was driven by the commercial exchange of commodities. There are historical references to foodstuffs and other archaeologically-invisible commodities but there is also circumstantial archaeological evidence which suggests that these were of some importance.¹⁰¹² For example, the chronology of the slave-trade and beginnings of large-scale exploitation of marine fish matches the economic boom that is visible from the coin evidence.¹⁰¹³ The presence of coinage at ecclesiastical settlements, largely in contrast to most other rural sites raises the question of their presence there. While some specialism in the working of metal, antler and wood is visible at ecclesiastical settlements this would not necessarily explain the over-representation of coinage when compared to other sites.¹⁰¹⁴ Antler or metal-working could, and did, occur on many secular sites but there is little evidence for coinage at these sites.¹⁰¹⁵ Tracing trade in commodities is very difficult, but the over-representation of ecclesiastical settlements amongst coin finds may well be determined by their ability to produce agricultural surpluses. There is a concentration of ecclesiastical settlement in the best agricultural land and this

¹⁰¹¹ Soderberg 2003, 636–7; Bradley 2008.

¹⁰¹² Harris 2003, 13–16; Taylor 1912, 21–3, 44, 65; Holm 1986; Valante 2008, 159; Hudson 2005, 43.

¹⁰¹³ Barrett *et al.* 2004; Holm 1986.

¹⁰¹⁴ Bradley 2008; *cf* Etchingham 2010, 16–18.

¹⁰¹⁵ Edwards 1990, 83–92.

coincides with the zone of monetary activity.¹⁰¹⁶ Agricultural surpluses may distinguish them from most other sites, perhaps explaining their over-representation amongst coin find-spots. The point is difficult to prove, but evidence from Dublin suggests commercial exchange of almost all kinds of goods and it may be that commodities formed an important element in this exchange. Slight evidence in favour of the commercial exchange of foodstuffs, using coinage, is suggested by two textual references noting to the amount of foodstuff that could be bought, in an ecclesiastical settlement, for one *pinginn*.¹⁰¹⁷

The distribution of coinage cannot determine whether trade, manufacture or commodities were responsible for the increase in commerce visible in early medieval Ireland. What the coin finds would appear to suggest, however is that these were facilitated through the use of money. Long-distance trade and manufacture became increasingly specialised, with cargo-orientated shipping emerging *c.*1000 and craft specialists visible in towns, whilst commodities appear to have been commercially exploited for the first time.¹⁰¹⁸ Each is likely to be mutually reinforcing with coinage acting as a reminder that all were carried out, at least on some occasions, on a commercial basis.

9.4 Authority

The Hiberno-Scandinavian coinage has seldom been interpreted within the context of royal authority which puts it at odds with other contemporary coinages which are frequently used to buttress arguments regarding effective political and administrative control.¹⁰¹⁹ This is unusual as the discussion of Ireland's political centralisation in the

¹⁰¹⁶ Swan 1983; Edwards 1990, 51; see section 8.6.2.

¹⁰¹⁷ See section 8.2.

¹⁰¹⁸ Crumlin-Pedersen 1999; Holm 1986; Barrett *et al.* 2004; see section 2.2.

¹⁰¹⁹ Skovgaard-Petersen 2003, 181–2; Campbell 2000, 32–3; Gullbekk 2009, 315; *cf* Williams 2007.

eleventh and twelfth centuries, the evolution of a ‘high-king’, could be argued to parallel centralising, ‘state-formation’ across much of the rest of Europe. Discussing the importance of royal authority in determining the production, administration and use of coinage has been one of the primary aims of the thesis.

Based upon the historical evidence, there were over-lapping levels of authority in Ireland, particularly in relation to Dublin.¹⁰²⁰ This can be seen in Irish kings imposing their sons as rulers of the town, whilst maintaining overlordship over it and in the emergence of the Mac Turcaill dynasty of local Hiberno-Scandinavian kings beneath the various high-kings.¹⁰²¹ This difference, visible in the historical records, would appear to be reflected in the evidence of coinage. Distinction can be drawn between local, Hiberno-Scandinavian kings and the Irish over-kings who claimed authority over them.

The Hiberno-Scandinavian coinage can be placed firmly within the authority of the Hiberno-Scandinavian rulers, with limited direct influence by Irish over-kings. Irish rulers were active in exploiting the economic and military potential of Dublin but there is no evidence to suggest that they were involved in either the production or administration of the coinage.¹⁰²² Furthermore, the absence of discernible shifts in patterns of coin-circulation that could be argued to mirror the shifting political geography of eleventh- and twelfth-century Ireland would suggest that they had no significant role in determining the use of coinage.¹⁰²³ Coins were more likely to come from the often politically-enfeebled kingdom of Mide than it was from the centres of power in Munster, Leinster or Connacht (each of which provided important Irish ‘high-kings’ who claimed authority over Dublin). In contrast to other areas of Europe,

¹⁰²⁰ See section 1.3.

¹⁰²¹ See section 2.1

¹⁰²² Spufford 1988, 55–60; Duffy 1992.

¹⁰²³ See section 8.4.3.

for example Norway, coinage cannot be simply connected with the centralisation of political power.¹⁰²⁴ Essentially, coinage did not figure within the vocabulary of Irish symbols of kingship.¹⁰²⁵

When seeking the authority behind the Hiberno-Scandinavian coinage one must instead turn to the Hiberno-Scandinavian king of Dublin. The coinage was begun by the Sihtric Silkenbeard who proclaimed himself **REX DYFLI** (King of Dublin) and it seems likely that the authority for the striking of the coinage rested with the leader of the town even during the period of illiterate coins. The political administration of the king of Dublin was reasonably substantial; able to ensure that the coinage was well-produced with a semblance of a weight standard and a quite precisely maintained silver alloy.¹⁰²⁶ More spectacularly, the administration was able to enforce the exclusion of foreign coinage and the periodic renewal of all coins.¹⁰²⁷ This is a point which should not be underplayed as the fact that the vast majority of coins were of contemporary, ‘official’ type means that almost all of the silver means of exchange in Ireland had passed under the authority of the king of Dublin.

The fact that the Hiberno-Scandinavian coinage was first struck contemporaneously with the earliest ‘national’ coinages in Scandinavia is also a point worthy of emphasis.¹⁰²⁸ These named kings but copied Anglo-Saxon designs in a very similar way to the Hiberno-Scandinavian coinage. Gareth Williams has suggested an important role for Christian kingship in the beginnings of minting and the evidence of the Hiberno-Scandinavian could be utilised to buttress such a perspective.¹⁰²⁹ The issuing of coinage in Dublin, replete with Christian imagery by a king with a known

¹⁰²⁴ Gullbekk 2009, 315.

¹⁰²⁵ See chapter 6.

¹⁰²⁶ See chapter 5.

¹⁰²⁷ See chapter 6.

¹⁰²⁸ Williams 2007, 187-96; Williams 2013, 349.

¹⁰²⁹ Williams 2007, *cf* section 6.1.

interest in the patronage of ecclesiastical ventures would certainly fit such a model.¹⁰³⁰ However, the chronology also concords with the payment of very significant gold payments in the 990s.¹⁰³¹ The increased opportunities presented by a greater availability of silver may also help to explain the decisions to begin minting in these areas. In either case, the decision to strike coinage clearly represents an extension of authority by the king of Dublin.

However, the importance of royal authority must not be overstated in relation to the Hiberno-Scandinavian coinage. Whilst the ability to enforce recoinage was clearly an act which required effective administrative control and a degree of political power, it was not used in a symbolic manner as was common in other areas of Europe. Olaf Kyrre in Norway ensured that coins struck during his father's reign were demonetised and similar practice can be found in England where even the short-lived Harold Godwinsson issued coins which replaced most of those of his predecessor.¹⁰³² This was not the case in Ireland, with recoinage occurring with no apparent relationship to the changing political landscape. New Hiberno-Scandinavian kings did not issue their own coinage upon taking office and sometimes recoinage, such as that occurring *c.*1020, happened within the reign of stable and long-term rulers.¹⁰³³ Similarly, the iconography of the coinage is not unambiguously political in its imagery.¹⁰³⁴ While there are clearly representations of royal figures, the profile bust is a common motif, it can be argued that the imagery draws to a greater extent upon other successful coinages. This involved looking back to previous Hiberno-Scandinavian coinages and across the Irish Sea to utilise English motifs.¹⁰³⁵ Innovation, implying engagement and

¹⁰³⁰ See sections 2.3 and 6.1.3.

¹⁰³¹ *Cf* Gillingham 1989; Lawson 1990.

¹⁰³² Gullbekk 1992; Pagan 1990; *cf* Naismith 2013, 206.

¹⁰³³ See section 6.2.2.

¹⁰³⁴ See section 6.1.

¹⁰³⁵ See section 6.1.2.

reshaping of ideas, occurred mostly within the realm of religious iconography, adding stigmata to the hand of God for example, with the profile bust an immobilised and relatively static element within the imagery of the coinage. Whilst it is clear that a Hiberno-Scandinavian administrative authority was involved with the coinage it is apparent that the coins were not used in an overtly political manner. The fairly muted political aspect of the iconography may perhaps be explicable by the hierarchical authority within Dublin. The Hiberno-Scandinavian kings administered the coinage but were nominally subservient to Irish over-kings for most of the eleventh and twelfth centuries. The iconography may reflect this fact with ‘commercial’ imagery chosen to avoid directly challenging the authority of the Irish over-kings.

The relatively minimal political emphasis is brought into focus when the aspects of the coinage which imply political authority are compared with other contemporary areas. These are summarised in Table 9.1 where the coinages from England, Norway and the Isle of Man are compared with that from Dublin. This table highlights the fact that there are some political elements to the coinage. The very act of its striking can be read as a political statement with royal authority acting as guarantor for value and imposing control over the means of exchange.¹⁰³⁶ Furthermore, this authority was backed up by effective administration as demonstrated by the ability to exclude foreign coinage and enforce recoinage. Ireland’s currency can be seen to be indicative of a greater degree of royal authority than that of eleventh-century Man which did not exclude foreign currency.¹⁰³⁷ However, the occasional recoinage places it in contrast to Norway, where recoinage was carried out at royal succession, and England where it was carried out between, but also periodically within, a king’s reign.¹⁰³⁸ The English

¹⁰³⁶ Naismith 2012a, 47.

¹⁰³⁷ A mixture of currencies is visible in Manx finds including the 2003 Glenfaba hoard; Bornholdt-Collins *et al.* Forthcoming; Bornholdt-Collins 2003, Appendix IV.

¹⁰³⁸ Gullbekk 1992; Gullbekk 2009, 60–5; Stewart 1990.

coinage in particular also has imagery which is quite political in its nature, emphasizing the power and right of the king.¹⁰³⁹

	Act of striking	Exclusion of foreign currency	Occasional <i>renovatio</i>	<i>Renovatio</i> at succession	Periodic <i>renovatio</i>	Political imagery
England	x	x		x	x	x
Norway	x	x		x		x?
Ireland	x	x	x			
Isle of Man	x					

Table 9.1 – Summary of political aspects of various early medieval coinages¹⁰⁴⁰

In a medieval European context, the striking of coinage could be a hugely symbolic act, acting as a means for increasingly-centralised rulers to bolster their authority, in practical, financial terms but also through deploying symbolic imagery legitimising their claim.¹⁰⁴¹ However, this was not always the case, a point which analysis of Ireland highlights. ‘High-kings’ of Ireland, rulers of larger and more stable polities than ever before, showed much interest in Dublin for its riches and manpower but seemed almost entirely uninterested in its coinage.¹⁰⁴² Furthermore, when the coinage was struck for the Hiberno-Scandinavian king it is fairly apolitical in its imagery. This is graphically illustrated by the decision of the Dublin die-cutter in the 1120s who was confronted with the decision of which die to abandon when striking the first bracteate coins: that depicting the king or that imitating the coins of England. In choosing to dispense with the king, the die-cutter highlights the fact that the coinage was very much an economic entity, certainly administered by the Hiberno-Scandinavian king, but with little role in bolstering his political authority.¹⁰⁴³

¹⁰³⁹ Naismith 2012a, 54–64; Karkov 2004, 6–7, 104–5.

¹⁰⁴⁰ ‘Occasional *renovatio*’ occurred sporadically with a limited relationship to changing political circumstance. ‘*Renovatio* at succession’ occurred when the coinage was renewed when one ruler replaced another. ‘Periodic *renovatio*’ occurred on occasion within a king’s reign.

¹⁰⁴¹ Naismith 2012a, 47–86; Gannon 2006; Garipzanov 1999; Jensen 1995, 68–9.

¹⁰⁴² See section 2.1 and 6.3.

¹⁰⁴³ See section 6.1.4.

9.5 *Economic agency*

‘Monetisation’, the expansion of commerce and the evolution of towns represent substantial changes to the economy of medieval Europe. Where the agency for these changes is to be found has been the underlying question throughout this thesis. Coinage represents one means of considering these issues, particularly as it allows the role of royal authority in determining economic change to be considered.

There are clear signals that the Hiberno-Scandinavian coinage had effective regulatory and administrative power backing it up. The maintenance of standards, exclusion of foreign coinage and recoinages all suggest that the Hiberno-Scandinavian rulers were able to display a reasonably extensive controlling ability over the means of exchange. The king is also likely to have been able to generate sizeable profits from the process, amounting to large volumes of silver.¹⁰⁴⁴ This can be contrasted to Irish kings who, despite claiming overlordship of the town, appear to have made no impact upon the coinage of Dublin. Patterns of production and use do not alter in spite of the shifting political geography of Ireland during the eleventh and twelfth centuries. The evidence of the Hiberno-Scandinavian coinage runs almost entirely opposite to that which suggests increased political centralisation on the part of Irish kings, with Dublin increasingly subsumed into the dynastic politics that accompanied this.¹⁰⁴⁵ The coinage cannot be readily associated with the state formation which appears to be occurring in eleventh- and twelfth-century Ireland. This point is emphasized when the means of exchange associated with Irish kings are considered. There are almost no direct discussions of coinage in written documents, primarily

¹⁰⁴⁴ See section 4.4.

¹⁰⁴⁵ See section 2.1

concerned with the elite, and where precious metals are mentioned they are typically valued by their weight.¹⁰⁴⁶

This textual invisibility, which can be contrasted to the large numbers struck and found, may be because coinage, and by extension commercial exchange, existed at a level of society below that which was typically described by contemporary writers. This raises the possibility that the agents of economic change are not those at the top of society but, instead, in seeking out the reasons behind economic shifts one should look further down society, to the traders themselves as agents of change.¹⁰⁴⁷ Urban town-dwellers were the most likely to be engaged in commercial activity on a regular basis, even for low-value items, and interacted with a variety of people in probably the least ‘socially-embedded’ environments in the medieval world. In contrast, written evidence suggests that Irish kings were much more deeply embedded in a social world of reciprocity and redistribution. This is reflected in coin patterns with kings having no influence over the areas where coins were used. The imagery, reflecting a trans-national visual vocabulary, and coins struck using Irish Sea silver to an international silver standard would also suggest that coinage stemmed from the urban, Irish Sea influenced world of Dublin. This distinction between commercial town-dwellers and kings can perhaps be most clearly traced at the outset of the coinage. Coinage had been used for a period of time in Dublin before the Hiberno-Scandinavian coins were struck, a *de facto* currency presumably used in order to facilitate international commerce. In the 990s, after quite some time utilising Anglo-Saxon silver Sihtric Silkenbeard enforced the use of his own coinage, removing older coins from circulation. In this case the economic impulse to use coinage came not from the king decreeing its use but from the merchants themselves. Only later did the king bring this

¹⁰⁴⁶ See section 8.2.

¹⁰⁴⁷ *cf* Oka & Kusimba 2008.

means of exchange under his control. Thus whilst royal authority certainly administered, and profited from, coinage it would appear that the economic impulse behind its usage must be seen as resting at a mercantile level. If the evidence from coinage can be taken as a proxy for the economy more widely, it is likely that while kings controlled, and exploited, the economy the agency behind changes within it must be sought elsewhere, quite probably in the transnational, mercantile community based in the emerging urban network of medieval Europe.

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