Fiscal Policy and Economic Growth at Different Stages of Development:

An Eclectic Approach

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Declaration

This thesis is the result of my own work and includes nothing which is the outcome of work done in collaboration except as declared in the Preface and specified in the text.

I further state that no substantial part of my thesis has already been submitted, or, is being concurrently submitted for any such degree, diploma or other qualification at the University of Cambridge or any other University or similar institution except as declared in the Preface and specified in the text.

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M. M. Basbay

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Abstract

Fiscal Policy and Economic Growth at Different Stages of Development: An Eclectic Approach - Mustafa Metin Başbay

This study investigates if and how the economic growth effects of fiscal policy depend on the stage of development. In particular, it analyses the effects of different fiscal policy compositions (i.e. taxes on income and consumption, public spending on investments and consumption, and different modes of redistribution) on long-term growth and how these effects systematically change in countries with different levels of capital stock, population growth, capital market conditions, distance to technological frontier, etc., most of which can reasonably be captured by a country's stage of development. The study includes the claim that different theoretical paradigms better guide us in the analyses of fiscal policy at different stages of development; namely, developing countries fit better to the assumptions of the Classical theory, whereas developed country conditions are better explained in the Keynesian theory.

The main argument can be summarised as follows: in developing countries, where the capital-labour ratio is very low and most productivity growth comes from capital formation, capital accumulation is the key mechanism for accelerating growth. In these economies, fiscal policies aiming to maximise savings are more supportive of growth as this raises investible funds for capital accumulation (Lewis, 1954). Developed countries, where the capital-labour ratio is high, however, are usually adversely impacted by a savings glut (Hansen, 1939). In these economies, savings capacity often far exceeds investment demand due to capital saturation, so fiscal policies designed to support effective demand are more effective in driving investments and thus growth. Furthermore, in developing countries, where investment demand is high but access to credit is limited, accumulation of resources by the capitalist class tends to have trickle-down effects, whereas in developed countries, where investment demand is low and capital markets are advanced, it contributes to the savings glut more than investments.

Therefore, in developing countries, modes of taxation which suppress consumption and public spending on capital investments are more supportive of growth because they accelerate capital accumulation, whereas in developed countries, taxation of income and public spending on consumption/services are more growth-enhancing as they support effective demand. Similarly, in developed countries, redistributive policies that increase effective demand by giving more purchasing power to lower classes increases growth more, whereas in developing countries, channelling more resources towards the investor class, are more growth-enhancing.

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Abbreviations

AI	Artificial Intelligence
CSIS	Center for Strategic and International Studies
CPF	Central Provident Fund (Singapore)
DBS	Development Bank of Singapore
ECLAC	Economic Commission for Latin America and the Caribbean
FRED	Federal Reserve Economic Data (St. Louis Fed, USA)
FILP	Fiscal Investment and Loan Program (Japan)
GDP	Gross Domestic Product
GNP	Gross National Product
ICTD/UNU-WIDER	International Centre for Tax and Development / The United Nations University-World Institute for Development Economics Research
IDB	Inter-American Development Bank IADB
IFS	Institute for Fiscal Studies
IMF	International Monetary Fund
IT	Information technologies
MITI	Ministry of International Trade and Industry
NBER	National Bureau of Economic Research
NI	National Income
OECD	Organisation for Economic Co-operation and Development
PIO	Pioneer Industries Ordinance
R&D	Research and Development
SASAC	State-owned Assets Supervision and Administration Commission
SME	Small- and Medium-sized Enterprise
SOE	State-owned Enterprise
S&P	Standard and Poor's Global Ratings Agency
TFP	Total Factor Productivity
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNIDO	United Nations Industrial Development Organization
VAT	Value-added tax

1 Introduction

1.1 The Case for Government Intervention

The major concern about government action in the economic sphere has always been that it distorts market incentives so that it leads to misallocation of resources. The idea which formed the core of Smithian economics[1] since its inception is that free markets are best suited to allocate scarce resources into use, and that supply and demand mechanisms of competitive markets ensure allocative and productive efficiencies. Along this line of thinking, a government directly intervening in market forces would only generate loss of efficiency and reduce economic growth. Even though economists have gradually come to realise that there are occasions when market forces fail (i.e. market failures), providing a case for government intervention, many still consider it undesirable, even harmful, that a government acts beyond correcting some narrowly-defined market failures.

However, it is also increasingly acknowledged that societies often need government interventions that encourage economic growth beyond what market forces on their own would generate. In particular, proponents of active government policy subscribe to the idea that productive capacity of an economy can and should be boosted via deliberate public action (Cimoli et al., 2009). Unfettered markets may lead to a more efficient allocation of resources in the short run (static efficiency), but this does not guarantee higher economic growth in the long run (dynamic efficiency). For instance, without government interventions, developing economies are usually stuck with primary sectors with low-productivity growth because that is where their comparative advantage lies, while developed economies are often afflicted by a lack of economic dynamism due to low population growth and capital saturation. Then, in many contexts, there is a case for government policies intentionally distorting market forces so that the economy can grow faster (Lin & Chang, 2009).

Needless to say, there are still problems associated with a government actively intervening in the functioning of markets. It is a common assumption in the mainstream

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[1] In fact, Smith's original theory was a lot more sophisticated than the way it has been interpreted by its followers. Smith supported government interventions of many forms, such as promoting education and building infrastructure.

political economy literature, for instance, that economic agents, including policymakers, pursue only personal interest (North, 1981). Under this assumption, policy interventions cannot be expected to represent the preferences and long-term interests of a society as a whole but rather those who hold the power to direct or manipulate public policy, for instance, big corporations including the multinationals, as in the case of the US, or bureaucratic elite and oligarchs, as in the case of China or Russia. It is also said that governments, especially in democracies, are sometimes driven by populist zeal and lend themselves to demands for irresponsible public consumption, often financed with excessive debts or the abuse of seigniorage, at the expense of growth-promoting long-run investments, which consequently leads to debt crises and hyperinflation.[2]

Indeed, few issues have caused such strong reactions from mainstream economists as interventionist policies. Those who strongly believe in the efficient workings of markets interpret any type of government intervention just as a potential gateway to rent-seeking behaviour, while even those who admit the benefits of discretionary public policy in theory argue that the gains associated with interventionist policies may be outweighed by political risks such as trade war or rent-seeking. Paul Krugman (1987), for instance, argued that apart from political risks involved with interventionism, gains from interventionist policies are very hard to calculate and their general equilibrium effects are uncertain. According to him, a government action designed to support even a single sector simultaneously affects diverse sectors and the overall effect is often ambiguous; since we do not know what the overall effect would be a priori, it is still safer to stick to free-market policies as the benchmark model. Krugman's 1987 paper still encapsulates the most important and basic arguments against government interventionism so far.

However, Krugman's thinking, in a way, amounts to different conclusions for developed and developing countries. While policy interventionism is motivated by a desire to change the current state of affairs, free-market policies (e.g. fiscal neutrality, free trade) usually lead to the prevalence and reproduction of current patterns in an economic system. That is precisely why Krugman considers laissez-faire as the safer option to follow for governments.

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[2] This is why it is widely taken for granted in the context of monetary policy, for instance, that discretionary policy causes more problems than it solves and so many developed countries now have independent central banks.

One may agree with this argument for developed countries, considering that per capita income levels and living standards in these countries are already quite high and the global trade system is functioning largely for their benefit, so it may not be worth taking all the risks mentioned above just to enhance per capita income by a few percentage points especially as long as all the social classes are more or less content with the status quo (which is not always the case even in rich countries as I discuss below).

In the context of developing countries, however, although the political risks involved with active government policy are still present (and maybe even greater), it is much easier to argue against the fatalistic acceptance of the current status of a country in the global economic hierarchy. Just because laissez-faire policy is the safer option to follow, inaction cannot be suggested as the best course of action for countries where considerable segments of the society are unemployed, live with poverty, and lack access to most basic services, such as health and education. It seems only reasonable to take the risks of policy failure or rent-seeking corruption involved in activist policymaking in order to get out of the economic deadlock a country may be experiencing, whether it be in the form of pre-modern stagnation or middle-income trap.

Therefore, it is a false equivalence to argue that governments are equally imperfect as markets and that laissez-faire remains to be the best option, especially when the current situation in a national economy amounts to low living standards and stagnation. Although risk aversion may be a merit for policymakers in general, for many developing countries, it is equivalent to an irresponsible acceptance of the status quo proven not to be functioning to these countries' benefit. In other words, the choice governments make between free-market policies and taking the risk of government failure in order to change the national trajectory is very much dependent on the ex-ante conditions of a country. Poor countries need a vision about how to sever their economies' long-term fortunes away from their current state of dysfunction, which necessarily involves an activist government with a long-term plan to accelerate economic growth.

In regard to rent-seeking, there is no doubt that special interest groups tend to influence policymaking, but one should also not forget that non-interventionism is a policy choice too and that, in many cases, it is also an outcome of special interest groups' influence on the government. Again, laissez-faire policies usually serve the prevalence and reproduction of current economic patterns, including the class relations and the relative shares of different segments of society within a national economy. Then, the purging of politics from economic

system mostly serves those who benefit from the status quo. And this is why it is often the case that powerful interest groups attempt to block reforms. As Karl Polanyi (1944) pointed out a long time ago, contrary to the conventional view, a 'free' market is also a product of deliberate state action, and the maintenance of a functioning 'self-regulatory' market economy is also quite demanding of public institutions. Therefore, unfettered markets, which usually require equally costly and troublesome government efforts as regulatory policies do, could also have been imposed by special interest groups at the expense of the rest of the society.

It is open to question in that respect whether market outcomes, especially in terms of income distribution, would be accepted with policy inaction even in developed countries if governments responded to the demands of the wider society, rather than a small group of privileged individuals with lobbying power. For that matter, we know how quickly and dramatically the preference for economic non-interventionism has changed after the 2008 financial crisis when it was the financial sector and the big businesses, instead of the middle- or low-income earners, who needed government activism. The US Treasury committed hundreds of billions of dollars of American taxpayers' money to purchase distressed assets and bailed out the American financial system. Now, many believe that it would have cost Americans much less if the government intervened from the beginning to regulate financial institutions more effectively instead of giving them free rein under the promise that "the enlightened self-interest of owners and managers" will bring about the best possible outcome and eventually benefit all (Greenspan, 2009, para. 2).

Beyond the US, in many developed countries, especially since the 1980s, there has been a general tendency for non-interventionist economic policies. It was argued for so long that policymaking should have little to do with privately experienced economic grievances, but it should rather stem from judgments about general business conditions. This has resulted in a neglect of increasing inequality and stagnation of real wages in these countries. Most recently, however, we have witnessed how the discontents of working- and middle-classes with the economic status quo fuelled a political backlash and challenged mainstream economic paradigm in a number of countries including the US (the Trump Presidency and the rise of left-wing progressives), the UK (Brexit), France (the Yellow Vests Movement), and a few others in Europe (the rise of radical politicians) etc.. What all these recent political trends seem to have in common is that people have a strong sense of resentment with the recent economic trends and their governments' inaction in response (Rodrik, 2018). Now, this political backlash

forces mainstream politicians and academics to re-evaluate the costs and benefits of economic non-interventionism of the last few decades.

Therefore, in developed countries too, government action may be necessary and demanded. Even in high-income countries, laissez-faire policies are plausible and tolerated only in so far as all layers of the society are more or less content with the current status or at least the dynamics of their personal economy. However, when a large segment of the society demands deliberate policy action to reform and reorient the existing institutions, the connection between economic conditions and politics need to be strengthened. This usually necessitates political action that is based on a more interventionist approach and a kind of consideration that goes beyond providing basic infrastructure or assuring macroeconomic stability. More direct government policies, including more progressive taxation, public investments in key sectors, or socialised provision of critical public services, come forward as ways of maximising welfare for the wider society.

Naturally, government policies, especially when they have redistributive implications, do not arise in a vacuum but are imposed upon through political institutions, which themselves are decided by the power relations in a society (Acemoglu et al., 2005). Then, there is always the question of how to get policymakers to follow the *right* set of policies instead of special interest. Admittedly, this study omits this discussion, but it should also be said that most of those who discuss (political or economic) institutions and power relations in society also usually gloss over the policy discussions by assuming a vastly simplified set of policies as optimal. Arguably, it is more of an economist's duty to analyse that aspect first. If we can decide which set of economic policies are optimal for economic growth in a country, then we can better identify which institutions are best suited for giving way to those economic policies. So, although this study by-passes institutional discussion, it is in a way complementary to it.

Overall, governments, both in developing and developed countries, should formulate policies to improve their economies' performance and maximise their potential for long-run economic growth. To be clear, this is not a case against the market economy but merely a statement of the role that active government policy can and should play in a market economy. Even when private initiative is the main actor, governments would still perform an important role, beyond simply ensuring contract enforcement and macroeconomic stability for the smooth functioning of the market, by mobilising state power to bring about meaningful changes in the economy. This study argues that fiscal policy has a central place in this endeavour.

1.2 A Puzzling Literature

Once convinced that governments can and should play a role in economic development, one needs to figure out *how*. The question is what set of policies are most appropriate to improve economic growth. Economists have long discussed the role governments can play in improving economic performance, but many of the central questions pertaining to the economic consequences of policy interventions are still far from being resolved. While theoretical positions extend from one extreme to the other, empirical results are also quite controversial in many ways. It is not uncommon that, while one study assigns a positive role to a particular policy choice in terms of promoting economic growth, another one suggests just the opposite of that. Fields of such conflicting results and arguments include almost all branches of economics, and the literature on fiscal policies is no exception.

It is almost common sense that a country's growth performance is related to its fiscal policy, but this vast and old literature provides diverse and sometimes contradictory answers to what governments can accomplish through fiscal policy. Actually, fiscal policy had been one of the battlefields of economics (maybe along with trade policy) throughout the 20th century. John Maynard Keynes was of course a central figure in this war. Proponents of fiscal policy, including Keynes, have argued that governments can, through appropriate fiscal policy schemes, maintain the conditions of full employment and stabilise economic growth in developed countries, and accelerate the rate of capital formation and productivity growth in developing countries, although there has been much less emphasis on the latter. Opponents, on the other hand, have claimed that governments should refrain from using fiscal policy as an instrument, because it causes more problems than it solves, such as high inflation, excessive public debt, and distortions in markets.

Long before Keynes, classical economists were interested in how the tax system should be structured (Mill, 1861/1967; Ricardo, 1817/2015). This is understandable because, at the time, taxation in its different forms was the single most important policy tool. The Classical battle was concluded with the dominance of the laissez-faire approach, which holds that taxation, and actually all government activity, only hurts economic performance and should be kept at a minimum, except when it is for really necessary causes (to finance wars, for instance). Government spending was largely perceived as wasteful and futile, while income taxes were condemned for slowing down capital accumulation, which was seen as the fuel of economic growth. In this line of thinking, a government should tax and spend no more than absolutely

necessary and better use consumption taxes because they are less intervening into market mechanism and reward savings. This deep faith in self-regulatory markets and emphasis on capital accumulation shaped the spirit of the late 19th and early 20th centuries.

After the great depression of 1929 and that all attempts to turn back to the old liberal paradigm had failed, Keynes invented the idea of fiscal policy as a remedy for the economic problems of the advanced economies (1936/1978). Even though his *General Theory* has been vastly simplified and misinterpreted by the next generation of economists simply as expanding or shrinking budget deficits to moderate the fluctuations in business conditions (i.e. business cycles), Keynes originally attributed a more sophisticated role to the government in creating meaningful and long-lasting economic benefits. In its essence, the Keynesian theory states that governments can affect a country's growth trajectory by supporting aggregate demand, which in turn supports aggregate investment. In this theory, contrary to the classical understanding (i.e. Say's law), supply adjusts to demand but not the other way around. Then, governments should take the duty of maintaining demand at the point of full utilisation of a country's total production capacity (i.e. full employment), as market forces, when non-intervened, often lead to underemployment equilibria, according to Keynes.

Shortly after Keynes, the Keynesian approach was assimilated into the neoclassical theory with some very different implications for government policy. In this view, fiscal policy is rather a short-term adjustment mechanism, which becomes useful only in some peculiar situations (i.e. liquidity trap or interest rate inelasticity of investments). Although this understanding of fiscal policy has come to be called as neo-Keynesianism today, this is in fact a diversion from the original theories of Keynes[3] (Robinson, 1975). This interpretation of the Keynesian theory is no more an alternative explanation for the causal relationship between aggregate demand and investment but rather an exception to the general rules of the neoclassical theory under some extreme disequilibrium conditions. Regardless of this theoretical debate, up until the 1970s especially in the developed world, government policies were mostly driven by the ideas of Keynes, and at the centre of them was fiscal policy. To this day, Keynes remains to be the symbol of activist government policy.

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[3] Joan Robinson called this theoretical system which absorbed the Keynesian theory into orthodox neoclassical methodology as "bastard Keynesianism" to express the misleading nature of term *neo-Keynesianism* (Robinson, 1975, p. 127).

Later neoclassical models downgraded the role of fiscal policy, claiming that they are unlikely to have a significant effect neither in the short nor the long term. In particular, the Monetarist theory, developed prominently by Milton Friedman as a criticism of (neo-)Keynesian economics, asserts that only supply-side policies can cause long-lasting structural alterations in the economy and that the effects of demand-side policies are often minimal. Friedman claimed that in response to a rise in public spending, private spending usually declines because credit becomes more expensive. In other words, public spending *crowds out* private sector investments, so it is unlikely to change aggregate demand substantially. Furthermore, according to Friedman's famous *permanent income hypothesis*, individuals do not make significant alterations in their consumption levels as a response to temporary changes in their income levels, so governments cannot influence the level of aggregate demand through temporary tax breaks on personal income either (Friedman, 1957). Neoclassical models following this theoretical framework dominated the literature in the stagflationary environment of the 1970s.

However, even this minimal and *exception to the rule* kind of influence that fiscal policy may have is denied by later neoclassical theories, which come to be categorised as neo-monetarism (or new classical macroeconomics). Friedman's idea was that individuals make their economic decisions (e.g. consumption behaviour) based on *future expectations* (about prices, for instance) rather than habits or some pre-determined rules as Keynesians argued. Neo-monetarists took Friedman's idea to its extreme and argued that people make their choices according to *rational expectations* based on all the available information and accurate economic reasoning. Under such strong assumptions of individual decision-making, people have almost perfect foresight and only random events (i.e. shocks) can induce change in economic behaviour, which completely rules out the possibility of influencing macro-level economic variables in any systematic way through discretionary policymaking (Muth, 1961; Lucas, 1976; Kydland & Prescott, 1977).

With the emergence of endogenous growth models, the idea of growth-inducing fiscal policies was introduced back to the mainstream literature (Romer, 1986, 1990; Lucas, 1988). These models primarily hold that investments in some sectors can cause productivity growth and thus lead to a more than proportional improvement in the productive capacity of an economy. Several rationales for this argument have been offered. For instance, investments in some sophisticated sectors can create *knowledge spillovers* to other sectors (i.e. positive

externalities), while in some industries, investments may increase productivity levels through *learning-by-doing* (i.e. increasing returns to scale) as expansion of production leads to acquisition of know-how and experience. In short, according to these models, the more output such sectors produce, the more productive the economy becomes. This way of thinking opens a new range of possibilities for government action. Governments can accelerate economic growth by investing in certain economic activities or taxing them less.

Note that this is a very different position than the one Keynes(ians) took. Unlike the Keynesian theory, which ignores the composition of production based on the assumption that it quickly adjusts to demand, endogenous growth models do pay attention to the sectoral composition of production (i.e. the supply side) and do not take demand and supply in their aggregates. While the Keynesian analysis holds that governments should use fiscal policy tools to affect aggregate demand, which in turn drives aggregate supply, endogenous growth models suggest that governments should change the composition of supply towards sectors with better prospects to drive the overall productivity of an economy. To put it differently, it is not only the size of the government budget but also which sectors the government targets that matter. This requires more elaborate thinking and a careful design of fiscal policy to create lasting economic growth.

Endogenous growth models have put forth plenty of testable hypotheses about why some sectors may require or deserve public investment while others should be punished through taxation. However, empirical studies investigating the statistical association between fiscal policy and long-run growth have produced largely inconclusive results. Human capital investments, for instance, was the departure point of endogenous growth models, but, as is discussed in detail below, even the growth impact of human capital investments is controversial in the literature. Lucas (1988) argues that education and training have non-decreasing returns to scale, so investments in these activities can accelerate growth. However, this claim has been challenged by the argument that it is rather research and development (R&D) investments, not education, which have this quality (Mankiw, 1995). Furthermore, it has been argued that investments in different levels and types of education (e.g. primary, secondary, tertiary; academic, occupational etc.) can be justified as having positive externalities in some countries but not in others (Psacharopoulos & Patrinos, 2018).

Lastly, beginning from the 1990s, a growing number of empirical studies have revived the discussion about the growth effects of redistributive fiscal policies (de Groot et al., 2008).

The conventional view has always been that there is a trade-off between reducing inequality and promoting growth (Mirrlees, 1971; Okun, 1975). Even though the evidence is far from conclusive on this matter due to data limitations, economists have come up with various arguments to support the supposed trade-off. It has been claimed, for instance, that taxing capital income leads rich individuals to invest less, while benefits for the poor make them reliant on redistribution and thus discourage them from job search. Furthermore, the so-called *trickle-down theory* asserts that benefits for the rich, in the form of tax cuts or incentives, benefit all segments of the society and the economy as a whole, based on the assumption that the rich will invest their extra income and so expand businesses and employment.

Needless to say, there has always been counterarguments to the conventional view on this matter as well. New evidence in favour of some of these counterarguments has challenged the conventional view both on theoretical and empirical grounds. One such argument is that high inequality creates social and political instability, which in turn hurts the economy by imposing higher unpredictability and risk for investment decisions (Alesina & Perotti, 1996; Perotti, 1996). Another argument is that redistribution can increase the stock of available human capital to a society by providing an opportunity for the poor to invest in their education and training (Galor & Zeira, 1993; Benabou, 1996). So, according to these studies, the supposed trade-off between equality and growth might be a myth altogether and countries can actually benefit from redistributive fiscal policy on both terms.

This is also where Keynesian theory connects with the redistribution literature. According to this synthesis, since poor people spend a larger share of their income on consumption, rising inequality (i.e. poor people having a smaller share in total income) may create a deficient effective demand problem. This theory implies that some economies can improve economic performance through redistribution if their problems lie in that effective demand is at suboptimal levels (i.e. levels which support full employment) (Kaldor, 1956; Pasinetti, 1962). These countries just need to give more purchasing power to the middle- and low-income earners and enable them to spend. This view is also supported by some notable economists in the context of the current US economy (Stiglitz, 2013). However, it is debated whether higher effective demand can really pull economic growth and whether this can be a sustainable strategy. Others are of the opinion that boosting effective demand through government action can lead to high inflation, unsustainable public debt, and balance-of-payments problems in the long run.

A comprehensive discussion of the relevant fiscal policy literature is given below, but at this point, it should be clear that the enormous literature on the relationship between economic growth and fiscal policy seems to have produced inconsistent or at least debatable results, which can easily be interpreted in favour of agnosticism about the role of fiscal policy. And the mainstream way of thinking has indeed evolved in that direction[4]. As discussed in the previous section, government policy has been increasingly perceived as a risky endeavour with ambiguous results. It is rather a pessimistic picture that a major subfield of economics, with such a rich and vast literature, can produce inconclusive or conflicting results. One of the intentions of the present study is to propose a different perspective that may help us drive meaningful conclusions from the seemingly inconsistent strands of the literature.

1.3 Methodological Approach

The puzzling pattern in the literature can be explained by the fact that few studies take into account the relevant country characteristics in their policy analyses. Most studies ignore the possibility that the effects of government policies on economic performance may *systematically* change in different contexts. It may seem trivial but exceptions to this tendency are rare in the literature. Rodrik (2008) provides a comprehensive discussion of this problem and argues that the academic endeavour to find universal policy suggestions that can be applied everywhere and any time without any regard for the pre-given country characteristics has failed and is misleading. Economic models and empirical results may have relevance in some contexts but not in others. This observation also provides a perspective about how to derive meaningful conclusions from the received literature.

A careful inspection of the literature on economic policy, especially up to the middle of the 1990s, reveals that most theoretical studies take a specific context as given and base their arguments and policy prescriptions on that environment, even though this may not be explicit. It is often the case that economic models make assumptions such as perfect credit markets, a highly elastic labour supply, or easy access to cutting-edge technologies, which may be reasonable assumptions to make in some countries, but not in others. However, the conclusions

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[4] For instance, *the Economist* said "What is the main thing governments must do to spur economic growth? Ah, well, that remains a mystery" ("The chemistry of growth", 1999, p. 84). Similarly, economist William Easterly said, "…hundreds of research articles later, we wound up at a surprising end point: we don't know" (2009, para. 2).

are usually taken out of context and supposed to be valid everywhere. Most empirical studies, on the other hand, tend to pool countries together and try to reach some overarching policy suggestions that are supposed to be applicable everywhere. This endeavour is restricted by the availability of relevant data, which is why we usually get conflicting results from cross-country analyses conducted over different groups of countries or inconclusive results when there is too much country heterogeneity and the relevant country characteristics, as well as interaction effects, are not incorporated in the underlying model.

Both types of studies often lead to fallacious and conflicting conclusions. When the foreseen policy outcomes do not take place in the real world, the failure is blamed on the institutional deficiencies of countries, instead of the unrealistic extrapolation of model predictions to an irrelevant context. This is clearly putting the cart before the horse. Instead, one needs to contextualise policy suggestions with reference to the specific environment they are formulated for or formulate policies for particular environments. Without identifying and analysing the constraints and resources of an economy, it is not possible to make meaningful policy recommendations and develop a strategy that is going to work. This means that each country should tailor its policies to the realities of its social and economic conditions. One development strategy cannot be recommended to all economies in the hope that it will give the same results.

However, this does not mean that we cannot still find some generalities among countries. If we can identify the variables that are most relevant to the policy decision at hand and figure out the systematic relationship between these variables and the policy result, then it is possible to tailor policy recommendations according to differences in pre-given country characteristics. To put it simply, we can reach some general policy conclusions for countries with similar conditions. This is a methodological proposal that is somewhere in between a case study and a pooled cross-country regression. It makes more sense to investigate the consequences of economic policies in different countries neither in perfect isolation (case study) nor by pooling them all together (large-scale cross-section study) but somewhere in between. The former deprives us of the possibility to derive systematic conclusions whereas the latter leads to meaningless generalisations. We should instead aim to detect whether policies have asymmetric (even opposite) effects in different countries and explain these differences with respect to relevant country characteristics in a systematic way.

I further argue that most of the relevant country characteristics can reasonably be captured by a summary measure of overall development, such as GDP per capita. This is not a pure structuralist approach, which asserts that all countries necessarily follow the same development path. Neither do I believe economic development can be measured entirely by average income. But the stage of economic development provides a reasonable way of categorising countries at least for the purposes of this study, and the level of per capita income is a good (though not perfect) measure of a country's stage of economic development. What I find especially relevant are, first, the capital-labour ratio, second, distance to the global technological frontier, and last, capital market conditions, in which countries at different stages of development are considerably similar within themselves while different from each other.

A good example of this is trade policy, for which there is a well-developed literature in this regard. Chang (2002), for instance, argues that most of today's developed countries had followed more or less similar industrial policies in the early stages of their development in order to promote long-term growth, before they switched to their current policy paradigm, that is trade liberalism, fiscal conservatism, strict protection of intellectual property rights, etc.. However, when, in recent decades, developing countries followed the current policy standards of developed countries, rather than the ones they used in their less developed stages (at least partly due to the strong pressure of international financial organizations), this brought about quite disappointing results in terms of economic growth. One obvious implication is that the effectiveness of economic policies systematically relates to country characteristics, especially (though not exclusively) the overall level of economic development.

Needless to say, the idea that countries at different stages of economic development should follow different policies is not a recent one. The very birth of development economics was actually due to this point, that developing countries may need to follow a different policy paradigm from the one that prevails in developed countries. Rosenstein-Rodan (1943), for instance, claims that economies go through stages along their development path, which have quite different underlying characteristics and thus require different analytical tools to understand. In that regard, Lewis (1954) openly argued that neoclassical and Keynesian approaches make little sense in developing economies whereas assumptions of the Classical theory are quite fitting. This study follows this eclectic approach. I too claim that different theoretical approaches can and should be followed at different stages of development. This

makes it possible to use diverse perspectives, or any combination of them, in an eclectic manner without dismissing others, which allows us more flexibility to analyse policy issues.

In fact, the point may well be made that this idea is as old as modern economics. James Steuart, who published his book almost ten years before Smith's *Wealth of Nations*, put forth probably the first version of such eclectic economic policy. According to Steuart, there are three stages of economic development and in each of them, there is room for state intervention. In the first stage, effective demand is crucial for kick-starting capitalist growth, so the government should stimulate consumption, especially of the rich class, which prompts a rapid increase in production both in industry and agriculture. In the second stage, the country should grow through exports of its increased production surplus. At this point, the government should reduce domestic consumption to maximise export revenue. In the third phase, the country may turn back to depend on domestic demand if it is not possible to maintain a trade surplus permanently. At this point, economic growth should be stimulated again by domestic consumption, although the growth rate will be low in any case (Steuart, 1767).

Therefore, Steuart does not believe that, after the initial push, capital just snowballs through time without any breaks or jumps. He argues that there are stages of development with different conditions[5]. Early stages are defined by countries' efforts to improve their industrial capacity through accumulation and export revenues. However, when a country reaches high levels of income, the economy returns to be run on internal demand. Governments need to regulate both consumption-saving patterns and foreign trade, through a combination of demand management and protectionist policies[6], so as to facilitate and smooth the necessary transitions between different stages of development. It should be noted that Paul Rosenstein-Rodan made the same point in his celebrated article, entitled *Nature Facit Saltum* (Nature does jump)*: Analysis of the Disequilibrium Growth Process* (1984) in response to the motto Alfred Marshall

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[5] Given that even the most sophisticated economies of Steuart's time can be considered primitive compared to the poorest economies of today, *the stage* which defines the context of policymaking can not be 'only' the absolute level of development but also the relative position of countries respective to each other in the global ranking of countries in terms of technological sophistication.

[6] Interestingly, Steuart also develops his own version of the *infant industry argument.* He claims that in the second stage of economic development, policy protection from foreign competition is useful for a country to develop its own industrial capacity.

placed on the cover of his *Principles*: *Nature Non Facit Saltum* (nature does not make jumps) (Marshall, 1890/1920).

The present study also follows this reasoning. The overall growth effect of a policy is contextual, depending most critically on the stage of economic development. In particular, it focuses on two major categories of countries and arrives at policy implications relevant to their cases; 'developing countries' that are at an earlier stage of economic development and 'developed countries' that are fully industrialised and at a mature stage of development. The main idea is that similar policies might not be as effective for developing countries as they are for developed countries in bringing about the intended results mainly because the two sets of countries do not enjoy similar economic conditions. Moreover, they are very much likely to create opposite effects. It is possible, however, to suggest policies that would generate the intended consequences *either* in developing or developed countries. Along this line of reasoning, I investigate fiscal policy in greater depth.

Relevant to a discussion of fiscal policy, several characteristics differentiate developing and developed countries. Developing countries are capital-poor (i.e. the capital-labour ratio is low) and have a limited industrial base, so most of the labour force either work in low-productivity primary industries or is unemployed, which implies a significant surplus labour force. Because production is technologically unadvanced, they are not capable of producing sophisticated goods, especially capital goods, thus these products must be imported from developed countries, critically impacting current account balances. Also, these countries lack sophisticated capital markets, which means that the banking sector is not advanced and stock markets are very shallow compared to the ones in developed countries, making access to finance difficult, if not impossible.

In contrast, developed countries are capital-rich and are fully industrialised, so their labour forces are almost entirely absorbed by the modern industrial economy. Their production operates at the global technological frontier, which means that their industries closely follow cutting-edge technological advancements and that they can produce sophisticated capital goods. Furthermore, capital markets are advanced, meaning stock markets are deep and wide, and it is easier to access credit through banks thanks to better monitoring and availability of data, and more effective contract enforcement. Despite their high per capita income levels, growth rates in developed countries are often low due to demographic slowing and industrial

maturation, so they are often not as dynamic as developing countries, which sometimes leads to problematic consequences with direct implications for fiscal policy as well.

Like any generalisation, the above-stated categorisation may exclude certain groups of countries. Especially among developing countries, despite their common characteristics, there is still considerable variation. First, many resource-rich countries (e.g. gulf countries) have some very different characteristics. As they have a source of substantial government revenue from natural resources, which gives them spending capacity without a significant tax base, the fiscal dynamics of these economies can be very different from a typical developing country. These economies often have high savings rates (thanks to natural resource rents) and are rich in terms of investible funds even though they usually do not have a significant industrial base and are not technologically advanced, which does not meet the definition of either a developed or a developing country. So, the present study and policy suggestions discussed as part of it may not be relevant for these economies.

More importantly, for very poor developing countries where there is no adequate fiscal space, the present discussion may not be relevant. For instance, for taxation to be an effective tool, there needs to be state capacity to collect taxes in the first place, which does not exist in some low-income countries[7]. In most sub-Saharan African economies, for instance, tax revenue as a percentage of GDP is very low. So, the discussion on tax structure in Part I may not bear much meaning for these countries. Furthermore, some of these economies are in what can be called a state of pre-modern stagnation, that is they could not kick-start their industrialisation process yet. Then, the macroeconomic policies aimed to accelerate industrialisation, discussed in this study, can be irrelevant; this is explained in more detail in Part I below. In short, under the category of developing countries, the focus of this study is mostly on middle-income and emerging economies, where there is enough fiscal capacity and industrialisation is occurring at a somewhat reasonable pace.[8]

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[7] One can argue that the least developed countries with inadequate state capacity actually corresponds to the first stage of development Steuart discusses.

[8] The UN's country categorisation can be a guideline; this study focuses on 'developing' and 'developed' countries but excludes countries that are either 'least-developed' or 'fuel-exporting', as the UN names them. See, for instance, World Economic Situation and Prospects report 2021 - statistical appendix: https://www.un.org/development/desa/dpad/wp-content/uploads/sites/45/WESP2021_ANNEX.pdf.

1.4 The Arguments in Brief

In general, there are three main issues which fiscal policy is defined to include: the way government collects its revenue (taxation), the way government spends it (public spending) and the overall balance between the two. Previous literature attaches a lot of importance to the last (e.g. budget deficit, debt financing etc.) and its relation to business cycles. This is understandable in the sense that changes in the budget balance directly influence business cycles and are even proposed as a remedy for economic instability by neo-Keynesian economists. This study, however, following another array of studies, focuses on how public spending and taxation are structured, i.e. composition of taxes on income and consumption, government spending on public consumption/services and public investments, and finally, the extent and nature of redistributive fiscal policies.[9] This is because this type of analysis is more relevant to investigating the long-run economic growth effects of fiscal policy and structural transformation associated with it.

My hypothesis revolves around this central theme: different approaches to fiscal policy, with seemingly different or opposing conclusions, may have validity in countries at different stages of development. There are several major theoretical frameworks (e.g. Classical, Keynesian, Neoclassical) that cut through all strands of economics literature with important implications for fiscal policy and economic growth as well. My contention is that they, or some combination of them, are all valid but in different contexts, which can be categorised most easily, though not perfectly, by per capita income levels. Accordingly, different fiscal policy schemes prescribed by these theories indeed result in the desired outcomes in either developed or developing countries but rarely in both or neither. When looked at from this perspective, they do not conflict but run parallel and complement each other.

Countries at different stages of development have very different economic structures; the level of capital accumulation and technological sophistication in production are systematically different. In turn, macroeconomic dynamics are different. The engine of economic growth lies in different sectors while factors limiting economic growth (i.e. binding

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[9] World Bank classifies government spending on goods/services for the current use of individuals or directly satisfying collective needs as *government final consumption expenditure*. Government spending on goods/services to create future benefits, such as infrastructure, transportation, R&D, and education is classified as *government investment expenditures*.

constraints) are dissimilar. Individual decisions of labour versus leisure or consumption versus saving change at different income levels, while institutional characteristics including ones relating to capital markets are different in nature. Therefore, any policy-induced alteration in the savings rate, return on investments and/or work, or distribution of income and wealth should be expected to have different economic results at different stages of development. The challenge is to condition optimal policy formulations on these systematic differences.

The capital-labour ratio is of special importance in the analysis of optimal fiscal policy. Developing countries, by definition, have limited capital stocks relative to their labour supply. They require substantial capital investments in more sophisticated industries for accelerating structural transformation towards high-value-added sectors and thus increasing growth rates. However, in these economies, capital market imperfections usually persist, while legal and physical infrastructure is wanting, which limit both domestic and foreign financing possibilities. Therefore, in the lack of market solutions to the capital deficiency problem, governments in developing countries need to find ways of raising investible funds for capital accumulation, whereas developed countries do not usually have that problem. In that regard, both tax policy and public spending may be instrumental in developing countries for accelerating capital accumulation.

Taxation, for instance, has the potential to stimulate savings by penalising consumption while favouring capital income. Classical economists took it for granted that a high savings rate is a critical condition for maintaining a high investment rate and strongly supported modes of taxation which suppress consumption. According to them, if savings go up, investments increase, and economic growth follows. Although it is unlikely that a rise in savings is a *sufficient* condition for increased economic growth, arguably, the classical approach is relevant to the experience of developing countries today, because it was developed in a socio-economic environment similar to the one that currently prevails in developing countries (Lewis, 1954). In earlier stages of economic development, reducing domestic consumption and increasing savings serve the dual purposes of raising the funds for further investments in the productive capacity of a country and directing production to exports rather than domestic consumption. Therefore, by changing the composition of taxation from (capital) income taxes to consumption taxes, a government can encourage capital accumulation.

However, the causal link between domestic savings and investment can break in later stages of economic development, where the initial challenge of overcoming the primitive

accumulation problem has been solved and capital markets function more efficiently. I would argue that the Keynesian theory, asserting that it is effective demand, rather than savings, that drives investments, applies to advanced stages of development better. In developed economies, the capitalist class is strong, and the financial sector is capable of connecting the businesses with sufficient funds when it is necessary. As long as there is demand and thus profit expectation, the entrepreneurial class in developed countries do not find it very challenging to reach the necessary funds for further investments. Therefore, in rich countries, there is no need for government incentives to increase domestic savings rates or raise funds in any other way, because the availability of investible funds is not a limitation.

Instead, as the capital-labour ratio reaches very high levels, an economy faces problems of a different nature; effective demand, to the extent it remains unsupported by fiscal policy, falls short of the productive capacity of the economy. A number of reasons have been cited for this phenomenon[10]. In particular, Alvin Hansen argued that capital-rich mature economies, in contrast to their enormous saving capacity, face a dearth of profitable investment projects, because they have low population growth and slowing technological progress, leading to *secular stagnation* (Hansen, 1934, 1938). In other words, in these capital-abundant economies, investment demand often settles below the savings capacity, which leads to a lower than full-employment equilibrium. When the problem of underutilisation becomes prominent, as the Keynesian theories presume, keeping effective demand at full employment levels becomes the main policy target. Then, fiscal policies which support consumption, instead of savings, increase growth. That's also when taxation of income, rather than consumption, is more supportive of growth. Again, I claim that this way of thinking is more relevant to the experiences of developed countries.

As for public spending, an important policy implication of limited capital availability and a weak capitalist class in developing countries is that governments often need to make substantial investments themselves, especially in capital-intensive sectors. In such countries, government investments in industrial capacity, as well as physical infrastructure, have significant positive externalities for the entire economy. They often *crowd in* private investments by alleviating market failures, such as coordination failures, or socialising the risks

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[10] Keynes (1936/1978) points at uncertainty and volatility inherent to a decentralised economy, which may lead to a lower than full employment equilibrium.

and helping to achieve scale economies, involved in newly emerging sectors with high set-up costs. Although the criticism that public investments are inefficient is valid, developing countries with lower levels of initial capital stock enjoy high rates of return on new public investments due to the law of diminishing marginal returns. In developed countries, however, there is already a strong capitalist class and much less need for public investments to fill in sectoral gaps. Therefore, there may be a case for the *crowding-out* argument in developed countries, where public investments in sheer capital accumulation often lead to no more than the replacement of private enterprises with less efficient public investments.

In developed countries, even before any consideration for its composition, high public spending contributes to growth because it supports aggregate demand, which is important for the above-discussed reasons. But public services rather than investments may be more growth-inducing in these industrialised economies. Spending on services that are complementary to work, for instance, enables a larger share of the population to join the labour force, while spending on worker training or social protection increases labour productivity. However, it is questionable if they would create the same growth effects through labour force participation in developing countries because these countries already face high unemployment. Surely, these items of spending are welfare-improving in and of themselves, even without leading to higher labour supply or increasing productivity, but governments face a trade-off between such welfare spending and public investments. As developing countries rarely have the fiscal space to do both, it makes more sense to invest in the capital stock and productivity-increasing infrastructure, which create employment and contribute more to growth.

Another important field in which public spending can potentially make substantial differences is improvements in productivity through investments in R&D and higher education. Especially in recent decades, the growth literature seems to have moved its focus away from capital accumulation towards productivity-increasing innovations (Easterly & Levine, 2001). However, it is plausible to argue that this increasing emphasis on R&D and higher education rather than capital investments is biased in favour of the problems of the developed countries. At more advanced stages of economic development, when capital stock is no more a limitation, scientific and technological advancements become more instrumental in enhancing productivity and economic growth. Developed countries are at the frontier of technological advancements, which means that productivity increase in these economies necessarily comes from the expansion of this frontier. In contrast, developing countries simply do not need

ground-breaking innovation, and neither have they the fiscal capacity to pay for the huge fixed costs for highly sophisticated research facilities and higher education institutions. Instead, increased access to general education and more vigorous imitation of proper technologies of developed countries seem to make more sense.

Following the same line of reasoning, the growth effects of redistribution should also be distinguished in developed and developing countries. Even though they are justifiably questioned in the context of developed countries, I would argue that trickle-down theory has some validity in developing countries. In the early stages of economic development, strategic investments in high-value-added sectors are often indivisible and involve high fixed costs. In the presence of capital market imperfections, which is the case especially in developing countries, the accumulation of wealth in the hands of those who are willing to undertake these investments is of critical importance for the emergence and expansion of the industrial sector. Therefore, in developing countries, increased investments by a strong capitalist class have the potential to create substantial improvements in the lives of all citizens by creating employment and income growth. For the sake of faster capital accumulation and economic growth, developing countries may want to avoid aggressive redistribution and tolerate a higher concentration of income and wealth in the hands of the capitalist class, which may (or may not) imply tolerating higher inequality as well.

Negative growth effects of dispersing capital via redistribution do not exist or are less important in developed countries, because developed countries already have high capital intensity and a strong capitalist class. Instead, the accumulation of wealth is a drag on economic growth because it suppresses effective demand. In particular, through structural transformation, the composition of capital and labour in production gradually changes in favour of capital at higher stages of economic development. Abstracting away from redistributive policies, one consequence of this is that a larger and larger proportion of wealth gets concentrated in the hands of those who own capital (Piketty, 2014). Under the assumption that the rich spend a smaller share of their income on consumption, increasing inequality implies a decreasing share of consumption in total income. If inducement to invest also starts to decline with higher capital intensity, then savings start to accumulate in non-productive assets, such as real estate or financial papers, instead of being channelled into investments.

Therefore, in later stages of economic development, higher inequality creates momentum for low effective demand and underutilisation of resources. This is a further reason

why the Keynesian approach has more meaningful policy implications in developed economies, and governments in such countries need to focus on boosting effective demand to full employment levels. In this respect, redistribution towards the lower end of the income distribution, where marginal propensity to consume is higher, can serve as a solution to a systemic problem of demand deficiency (or secular stagnation). As already explained, this problem does not exist in the early stages of economic development, where the capital-labour ratio is low and population growth is high, so investment demand is high compared to the savings capacity. Effective demand is not a real constraint on growth in developing countries.

Another important effect of redistribution takes place through its impact on productivity. The redistribution of wealth and income towards the poor can contribute to the productive capacity of an economy by enabling large segments of the society to access education (add to the human capital) or become entrepreneurs. Needless to say, this positive effect of redistribution on productivity is restricted to neither rich nor poor countries, but I would argue that it is more important for developed countries, because in developing countries, productivity growth is mostly a by-product of physical capital accumulation, which requires a certain level of wealth concentration, whereas in developed economies with capital saturation, knowledge creation (innovations) and investments in higher education contribute more to productivity growth. To put it differently, dispersion of capital can be detrimental to growth in developing countries because it reduces investments in physical capital, where most of the productivity growth comes from, whereas it supports growth in developed economies because it enables more people to engage with knowledge and human capital accumulation.

All in all, I believe that countries at different stages of development should follow different fiscal policy schemes. Lack of capital stock in developing countries deprive them of the benefits of modern industrial expansion and leave them in stagnation. Developed countries, in contrast, need to manage their accumulated capital efficiently and encounter systemic risks that come with a high capital-labour ratio (i.e. secular stagnation). Accordingly, fiscal policy in developing countries should focus on boosting investible funds via taxation of consumption rather than capital income, and on physical capital creation in critical sectors via public investments, whereas developed countries should focus on keeping effective demand at full-employment levels via redistribution and taxation of income and wealth, and on increasing labour supply and productivity via public services and R&D investments.

1.5 Outline

The rest of this study is organised around three parts, which discuss tax structure, public spending, and redistribution, in this order. Each part begins with a short introductory chapter, which introduces the basic concepts of the respective subject and reviews the relevant theoretical and empirical literature.

Following the introductory chapter, in each part, there are two long chapters, the first of which discusses fiscal policy in the context of developing countries and the second in the context of developed countries. These two long chapters in each part aim to explain how fiscal policy can support growth, arriving at different policy conclusions for developing and developed economies. In addition to the theoretical discussion, these two long chapters also discuss relevant historical and contemporary country cases, including successful industrialisation experiences from East Asia as well as low-growth environments found in some mature developed economies.

In Parts I and III, the last chapters discuss political and administrative implications, mostly relating to constraints for implementation, of the fiscal policies that are suggested. In Part II, the last chapter examines what forms of public investments (in human capital and technology) are more effective for enhancing productivity at different stages of development.

Lastly, Chapter 14 concludes and summarises the study.

Part I. Tax Structure

2   Basics of Taxation and a Short Literature Review

2.1   Basics of Taxation

Taxation raises the revenue governments need to provide public goods and services. Although it is not the only source of revenue, 80% of total government revenue comes from taxes in about half of the countries around the world and more than 50% in almost all countries (ICTD/UNU-WIDER, 2019). Apart from generating revenue for governments, taxation holds the power to influence the allocation of resources by interfering with prices (i.e. changing incentives). It is argued that this leads to allocative inefficiency, but it can also be corrective of market failures when there are externalities involved in economic activities that are being taxed. Moreover, as discussed in the introduction above, depending on one's view of government interventions, taxation can also be seen as an effective tool to channel resources towards more productive uses from a long-term perspective and improve dynamic efficiency.

Because definitions and conventions differ vastly across different studies in the literature, it is appropriate to start the analysis on taxation with an introduction of the basic concepts utilised in this study. In general, there are three main bases of taxation: income, wages, and consumption. Although it is less common, taxation of wealth can also be classified as a fourth, but essentially different, basis of taxation. The following income equation illustrates the difference between various bases of taxation:

$$Income = Wages + Capital\ Income = Savings + Consumption$$

In this specification, total income is composed of income coming from work (wages) and investments (profits/interests), and spent on consumption or otherwise considered as savings. So, savings refer not to accumulating money balances, as they may be understood in the corporate finance literature, but to remaining income after consumption. Also, contrary to the standard assumption in the classical and neoclassical frameworks, this study does not take savings to be automatically equal to investments either. Savings may translate into investments if spent on the accumulation of productive assets (i.e. physical capital), which are intended to produce value, or may be accumulated in unproductive assets (i.e. non-capital wealth), in which case they do not add to investments.

First, taxation based on income is simply the taxation of all earnings both from labour and capital (e.g. wages as well as interest/profit from investments). Income tax rates usually

vary depending on the source as well as the level of income, so it provides a certain level of flexibility. This flexibility can be used to improve income equality by imposing higher rates of income taxes on higher amounts of income, which is usually referred to as graduated or progressive rates. The tax rates may also be uniform across individuals, which is often referred to as flat rate, and in that case, it is regressive. Taxes on corporate income, for instance, are usually flat rate. The most common problem with incomes taxes is the relative ease of tax avoidance. Individuals and corporations are constantly finding new loopholes in the system to avoid taxation, which leads to new legislation to close the loopholes and thus an increasingly more complicated tax system.

By taking a part of the produce, incomes taxes can alter people's tendency to engage with income-generating activities, such as investments or work, as opposed to leisure. But this is not straightforward. Specifically, a rise in income taxes involves two opposing effects on economic activities: *an income effect* and *a substitution effect*. On the one hand, because the received income is reduced by the tax rise, a person may choose to work (or invest) more in order to compensate for the income loss. On the other hand, she may choose to work (or invest) less and substitute consumption with leisure because the marginal return on work and investments is lower (i.e. leisure is cheaper). Therefore, a rise in income tax induces a person to increase her income-generating activities via the income effect and decrease them via the substitution effect. The balance between the two will determine the elasticities of the labour supply and investments, and the net change in labour force participation or investments in response to a specific tax policy reform.

Second, a wage tax is also a form of income tax, but it excludes capital income. In most countries, gross wage earnings are taxed through personal income taxes, payroll taxes, and social security contributions. These payments, which constitute the difference between the total labour cost to the employer and the net take-home pay (net wage) of the employee, are considered wage taxes. Wage tax can also be referred to as *tax wedge* when it is expressed as a percentage of total labour cost. Specifically, social security contributions include pay for unemployment and sickness insurance, public pensions, and, in some cases, health care. Payroll taxes are also contributions to the social security system, but they are usually paid by the employer.

The advantage of wage tax is that because it excludes capital income, it does not directly punish investments, which generate employment and enhance economic growth. However, it

still influences employment and investment decisions indirectly. Typically, the burden of a wage tax (i.e. tax incidence) is shared between the employer and the employee, but who bears the brunt of it depends on the relative elasticities of labour demand and supply. If labour supply is inelastic, meaning labour supply does not react much to a change in wages, then the worker bears most of the burden. In such a situation, higher taxes on wages will not change the labour supply significantly, but it will reduce the purchasing power of the worker and thus effective demand in an economy. However, if the labour supply is elastic, meaning the wage tax strongly influences decisions on whether to participate in the labour market (*extensive margin*) or how much to work (*intensive margin*), then the tax burden falls more on the employer, and it can lower the level of employment more significantly.

Third, taxation based on consumption is the taxation of all income spent on goods and services. In other words, the difference between an income tax and a consumption tax is the exclusion of savings from the tax base (or inclusion of withdrawals from savings to the tax base). Consumption may be taxed directly by imposing an income tax after savings are deduced or indirectly via sales or excise taxes (Metcalf, 1973). Expenditure taxes proposed by Fisher (1939) and Kaldor (1955/2014) are examples of direct consumption taxes. The most common version of indirect consumption taxes is the value-added tax (VAT), which is basically a sales tax levied in increments at each stage of production on a firm's net value added to a good or service. It is imposed on the difference between a firm's revenue from sales and its expenditure on inputs. An indirect consumption tax can also take the form of a nationwide sales tax at the retail level. Retailers collect the sales tax and remit it to the government, but this is not essentially different from VAT. Excise taxes are also indirect, but they are not broad-based and are paid on only specific consumption items, such as gasoline or tobacco.

Similar to wage taxes, consumption taxes may also have an impact on labour force participation through income and substitution effects. It reduces a person's purchasing power so she may choose to work more due to the income effect or less due to the substitution effect. But, unlike wage tax, consumption tax also has an intertemporal effect. It may lead individuals to substitute current consumption with future consumption. Of course, future consumption does not escape taxation. All income has to be taxed either when it is earned or when it is spent, but by postponing taxation to when it is consumed, consumption tax incentivises savings (i.e. future consumption) over current consumption because savings produce a return before they

are spent on consumption. Higher savings may also imply lower effective demand if higher savings do not turn into investments but are simply hoarded.

Last, a wealth tax is imposed on the value of physical and financial assets that an individual owns. As per the income equation stated above, the basis for the wealth tax is accumulated savings over time, so unlike other forms of taxation, wealth tax is imposed on the stock, not flow, of value. This may include taxation of real estate (e.g. land and buildings), bank deposits, ownership of physical capital (e.g. machines) or shares, and such. The most common of these are taxes on real estate because tax avoidance in that case is quite difficult (Smith, 2015). Wealth tax may be imposed periodically (e.g. annually) on net wealth (total worth minus liabilities) or at the point of the transfer of wealth (e.g. inheritance or estate tax, gift tax, stamp duty) (Rudnick & Gordon, 1996). Wealth tax is sometimes called capital tax, but this is misleading as it also taxes non-capital assets such as personal cars or unused land.

A wealth tax may have less impact on labour-leisure decisions discussed above because it does not interfere with wage income but affects only accumulated assets. So, switching to wealth tax should improve the labour supply. However, its effect on investments is ambiguous. On the one hand, compared to consumption tax, wealth tax may lead to reduced savings (i.e. increased consumption) because it gives a clear incentive for consuming more of one's income and discourages the accumulation of wealth. In that regard, wealth tax is just like an income tax (Shakow & Shuldiner, 2000). On the other hand, because a wealth tax taxes unproductive assets as well as productive capital, it may incentivise investments. Namely, a revenue-neutral transition from income taxation to wealth taxation would favour an entrepreneur who has high returns on his capital investments over a wealth-owner who keeps his savings in unproductive assets, assuming they have the same amount of wealth (Güvenen et al., 2019).

Most countries around the world impose taxes on all three bases and sometimes on wealth. However, the composition of taxation differs considerably across countries (figure 2-1). For example, in 2017, revenues collected from sales tax were around 4% of the GDP in the US whereas those from income tax were around 12%. In comparison, in 2016, the same figures were 11% and 5% in China, respectively (ICTD/UNU-WIDER, 2019). In general, developed countries rely more on income taxes, whereas developing countries collect more revenue from consumption taxes. Also, we know that total tax revenue as a percentage of the GDP rises along the development path, so rich countries tax a bigger share of the national income (figure 2-2).

Figure 2-1: Tax Structure Across Countries, 2017
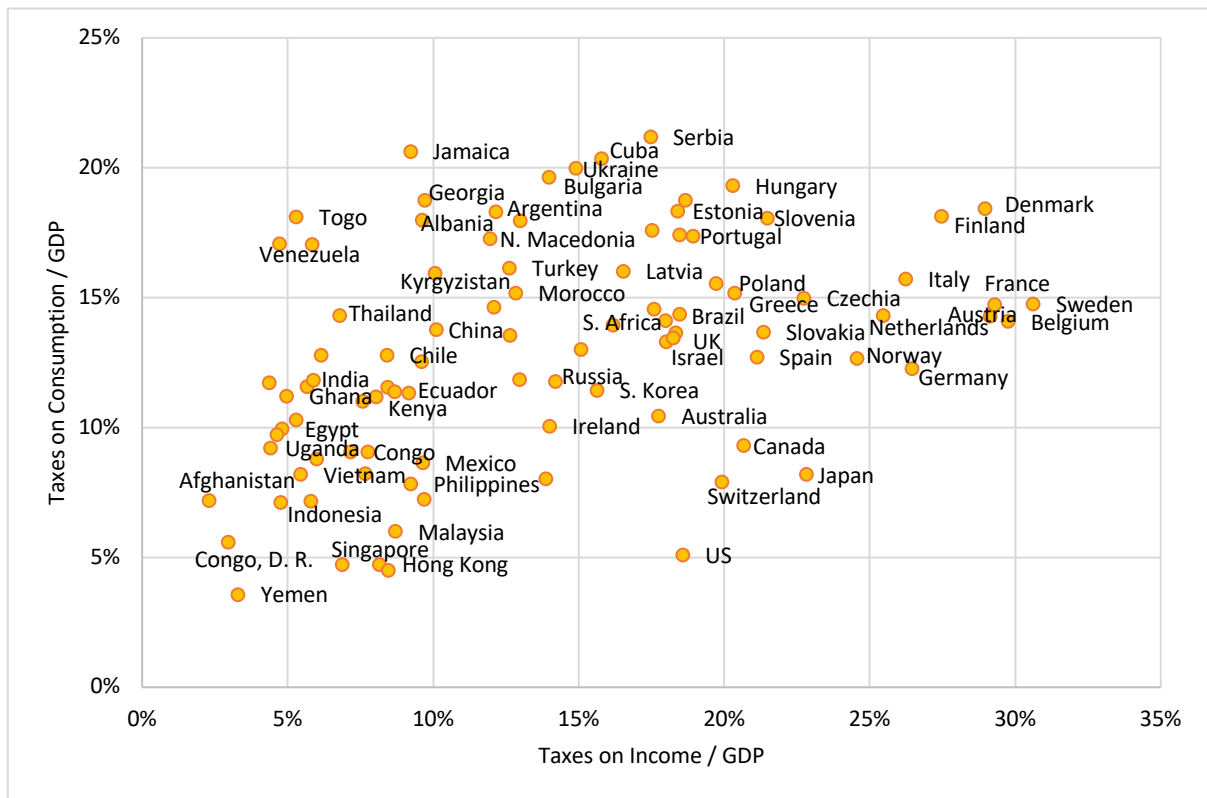
Source: ICTD/UNU-WIDER (2019).

Figure 2-2: Tax Revenue / GDP vs. GDP per capita, 2017
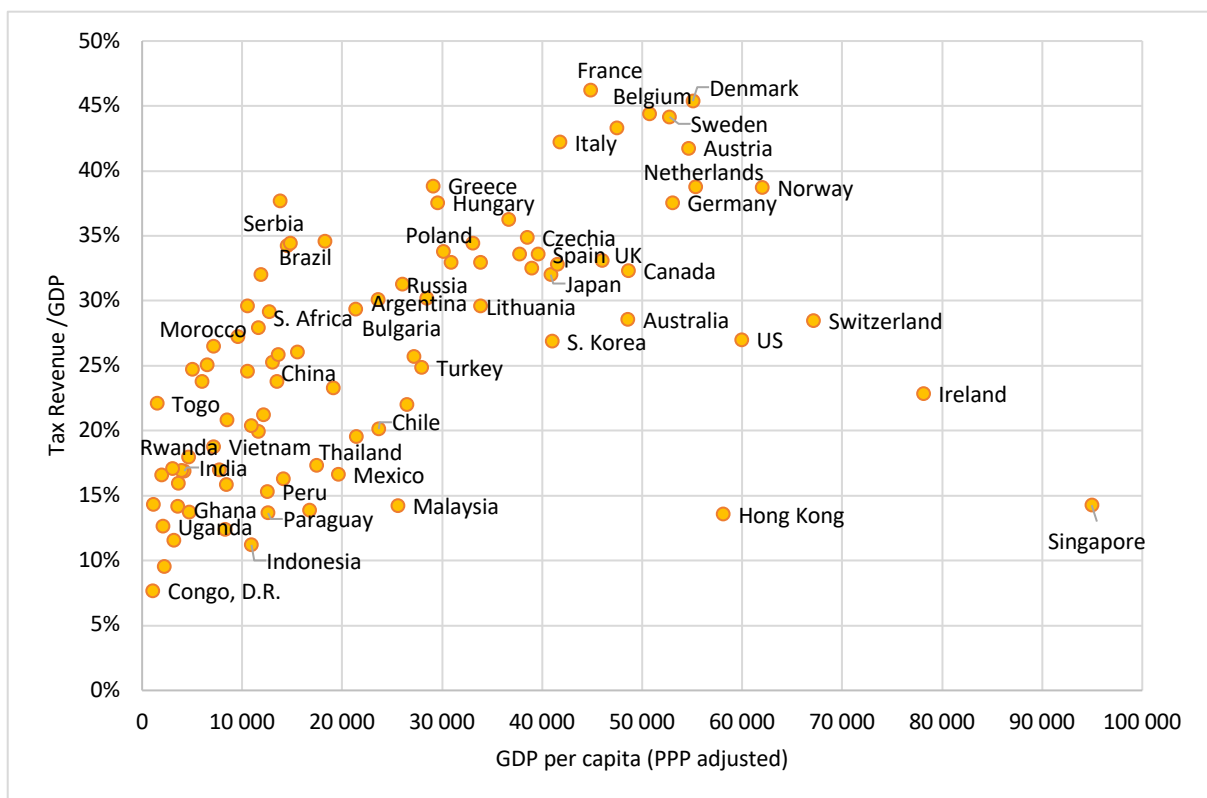
Source: ICTD/UNU-WIDER (2019).

2.2 A Short Literature Review

Needless to say, a tax policy may have different objectives, such as maximising revenue, reducing inequality, achieving administrative manageability, etc.. Accordingly, governments may use different modes of taxation, reflecting their differing priorities between these objectives and policy preferences. The purpose of this study is to analyse first and foremost the growth effects of fiscal policies so the other issues related to taxation will be discussed to the extent that they relate to growth. In other words, the main objective is to contribute to the optimal taxation literature specifically from a growth perspective, rather than providing a comprehensive normative discussion about taxation and its overall welfare effects.

The logic of how taxation may be used for supporting economic growth is quite simple. If there are two sets of activities among which individuals make a choice and one of these activities is more supportive of economic growth, then the government can incentivise individuals to choose that activity by taxing the other. This may well cause welfare losses in the short run but should increase the rate of growth and thus the level of welfare in the long run. How taxation supports growth can also be expressed in the terminology of market failures as long as they are broadly defined[11]. If there are positive externalities (e.g. knowledge spillovers) or increasing returns to scale involved in certain economic activities, then taxation can be utilised to channel more resources into those activities by taxing others, and vice versa.

There is a vast literature on the growth effects of taxation. Early neoclassical growth models of Solow (1956) and Swan (1956) assume that taxation can affect the transitory growth rate by changing the rate of factor accumulation but is irrelevant in affecting the steady-state growth rate, which is solely determined by exogenous technical change and population growth. In fact, in the original Solow-Swan models, even individual decisions over work and investments were assumed to be exogenous. Later studies endogenised these decisions so the steady-state level of consumption (and thus welfare) may be affected via taxation, but the growth effect is still restricted to transition to the steady state (Ramsey, 1928). Specifically, the

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[11] See, for instance, Justin Lin's use of the concept *latent comparative advantages*: "the latent comparative advantage refers to an industry in which the economy has low factor costs of production, but the transaction costs are too high to be competitive in domestic and international markets. Firms will be viable, and the sectors will be competitive once the government helps the firms overcome coordination and externality issues to reduce the risk and transaction costs." (2014, p. 389).

standard model assumes diminishing marginal returns (the marginal product of each factor falls to zero as the use of that factor increases, holding all other factors constant). Thus, if there is no technical change, growth via factor accumulation cannot be sustained in the long run (Myles, 2009a). For instance, in response to a tax cut on capital income, the rate of capital accumulation may rise, but it should gradually decline and be restricted by exogenous factors in the steady state anyway.

The literature on tax policies following this line of modelling focuses on the welfare gains of changing the tax structure at the steady state and suggests that taxes on consumption and labour income induce fewer distortions than taxes on capital income. So, they conclude that, to maximise welfare at the steady state, taxes on capital income should be zero and all tax revenue should be generated from taxes on wages or consumption (Judd, 1985; Chamley, 1986). This argument is based on the suggestion mentioned above that consumption taxes do not alter saving decisions across time (temporal-neutrality), so compared to income taxes, they promote savings and allow for a larger capital stock. Also, in these studies, taxes raise revenue to be used for public spending, but public spending appears neither in production nor in utility functions of individuals (Feldstein, 1974; Judd, 1985). Taxes, in this respect, are usually perceived as the cost societies pay to achieve some level of equality.

In endogenous growth models, there is more scope for taxation to play a role in economic growth. Contrary to exogenous growth models, endogenous growth models relax the assumption about diminishing returns and open room for sustained growth. In these models, technical progress is endogenously determined in the system and thus can potentially be influenced by government policy. Investments in certain economic activities, such as human capital accumulation, R&D, or simply further physical capital accumulation when there are positive externalities involved, are assumed to increase productivity and render possible non-diminishing returns to capital. Then, a government can induce sustained growth (i.e. increase the long-run growth rate) by encouraging such activities (Romer, 1986, 1990; Lucas, 1988; Barro, 1990). From a taxation perspective, basically, by reducing the tax rate and thus increasing the return on economic activities that directly or indirectly enhance productivity, a government can incentivise such activities and thus improve the long-run growth rate.

In this literature too, there seems to be a near consensus around the view that capital income taxes hurt economic growth more than consumption and wage taxes (King & Rebelo, 1990; Pecorino, 1993; Jones et al., 1993). What is different from exogenous growth models is

that tax policy affects not only the transitory but also the long-run growth rate. This result is conditioned on the assumption that physical capital is an input into human capital production. When this assumption is dropped, the growth effect of capital income tax is minimal, although the level effect remains (Lucas, 1990; Stokey & Rebelo, 1995). The logic of these models with human capital can also be applied to other models with different sources of sustained growth (i.e. non-diminishing returns) mentioned above. For instance, if productivity growth is assumed to be a by-product of physical capital accumulation via positive externalities (e.g. learning-by-doing or technologies embodied in new capital), then policy-induced improvements in savings and capital accumulation can lead to sustained growth.

As discussed above, wage and consumption taxes may also influence growth by affecting individuals' choices between leisure and labour. The decision between labouring and leisure is often based on the return on labouring and the level of consumption rendered possible by it. Therefore, assuming that taxation does not influence individuals' enjoyment of leisure, higher taxes may imply lower labour supply, as the return on labouring will be smaller and thus individuals may opt for more leisure (Devereux & Love, 1994; Turnovsky, 2000). However, the size of this effect is dependent on the elasticity of labour supply. Arguably, neither income nor consumption taxes are likely to affect labour supply in developing countries considerably because the prevailing income levels are low and social safety nets provided by governments are very weak, so labour supply is substantially inelastic. Indeed, empirical evidence for the theory is not strong, especially in developing countries (International Monetary Fund [IMF], 2014). In developed countries, it has been shown that taxes influence labour supply to some extent (Banerji et al., 2014).

Some studies claimed that tax cuts for labour income can boost human capital accumulation as the return on labour and hence on human capital increases (Pecorino, 1993; King & Rebelo, 1990). However, this approach neglects the fact that the production of human capital (i.e. education) also requires time, which can otherwise be used for work, and so involves a trade-off for the individual. Taking this into consideration, Milesi-Ferretti and Roubini (1998), for instance, argue that unless education is also a market activity where wages are taxed, labour income taxation should not affect human capital because it reduces the return on human capital and the opportunity cost of education with the same proportion. In other words, a wage tax cut would both incentivise more education because the return on human capital is higher and disincentivise it because its opportunity cost (i.e. wage) is higher.

It can be argued that the effect of wage taxation on human capital acquisition should also depend on the elasticity of labour supply. Again, in that regard, labour supply is quite inelastic in developing countries; while it may be a choice to switch from working to education in developed countries, it is not much of a choice in developing countries to give up work and reduce current consumption in order to invest in human capital because the underlying income levels are already quite low. To put it differently, when the wages are around the subsistence levels, it is not likely that people can substitute current consumption with future consumption even for much higher returns on human capital. Furthermore, in developing countries, there is limited access to finance needed for education, which is often not free especially at higher levels (e.g. tertiary education). Indeed, empirical studies in the literature find negligible effects on human capital of taxation in developing countries (IMF, 2014).

One common result which seems to cut through all the theoretical studies so far is that consumption taxes are more preferable to other taxes for their growth and/or welfare effects. It should be noted, however, that both strands of the growth literature discussed above are based on supply-side models, which take savings to be equivalent to investments by construction. Under this assumption, boosting savings, for instance by reducing income taxes, is equivalent to boosting investments and thus economic growth. As will be discussed below, demand-side models, most prominently Keynesian models, have significantly different implications for optimal taxation. These models incorporate the possibility that savings may remain unused, instead of being automatically invested in productive activities, and conclude that boosting effective demand, rather than savings, may better incentivise investments, leading to completely different recommendations for tax policy.

Therefore, the relationship between tax structure and economic growth is not as straightforward as claimed by the previous theoretical models. Indeed, despite the overwhelming support for consumption taxes over income taxes in the mainstream theoretical literature, empirical results are not robust to the use of different measures or methodologies. Easterly and Rebelo (1993), for instance, point out that "The evidence that tax rates matter for economic growth is disturbingly fragile" in econometric studies (p. 21). Myles (2009b) provides a comprehensive discussion of the literature and claims that the problem is "about the lack of structural modelling in these tax regressions and the consequent lack of any clear idea of what the estimated regression equation is representing." He further concludes that "this is an area of research in which no progress appears to have been made" (p. 55).

3 Taxation, Savings, and Capital Accumulation: "A Modified Classical Model"

3.1 Introduction

This chapter discusses tax structure in the context of developing countries. In particular, it analyses the long-run growth effect of tax composition between consumption, wage, and capital income taxes. It concludes that in the early stages of economic development, where capital stock is limited and financial markets are underdeveloped, a tax structure that suppresses consumption and favours profits is more supportive of economic growth because it encourages savings (i.e. investible funds) and thus leads to a higher rate of capital accumulation. In other words, the demand-side approach does not apply in developing countries. The chapter presents its arguments through the Classical theory, specifically Lewis (1954)'s *modified classical model*, and supports them with the case studies of the most notable success stories of rapid industrialisation from East Asia, especially Japan and Korea.

3.2 Taxation and Savings

Standard economic theory suggests that consumption taxes are more favourable than income taxes in terms of their growth effects. Taxing income favours current consumption over savings because it punishes savings both when the money is earned and again when the savings earn a return in the future, which is known as the *double taxation of savings*. A consumption tax, however, does not distort the intertemporal allocation of consumption (i.e. taxes current and future consumption at the same rate) and hence, compared to an income tax, favours private savings over consumption. Therefore, the replacement of income taxes with consumption taxes, even while keeping total tax revenue constant, should mean an improvement in savings. If more savings result in more investment, this means faster growth and higher future living standards as future consumption is increased by both the extra savings and the returns that greater savings produce.

Fisher (1939) demonstrates this through a simple simulation. If a person decides to invest $125 of her income, in an economy where income is taxed 20% and the rate of return is 5%, this person will end up with $104 next year. This is because her original investment ($125) will be taxed by $25 (20%) when she receives that amount as an income, so only $100 will actually be invested; then, her $5 (5%) return on that investment will be taxed by $1 (%20)

again next year. Comparatively, in an economy with a 20% consumption tax, this individual will end up with $131.25 next year because neither the original investment nor the return on it will be taxed. Moreover, if this person accumulates and invests her savings for ten years and starts to withdraw interests/dividends only then, in an economy with income taxes, she will accumulate $148 and earn $7.4 annual revenue, which will leave $5.92 after taxation. Comparatively, in an economy with consumption taxes, this person will accumulate $203.8 and earn $10.19 annual revenue, which will be equivalent to $8.15 at the point of consumption.

The above-stated reasoning depends on two presuppositions, both of which are debatable. First, it assumes that higher savings indeed translate into higher investments. Second, it assumes that higher investments (i.e. capital accumulation) accelerate economic growth. So, the choice between consumption and income taxation can be expressed as a question of, first, if higher savings lead to higher investments and, second, if capital accumulation leads to higher economic growth. In line with the general reasoning of the present study, I claim that this chain of causation works in some contexts but not in others, depending on the country characteristics. In developing countries, where the capital-labour ratio is very low, financial intermediation is underdeveloped, and capital inflows are limited, high savings are indeed paramount for funding the investment drive and boosting economic growth. Therefore, taxing consumption instead of income is a better policy choice in such countries.

The Classical approach, originally advanced in the 19th century, provides a useful framework to analyse savings-investments-growth nexus in the context of developing countries today. Classical economists took it for granted that higher savings bring about higher economic growth. In classical thinking, savings, as opposed to consumption, were perceived as channelling resources to productive use (i.e. capital accumulation). One of the earliest predecessors of the classical view in tax discussions was John Stuart Mill, who, as a member of the British parliament, expressed his opinions on the matter extensively at a time when the British administration was experimenting with the first modern versions of income taxes[12]. Unsurprisingly, Mill was very straightforward about his support for consumption taxes based

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[12] Discussion about the relative merits of different taxes actually dates back to Hobbes (2011/1651), who first pointed out how a worker is discouraged from working, knowing that a part of his earnings will go away due to the income tax. This is probably the first argument for negative effects of income taxation on labour supply. He also suggested on normative grounds that it is more reasonable and also fair to tax consumption of resources rather than provision of them to the economy.

on his claim that income taxes discourage savings and thus investments (Ekelund & Walker, 1996). Mill is usually credited with the first criticism of the double taxation of savings via income taxes:

> …when saved and invested (and all savings, speaking generally, are invested) it thenceforth pays income-tax on the interest or profit which it brings, notwithstanding that it has already been taxed on the principal. Unless, therefore, savings are exempted from income-tax, the contributors are twice taxed on what they save, and only once on what they spend. (1848/1909, p. 813)

At the basis of Mill's reasoning was, of course, a classical dogma, Say's law, which asserts that all extra earnings above consumption, "speaking generally", turn into investments. For the same reason, again under the influence of classical theory, Mill considers savings as "a mode of employing income which is public policy to encourage":

> Taxing people on what they save, and not taxing them on what they spend, or taxing people on a larger proportion of their income, because they are better off, does not hold the balance fairly between saving and spending; it is contrary to the canon of equity, and contrary to it in the worst way, because it makes that mode of employing income which is public policy to encourage, a subject of discouragement (1861/1967, pp. 569-570).

So, from Mill's point of view, as for almost all classical economists, both presuppositions stated above hold true; higher savings lead to higher investments, which accelerates capital accumulation and thus economic growth. Consequently, economists following this line of reasoning overwhelmingly supported modes of taxation that suppress consumption and encourage savings.

It is worth exploring why Classicals found Say's law so convincing. Today, it is clear that it is not really an economic law but rather an assumption, and one that is rigorously disputed by demand-side (Keynesian) economists. Savings do not necessarily translate into investments because it is possible that people may simply be hoarding money, and accumulation of money for its own sake obviously provides no stimulus to production. But Classical economists seem to have categorically disregarded this possibility and found it very easy to believe that all saving decisions are motivated by a desire for investment[13]. In fact, most

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[13] Even Robert Malthus, an early defender of the underconsumption theory, finds Say's law self-evident and concedes in their famous debate with David Ricardo after Ricardo puts Say's law forward. Ricardo claims that increasing savings (i.e. decreasing consumption) due to the rising share of capitalists in the

of them, including Say himself, were aware of this theoretical challenge but did not take this seriously as they thought, in practice, no one would like to hold onto a depreciating asset such as money for long, especially when there are sufficient investment opportunities with high rates of return in an economy[14]. Apparently, deflationary, slow-growth environments, currently present in most developed economies, did not interest them as a realistic counterfactual situation. Neither did they have in their theories a sophisticated financial sector that has the potential to soak up most of the savings away from productive investments.

Arguably, a similar reasoning applies to developing countries today. Most developing countries have good investment opportunities which have potentially higher rates of return than those in developed countries (at least in the long run) because they are at an earlier phase of economic development and thus far from their steady-state growth path. They have a very low capital-labour ratio; in other words, capital is scarce and unemployment, as well as population growth, is very high. Then, their cheap labour force, unused natural resources, and unexhausted economies of scale make any improvement in investments likely to pay off and lead to accelerated growth. However, most such countries find it challenging to fund their investments and accelerate capital accumulation because, by definition, they have limited stocks of capital to begin with. Then, they cannot make use of these opportunities, which is why savings is a major issue of economic development.

Needless to say, even in developing countries, the proposed equilibrium between savings and investments is a generalisation that does not always hold. Many economists criticised Say's law for not taking into account economic depressions. As it has been proven time and again, during prolonged recessions, people tend to withdraw funds from the economy simply for hoarding it. In such a disequilibrium situation, increasing savings obviously do not support economic recovery, and a Keynesian boost to aggregate demand, potentially by the government, can play a vital role in reviving growth. In this regard, it is difficult to make a distinction between countries at different stages of development. When an economic slowdown

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national income cannot lead to a disequilibrium between aggregate supply and aggregate demand because all savings turn into investments and also support effective demand (Screpanti & Zamagni, 2005, p. 97).

[14] Say, for instance, admits that capital (physical or financial) can "remain inactive and useless to production" in times of "alarm and uncertainty". (1841, book 1, p.142).

hits hard, giving way to mass unemployment and depression, it is plausible that the relationship between savings and growth is negative both in developed and developing countries.

However, the argument that is being developed in this study is not about business cycles or how fiscal policy may be utilised to avoid severe depressions, but rather about the equilibrium relationship between savings and investment under ordinary circumstances (i.e. when there is no crisis). In that regard, the Keynesian criticism of Say's law actually goes deeper than the short-run business cycle considerations and makes the case that economic growth is driven by aggregate demand at all times, so savings are never a significant determinant of economic growth. This is a fundamentally different theoretical position, that is discussed in the next chapter in the context of developed countries. Leaving aside the economies Keynes was interested in, however, it is plausible that the relationship the Classicals assumed between savings and investment as an equilibrium condition holds under normal circumstances at earlier stages of economic development (e.g. 19th century capitalist Europe or today's developing countries), because individuals should not keep their saved capital idle in an economy where investment opportunities with high rates of return are present and inflation is usually high.

3.3 "A Modified Classical Model"

The point that the classical approach is more relevant to the conditions of developing countries today has been made most powerfully by Arthur Lewis. In the opening sentence of his 1954 paper *Economic Development with Unlimited Supplies of Labour*, which is considered one of the pioneers of development economics, Lewis says:

> This essay is written in the classical tradition, making the classical assumption, and asking the classical question. The classics, from Smith to Marx, all assumed, or argued, that an unlimited supply of labour was available at subsistence wages. They then enquired how production grows through time. They found the answer in capital accumulation, which they explained in terms of their analysis of the distribution of income. (p. 139)

Lewis's (and Classicals') approach to the distribution of income is discussed later, but Lewis maintained that the realities of developing countries with scarce capital and excess labour do not fit well with the neoclassical or the Keynesian theoretical frameworks, because the former assumes a limited supply of labour whereas the latter assumes unlimited capital. Lewis (1954) concluded, "The student of such economies has therefore to work right back to the classical

economists before he finds an analytical framework into which he can relevantly fit his problems" (p. 140).

The standard neoclassical model, for instance, assumes full employment of labour where the market wage is equal to the marginal product of labour; then, if capital grows more than labour does (i.e. capital-labour ratio rises), under the assumption of diminishing returns, the marginal productivity of capital will decline. Eventually, capital stock per capita will settle at a steady-state level, which equates the level of savings to the amount of depreciating capital. This steady-state level of capital can be increased via various policy measures that increase the savings rate (e.g. consumption taxes). However, if the savings rate rises too much (i.e. steady-state capital level is too high), the marginal product of capital will fall below the depreciation rate, and capital accumulation will start to reduce the consumption levels. In other words, because any increase in capital, for a given amount of labour, will reduce the marginal product of capital, capital stock should not be raised above an optimal steady-state level, which maximises consumption, where the marginal product of capital is equal to the depreciation rate. Therefore, abstracting from technical progress, there is a limit to welfare gains that can be accomplished through higher savings and capital accumulation (Solow, 1956; Swan, 1956).

According to Lewis (1954), however, even though full employment may be a reasonable assumption to make in developed countries, it is not in developing countries, most of which have an almost unlimited supply of labour. Most of this labour supply is not strictly unemployed but usually employed in the *traditional sector*, which includes economic activities such as agriculture or home production[15]. The traditional sector, unlike the *modern sector*, does not use reproducible capital. In such activities, the marginal product of labour is virtually zero and wages are very low (usually around subsistence levels). Given this *reserve army of labour* in the traditional sector, the modern sector is far from full employment. For any improvement in the capital stock, the modern sector will just pull more labour from the traditional sector, so the capital-labour ratio as well as the marginal products of both factors should stay more or less the same. Then, wages will also be largely irresponsive to capital accumulation because

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[15] Royal Institute of International Affairs (1943) calculated that in Eastern Europe, at least a quarter of the agricultural population was 'surplus' in the 1940s, meaning the level agricultural production could be sustained even if they left the countryside (cited in Toye (2006)).

employed labour will also rise in proportion, which means profits can increase without any limit up until the surplus labour is entirely exhausted (i.e. the famous *Lewis turning point*).[16]

What is more, according to Lewis (1954), as to most Classical economists, "it is neither possible nor necessary" to distinguish technical progress and capital accumulation, as it is characteristic of neoclassical exogenous growth models (p. 152). Indeed, it is widely assumed in the mainstream literature today that factor accumulation is less important than productivity-increasing activities, such as R&D or education, for economic growth (Easterly & Levine, 2001; Oulton & O'Mahony, 1994; World Bank, 1993). However, this approach neglects (often explicitly) the possibility that productivity rise may be embodied in capital accumulation. According to Lewis (1954), the application of new technical knowledge, just like new labour, is possible only with further capital investments. This is quite a reasonable assumption for countries at the early stages of development, where most, if not all, technical progress is embodied in sophisticated machinery that have to be imported from abroad[17]. Note that, apart from the unlimited supply of labour, this is yet another answer to the question of why developing countries should primarily be concerned with capital accumulation.

Therefore, contrary to the neoclassical growth model, in this *modified classical model*, higher investments in physical capital lead to higher growth without any intrinsic limitation. In an environment where the capital-labour ratio is so low, labour is overly abundant and available at a more or less stagnant wage, and technical progress embodied in new capital, capital accumulation leads to sustained growth at least until excess labour is entirely absorbed by the modern sector. This establishes the second link in the chain of causation described above that higher investments lead to higher economic growth. Classical economists were so deeply embedded in this reasoning, most of them (e.g. Ricardo, Malthus) could not even envisage that, at one point, the entire labour supply could be absorbed via industrial expansion, and thus real wages may start to rise; some (e.g. Marx) even predicted and problematised ever-increasing

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[16] Writing in 1957, Solow said, "there still remains to be done a full-dress treatment of the sources of growth in the developed economy, the sort of thing that Arthur Lewis has done for the case of the primitive economy" (p. 612; cited in Boianovsky, 2018). Similarly, Swan (1956) said "classical view is unfortunately perhaps more relevant to many contemporary problems of population pressure and economic growth." (p. 339). So, even the originators of neoclassical growth theory were convinced that assumptions of the classical model apply better to developing economies.

[17] Needless to say, the new technical knowledge in the context of developing countries is new not in the global sense but to the national economy (Chang, 1993).

capital stock (Lewis, 1954, p. 175)[18]. Needless to say, they were proven wrong in the long run, but their analytical framework is in line with the realities of developing countries.

According to the Classical model, contrary to the Keynesian model, there should be no excess savings over investments (or aggregate supply over aggregate demand) either. In an environment where capital expansion creates non-diminishing returns and profit levels are monotonically rising, savings should not remain *idle* but be constantly reinvested. Indeed, as in the Classical literature, Lewis uses savings and investments almost interchangeably, and sometimes simply use capital accumulation in place of both, implicitly assuming Say's law holds. In other words, in the context of a developing country that is in growth acceleration, Lewis (1954) dismisses the Keynesian notion that "secular expansion is embarrassed not by a shortage but by a superfluity of saving" (p. 140). Following this logic, a high savings rate directly translates into a higher growth rate through higher capital accumulation, which establishes the first link in the chain of causation – the one between savings and investment. Then, in Mill's words, savings becomes "a mode of employing income which is public policy to encourage" (1861/1967, p. 570). Again, classical economists took this for granted.

3.4   Initial Conditions and Auxiliary Policies

The Classical model does not imply that a higher savings rate can, in and of itself, trigger the capital accumulation process in an otherwise stagnant underdeveloped economy[19], but that in a developing economy, there should be no *savings glut* in the Keynesian sense or an intrinsic limitation on capital accumulation as in the Neoclassical theory. As Lewis and many others have noted, growth take-offs happen as a consequence of not only a high savings rate but various forces combined, which arguably requires comprehensive industrialisation policies to enact. According to Lewis (1954), the critical element for growth to take-off is the emergence of a capitalist class, "a group of men who think in terms of investing productively", but then he notes, "What causes a society to grow a capitalist class is a very difficult question, to which, there is no general answer" (p. 160). To answer this question, one should probably

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[18] According to Lewis (1954), only Adam Smith was able to see that there would eventually be a labour shortage (pp. 175-176).

[19] Lewis was specifically interested in capitalist countries that are going through fast capital expansion. As Boianovsky (2018) notes, "he showed little interest in what Classicals had to say about underdeveloped regions" of Asia or Latin America (pp. 11-12).

utilise an institutional perspective, which this study does not engage in but instead tries to answer how macro-level fiscal policy can contribute to sustainable growth where industrialisation has already taken off.

As Nurkse (1953/2009) noted, even from a macroeconomic perspective, the reason for stagnation in underdeveloped economies is quite different from what Keynesian economics takes issue with:

> …the deficiency of market demand that tends to keep down private investment incentives in the domestic economies of underdeveloped countries is a deficiency of real purchasing power, in terms of classical economics. It is not a deficiency of 'effective demand', in terms of Keynesian economics. (pp. 13-14)

So, in underdeveloped countries too, there may be low inducement to invest due to deficient demand, but as Nurkse (1953/2009) explicitly pointed out, the solution to this should be found "in the classical world of Say's law", where there is "generally no 'deflationary gap' through excessive savings", rather than in the world of Keynesian theory – that is, in the supply side rather than in the demand side (p. 105). In particular, Nurkse underlined the importance of balanced growth (i.e. different industries growing together and creating demand for each other). For similar reasons, Rosenstein-Rodan (1943) pointed at coordination failures in explaining why some countries cannot industrialise and proposed a simultaneous *big push* to various interdependent industries. Another reason for low investment demand in stagnant economies can be a serious lack of basic infrastructure that is critical for making investments viable.

Fiscal policy surely has a role to play in resolving some of these issues, mostly relating to public spending and is accordingly discussed in part II below. However, to repeat, the macroeconomic analysis provided in this study, at the level of aggregates, can only complement micro-level industrialisation policies for kick-starting industrialisation in these underdeveloped economies. Not to mention, there is limited fiscal capacity in most such economies to begin with, as already discussed in the introductory chapter above. Therefore, the present study may have little relevance for these economies (e.g. least developed economies of sub-Saharan Africa, very poor countries in Latin America and South-East Asia, etc.).

Even in middle-income developing economies with considerable fiscal and productive capacity, a high savings rate may not always translate into a high investment rate. This is often the case when there are other, unproductive sources of income for the capitalist class which

provides even higher returns than real investments. Such sources of income usually include financial speculation, resource extraction, real estate, and other extractive activities. Indeed, there are countries where the savings rate is quite high, but investments in productive capital simply do not occur (e.g. oil-rich countries). Relatedly, Lewis (1954) claims that in an economy where technical progress and capital accumulation do not "work together", savings are usually spent on durable consumer goods rather than building productive capacity (p. 153). Therefore, even in developing countries with a lot of viable real investment opportunities, increased savings may not naturally flow into capital investments if there are other places where the capitalist class can earn higher returns (e.g. rents).

In any case, macro-level fiscal policies discussed as part of this study may not lead to higher growth under these conditions and require auxiliary industrial policies. In that regard, it should be noted that the tax deductions from capital income discussed below in the context of East Asian miracle economies are mostly tax concessions for industrial profits, where investors earn a return from productive activities, rather than blanket tax cuts for all capital income including rents from extractive activities. Furthermore, as discussed in more detail in part III below, the governments in East Asia implemented land reforms that prevented the elite from collecting easy rents from agriculture. Wade (1990/2004) also argues that the governments in East Asian economies limited the non-productive ways of accumulating wealth, such as money-lending or real estate speculation, through fiscal and non-fiscal policy measures. Such interventions to influence "the social structure of investment" work as a form of industrial policy (pp. 301-302) and create the conditions under which macro-level policies discussed in this study lead to accelerated growth.

To clarify, suppression of consumption via taxation leads to higher savings rates, which, under the assumption of a high inducement to investment, should translate into a higher investment rate in a developing country. This chain of causation is not expected to break due to a savings glut that Keynesians envisaged or because the marginal returns on capital investments quickly decline as the neoclassical theory assumes. However, savings may not translate into investments because, first, there is simply no basis for industrialisation as in many underdeveloped economies, in which case savings do not have any productive use to channel into, or, second, there are other fields of economic activity which promises even higher returns than productive capital investments (presumably many extractive practises in developing

countries fall into this category). And macro-level fiscal policies discussed in this study are not expected to resolve these problems by themselves.

Therefore, even though a high savings rate may not jump-start a growth take-off all by itself, in a developing economy where industrialisation is already occurring and incentive mechanism is not distorted by unproductive (often extractive) sources of income, a higher savings rate, ceteris paribus, is expected to lead to faster growth. Inducing a higher rate of savings in an industrialising economy critically feeds into the virtuous cycle between savings and investments and accelerates the capital accumulation process, where economic growth primarily comes from in such economies. Indeed, there are almost no high-growth episodes in history that did not involve a very high savings rate, which brings us to the conclusion that a high savings rate is a necessary, though not a sufficient, condition for sustainable economic growth over the long run.

3.5   Opportunities and Limits of Foreign Savings

The tight causation that was assumed between savings and investment by Classical economists may not hold in our contemporary world of cross-border capital movements and can be loosened to the extent a country utilises foreign savings. Poor economies with low savings but good growth prospects can finance their investment drive, at least partly, with foreign savings, which would alleviate the need to suppress consumption. In other words, international capital flows can weaken the link between domestic savings and capital accumulation. Indeed, as discussed below in the context of South Korea (henceforth Korea) and, to a lesser extent, in the other so-called *East Asian miracle economies*, foreign savings were proven useful especially in their respective take-off phases, when countries had very low amounts of capital.

However, there are also limits to and problems associated with the use of foreign savings to finance growth, especially for a prolonged period of time. Standard growth models, which assume perfect capital markets as well as free international capital movements, conclude that domestic savings should be irrelevant for economic growth. After all, if capital can freely flow into a country, domestic savings should not be an important factor for economic growth, because investments can be financed with foreign debt. Yet, these models are unrealistic in important ways. Recent econometric studies, as well as anecdotal evidence from countries that liberalised their capital accounts after the 1980s, have shown that the use of foreign savings,

unless they are managed very carefully, cause more problems than they solve (Cavallo et al., 2018). Quite a few countries that had run large and consistent current account deficits ended up with financial crises, followed by prolonged recessions.

Surely, if foreign capital inflows are directed towards quickly building up a country's productive capacity, especially in tradable goods, instead of boosting domestic consumption or production of non-tradable goods/services, they can sustainably support growth. However, this almost always necessitates direct state intervention. As discussed below, official regulations about how foreign savings were allocated were indeed critical for successful examples of the use of foreign savings in East Asia (Chang, 1993). In these cases, foreign savings were thought of as complementing rather than substituting domestic savings to finance investments during these countries' transition; in the process, they devised policies to close their current account deficits and savings gaps. It should be noted in that regard that rising income levels, though an important factor, does not automatically lead to a higher savings rate.

Too much dependence on foreign savings can be problematic in several ways. First, capital inflows bring about domestic currency appreciation, which in turn lead to undeserved purchasing power and higher consumption levels. So far as this occurs, it creates a vicious cycle between lower domestic savings rates and larger current account deficits, which amounts to ever-increasing external debt. Bresser-Pereira and Gala (2009), for instance, argue that, except when there are investment opportunities with a significant premium over interest rates, higher use of foreign savings artificially increases the consumption level and suppresses domestic savings in recipient countries. What is critical, according to them, is "the rate of substitution of foreign for domestic savings" (p. 58). If foreign savings substitute domestic savings at a high rate, then external debt finances consumption more than investments and current account deficits become permanent. They argue that this harms economic growth even without causing a balance-of-payments crisis.

Second, highly borrowed countries are often exposed to high volatility because of swift movements of capital, especially unrestricted short-term loans (i.e. hot money), in and out of their economies as well as drastic fluctuations in the cost of borrowing (i.e. interest rates). Capital flight can lead to abrupt currency devaluations, which makes servicing of the debt denominated in foreign currency very difficult and may even lead to financial crisis. In the case of developing countries, such volatility is often beyond the control of the borrower country in the sense that even countries with a relatively sound financial structure and *good* economic

policies can be impacted by changes in other economies (Stiglitz, 2000). For instance, a sharp rise in interest rates of developed countries, especially of the US, can lead to an ebb of capital, leaving the domestic country in financial crisis. Destabilising effect of rising foreign debts has been manifested repeatedly in different parts of the world, including Latin America in the 1980s, India in 1991, Mexico in 1994, East Asia and Russia in the late 1990s, and Brazil, Turkey, and Argentina in the early 2000s.

Cavallo et al. (2018) empirically investigate the causal relationship between foreign savings and long-term growth and conclude that, even though countries may be able to run large current account deficits for as long as ten years, these episodes mostly, though not always, end with crisis and growth slumps. So, according to them, it is possible but very risky to finance investments predominantly with foreign savings instead of domestic savings, and in the long run, it is more likely to lead to lower average growth rates. Importantly, they show that such episodes of large and persistent savings gaps are usually caused by the fact that such countries do not invest in machinery and equipment. In other words, countries that use external borrowing for importing machinery and equipment, instead of consumption goods, usually close the savings gap relatively quickly, whereas others continue accumulating external debt until they are derailed by a sudden stop of capital inflows. Their findings confirm De Long and Summers (1991), who claim that investments in equipment are related to economic growth significantly and more than any other component of investments.

It seems to be a rule rather than an exception that unregulated capital lending to developing countries for prolonged periods leads to problematic consequences. This is why developing countries such as Indonesia, India, Brazil, and most recently Argentina have implemented capital account restrictions. And it is also true that the most notable success stories of the 20th century, including the so-called East Asian growth episodes, had capital controls and financed their sustained growth episodes, for the most part, by domestic savings rather than borrowed capital. Comparatively, most Latin American countries also had quite high growth rates, but their domestic savings were stagnant in their comparable growth episodes. Between 1968 and 1977, Brazil, for instance, grew at an average rate of 7.5% per annum, but the gross savings rate did not rise as much and stayed around 20% while private savings were around 16%. Prima facie, economic growth that went hand in hand with rising domestic savings in the context of East Asian economies has been proven more sustainable than the growth that is achieved through borrowed capital in Latin America.

In any case, as per the famous *Lucas Puzzle*, capital inflows into developing countries do not take place to the extent that mainstream models predict (Lucas, 1990). Instead, most capital flows happen between developed countries, rather than from developed to developing countries. Gertler and Rogoff (1990), for instance, observe that there is a positive correlation between a country's wealth and foreign private borrowing, and make the case that lending at the international level does not take place to the extent we expect because of capital market imperfections, which in turn depend on countries' stage of development. According to them, even though the rate of return on capital in developing countries may be higher, capital flow from rich to poor economies is dampened, even reversed, because of asymmetric information problems present mostly in poor countries[20]. Therefore, they conclude, the rate of return between risk-free assets can be equalised across borders but not between risky assets.

Interestingly, the standard argument in the mainstream literature is that financial deepening is a precondition for (or at least an important determinant of) economic growth, whereas there seems to be stronger reverse causation, which creates a conundrum: unless countries are developed, they cannot access adequate foreign savings, which they supposedly need for building their productive capacity. According to Gertler and Rogoff (1990), this may explain why we see a causal relationship between domestic savings and economic growth contrary to what the theory suggests. Banerjee and Duflo (2005) supports the argument about capital market imperfections and also point at contractual enforcement problems. A foreign lender, say a foreign bank, may not want to lend credit in a developing country because the country where the investment takes place is outside the reach of the law where the bank is settled. Of course, the same reasoning applies to public lending as well. Sovereign risk (or "political risk" as Lucas (1990) calls it) is also a capital market imperfection. Debtors may refrain from lending to poor governments a lot because there is no effective international mechanism to enforce contracts on governments.

There are other explanations for why international capital movements are not taking place as suggested by the theory. Lucas (1990) himself offers an explanation as well. According to him, high rates of return in developing countries may not exist at all, because the theory does

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[20] Even if there are high-return business opportunities in developing countries, creditors in developed economies do not have adequate information about firms and businesses on the ground (adverse selection). Moreover, they may not be able to properly monitor business activities after the credit is extended (moral hazard).

not account for differences in human capital. Interestingly, Lewis (1954) also says, "the profitability of investing in a country depends upon its natural resources, upon its human material, and upon the amount of capital already invested there" (p. 178), so unless these other factors are in place, even though the capital intensity is low, the marginal return on capital can still be low, and so are capital inflows. It should be noted, however, that, except for natural resources, the preconditions Lewis lists for foreign direct investments usually go hand in hand with economic development, which again hits against the above-mentioned conundrum: they are the results more than the causes of economic development (Chang, 2011).

Note that every explanation to the so-called *Lucas Puzzle* can also be interpreted as an argument for why domestic savings are related to growth in developing countries but not in developed countries. Indeed, there is a well-documented cross-country correlation between savings and economic growth (Modigliani, 1970; Carroll & Weil, 1994). Several studies, including the seminal study by Feldstein and Horioka (1980), also documented a direct causal relationship between savings and growth. The fact that, in the long run, capital investments are the main source of productivity and income growth in developing economies does not change. This is actually precisely why raising domestic resources for investments are critical. The fact that foreign investors cannot or do not want to take the risks of initial investments in developing countries makes it only more important that governments (using taxation for instance) incentivise higher rates of domestic savings and investment.

3.6 East Asian Miracle Economies

In almost all of the rare cases of transition to the high stage of development in the 20th century, especially in the so-called *East Asian miracle economies*, the observed patterns fit very well with the assumptions of the classical framework. Moreover, as pointed out by a number of studies in the literature, the role of fiscal policy, especially taxation, in these success stories was quite straightforward. All these high-growth episodes have followed a similar profits-savings-investment nexus: high profits, partly induced by the tax structure, provided both the incentive and the funds for further investments. In particular, the reliance on consumption taxes and substantial tax breaks for capital income, especially when they were reinvested, caused higher returns on investments, thereby increasing both savings and the inducement to invest, which is what Fisher's (1939) simulation at the beginning of this chapter basically demonstrates. This confirms the above-discussed transitivity between capital income,

savings, and investments in line with the classical theory as well as the catalysing role of taxation in this relationship.

Akyüz and Gore (1996), for instance, argue in their analysis of East Asian growth episodes that sustained high growth was driven by high rates of investments in physical capital which were, after an initial period, financed mostly by high domestic savings. According to them, productivity growth was indeed a by-product of physical capital formation and, contrary to orthodox opinion, was not disembodied from it. They further claim that neither the mainstream literature nor the heterodox literature paid enough attention to government policies, such as taxation, to accelerate the overall pace of capital accumulation. Specifically, mainstream literature disregarded the role played by governments and overemphasised pro-market policies, whereas heterodox literature, while rightly emphasising the importance of selective industrial policies at the sectoral level, overlooked macro policies to increase the savings and investment rates. According to them, governments of East Asian economies, along with intervening in the allocation of resources in favour of strategic sectors, also created broad incentive schemes, first, to boost corporate profits and second, to direct these profits to further investments, which is equivalent to say they incentivised savings in place of consumption by the capitalist sector.

Singh (1998) discusses the examples of Japan and Korea and concludes that fiscal policies to raise savings were indeed critical in these countries' exceptionally high growth rates as they complemented traditional industrial policies. He notes that the profits' share in national income as well as the profit-capital ratio were considerably higher in both Japan and Korea during their respective high growth episodes, compared to major developed economies, including the US, Germany, the UK, etc.. Further in line with the classical model, despite fast capital accumulation, the average return on capital was largely stable and did not decline over two decades, while it almost steadily declined in the more developed economies. According to Singh, high and stable profits were both the cause and the consequence of high savings and investment rates. Moreover, in both Japan and Korea, tax breaks from capital income, especially when they were reinvested in productive capacity, were critical for keeping profits high, which in turn induced higher savings and investments.

In the case of Japan, for instance, between 1953 and 1972, industrial production expanded at a rate of 13% per year, while domestic savings rates were higher than any other country in the world (figure 3-1). Specifically, between 1960 and 1970, annual corporate and

personal savings rates as a percentage of GDP were 15.3% and 13.5% in Japan while the same figures were only 8.4% and 9.3% in the US and 8% and 5.5% in the UK in the same period. Germany is the only developed country with a comparable figure of 14.1% corporate savings, which probably relates to post-war reconstruction (UNCTAD, 1991, tables 24, 25). Singh (1998) says: "The high saving propensity of the Japanese corporate sector can be attributed to high profits and high inducement to invest" (p. 120). However, according to Singh, high profits were not the outcome of spontaneous market forces but the doing of heavy state interventions. The Japanese government used various fiscal policy measures to this end:

> Initially, in the early 1950s, these included accelerated depreciation for important industrial equipment, a special deduction for export earnings, a tax free reserve for losses from export transactions, and reduced tax rates on interest and dividends. Over the next two decades, an extraordinary range of other tax concessions were added to this list. There were more than 25 tax-free reserves which were available to corporations by 1975 including those for bad debt, for loss on returned goods unsold, for price fluctuations, for overseas market development, and for overseas investment loss. (1988, p. 117)

It should be noted that all the policies listed above are forms of tax deductions from capital income, which arguably kept the inducement to save and invest strong. Akyüz and Gore (1996) also note that both in Korea and Japan, "fiscal instruments were used to supplement corporate profits and to encourage retentions in order to accelerate capital accumulation" (p. 466). These instruments included tax breaks of various types, such as special depreciation allowances, which allowed companies to write off a very high proportion of capital investments from taxable corporate revenues or tax exemption of reserve funds (i.e. cash reserves companies are allowed to put aside without having to pay taxes, which make it possible to defer tax payments).

Figure 3-1: Funding of Investments (% of GDP), Japan, 1885-2004
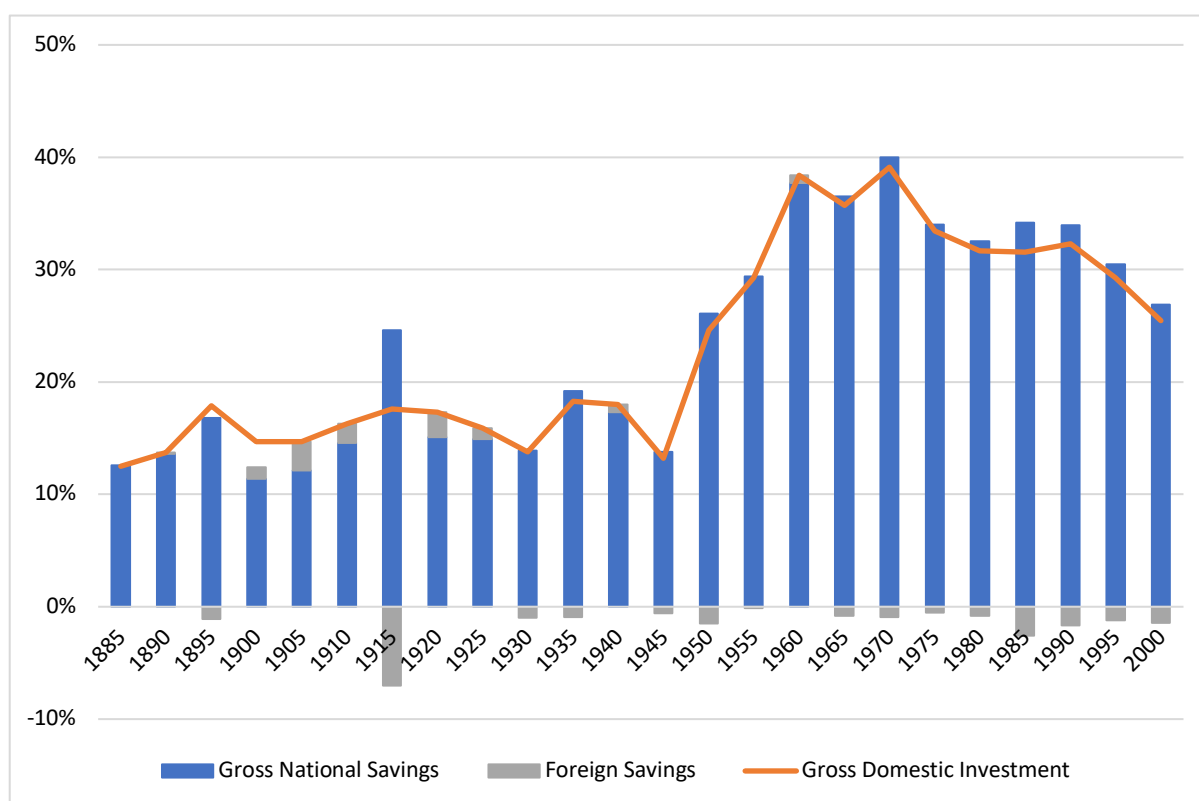
Source: 1885-1969 from Sato (1987, p. 82, table 1) based on data from Ohkawa et al. (1974). 1970-2004 from World Bank (2020).

In particular, Japan's tax system was devised by American economist Carl Shoup in 1949-50 (*the Shoup Mission*), which was actually based on comprehensive and progressive income taxation. However, contrary to Shoup's original plan, the Japanese government improvised and implemented preferential tax reductions "to stimulate investment and savings through the introduction of special depreciation measures, abolition of the capital gains tax, cut in property income tax rate (all of them in 1953), and preferential taxation on interest income" (Yoshioka & Kawasaki, 2016, p. 27). According to estimates, between the late 1950s and the early 1970s, such tax reductions from capital income amounted to 8-13% of total tax revenue in Japan while in the 1950s tax-free reserves amounted to one-third of all corporate savings. These reductions were gradually reduced over time (figure 3-2). As a result, during the same period, Japanese corporations paid only 17% of their total profit in taxes whereas US corporations paid around 25% (US Congress, 1984, p. 47). Singh (1998) notes, "particular feature of the Japanese financial system which permitted companies to follow a policy of low dividend payouts" also played a role in high corporate savings in Japan (p. 120).

Figure 3-2: Tax Reductions on Capital Income (Billion Yen and % of Revenue), Japan, 1955-1975
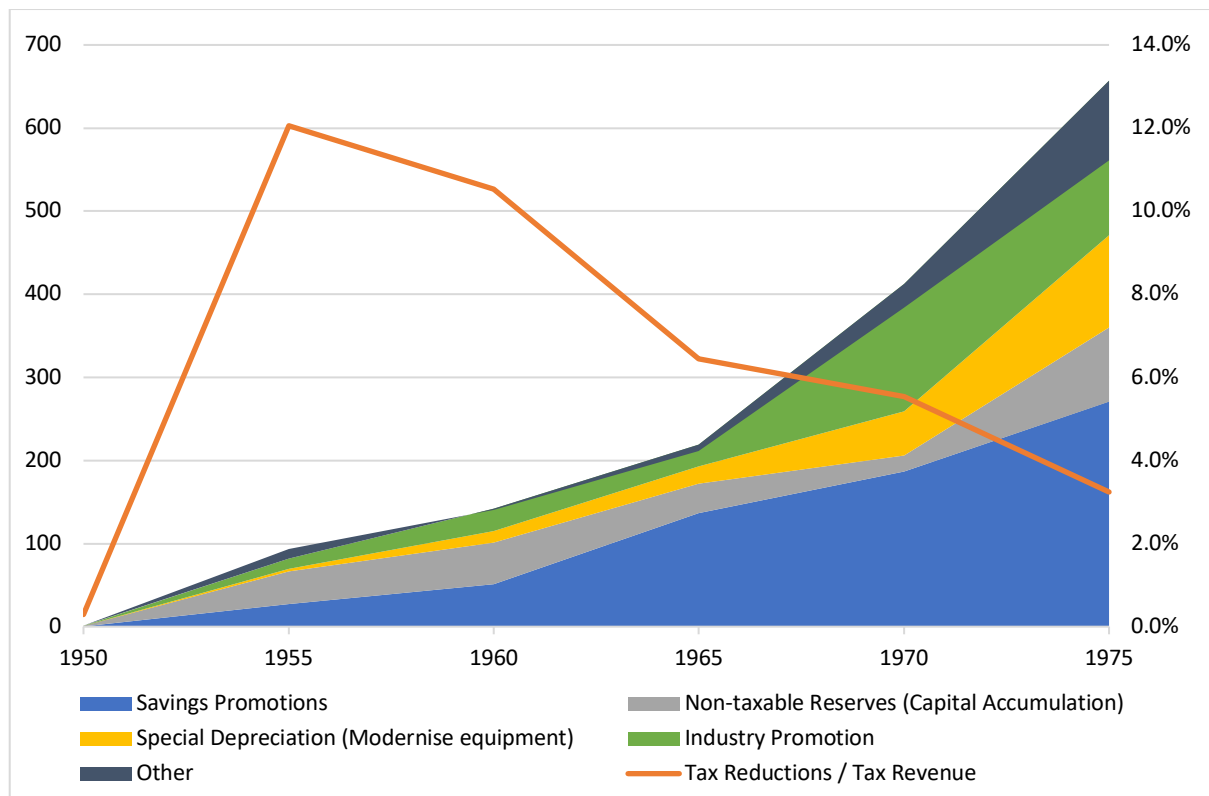
Source: Nishimura (1994, p. 200); cited in Yoshioka and Kawasaki (2016, p. 27, table 5.3).

Korea's case was in some ways different from that of Japan. Similarly to Japan, between 1965 and 1986, the country experienced one of the fastest industrial expansions of the 20th century. Similarities also include a very high profit share in income (P/Y) and a high profit rate (P/K), compared to more developed countries. This changed after 1978 with the rising power of labour unions and tighter labour market conditions (i.e. higher wages), and an even sharper decline in profits took place after 1987. Evidently, the Lewis turning point had arrived by then, and it was no longer possible to keep returns on capital (or, equivalently wages) stable as in the Classical model. Unlike Japan, Korean savings' rates were initially low, but rose fairly quickly, reaching very high levels by the end of the 1970s (figure 3-3). This was probably due to the differences in underlying per capita income and capital stock levels between Korea and Japan. When they started their respective growth episodes, Japan was able to build on its already available capital stock and had a much higher savings capacity, whereas Korea had to feed its population with its limited per capita income and depended more on foreign savings to finance its investment drive.

Figure 3-3: Funding of Investments (% of GDP), Korea, 1953-1995
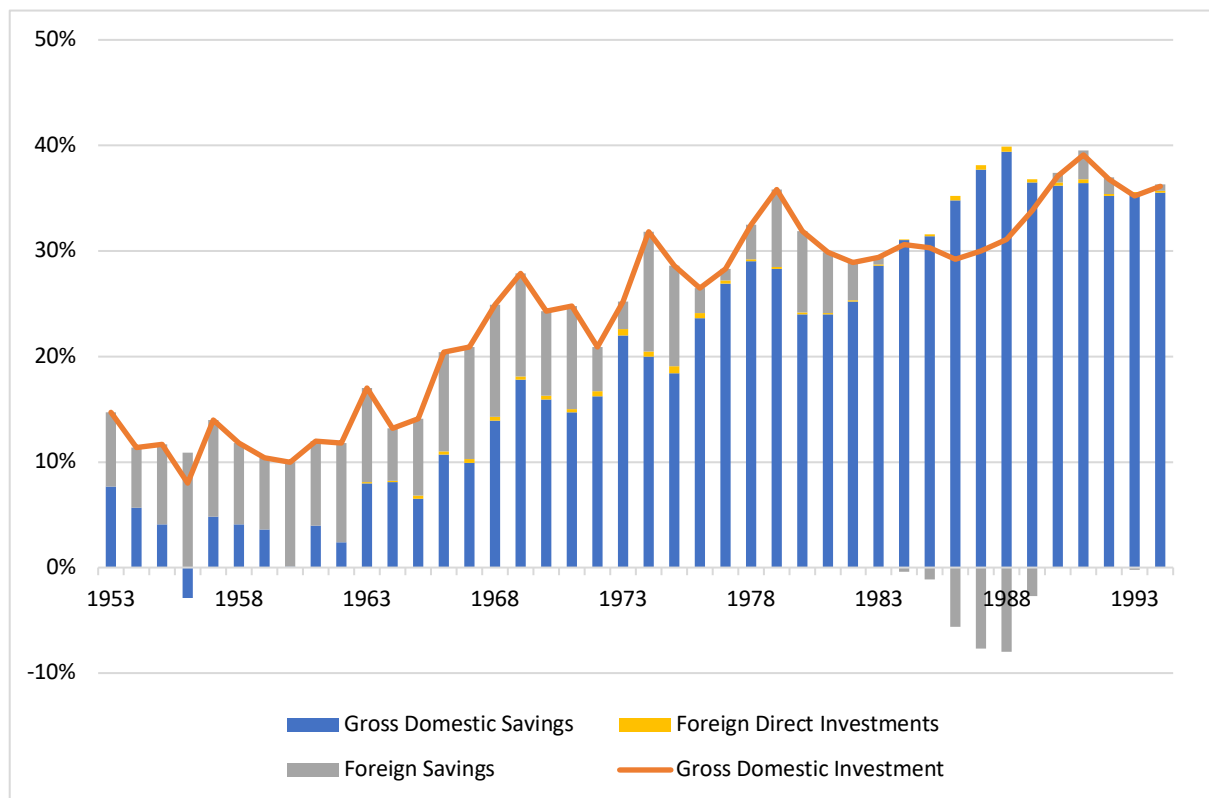
Source: Chung (2007, pp. 11-13, table 8.2) based on data from Bank of Korea, Economic Statistics Yearbooks.

Between Korea and Japan, there were differing policy priorities as well. Collins (1988), for instance, compares the cases of Korea and Japan and argues that, although both prioritised a high investment rate, Japan adopted a more prudent approach to foreign financing. According to Collins, "when personal saving fell in Korea, the discrepancy with the domestic investment, which in itself is set by government planning, is financed by external borrowing. Japan avoided foreign borrowing in the 1950s and the 1960s by curbing investment when necessary" (p. 328). This difference in policy preferences becomes explicit during business cycles. As Collins notes, when savings dropped during recessions, the Korean government responded with monetary expansion and countercyclical spending to keep the investment rate high, whereas the Japanese government responded with largely procyclical policies as it tightened monetary policy and kept a balanced budget by reducing spending. So, there seems to be a deliberate choice, but this may also reflect different trade-offs due to underlying differences, especially in income levels.

Regardless of its implications for business cycles, a lesson to take from Korea's case regarding long-term growth is that, when countries have limited savings capacity due to low

income levels, foreign savings can play a transitory and/or complementary role to sustain a high investment rate. In fact, in Singapore and Taiwan too, foreign savings played a role, especially initially. As discussed above, the secret to the successful use of foreign savings is probably in how they are regulated by the government. Chang (1993), for instance, says, in Korea, "although foreign borrowing and, to a lesser degree, foreign direct investment has not been discouraged, the state has had the final say in deciding whether a certain loan or foreign direct investment would be permitted, and on what terms" (p. 153). So, again, the *necessity* condition which I stated above can be relaxed, provided that the foreign borrowings are used for quickly building up the productive capacity, especially in the export sector, instead of financing consumption or the non-tradable sector. This is what happened in Korea and what seems unlikely to happen except with a heavy regulation of the financial intermediation mechanism. Otherwise, it leads to crises, as it did in many other cases.

Chang (1993) also notes that, in order to fill the savings gap as much as possible, the Korean government aggressively suppressed consumption through "heavy reliance on indirect taxes" which was "justified (against the accusation that they are less equitable than income taxes) in terms of its discouraging effect on consumption". Moreover, "the state-owned banks were instructed not to make consumer loans" (p. 139). Chang (1997) also discusses a broad range of government policies to suppress consumption, especially of luxury items. According to Chang, the government's "anti-consumption bias" reflects the "obsession with the capital accumulation". Despite these anti-consumption policies, however, Korea's savings gap persisted until 1986, which translated into high levels of foreign debt, mostly accumulated during recessions, and made Korea the fourth most indebted country in the world. It can be asserted that one of the drivers of Korea's miracle growth rates was this dual sourcing of capital accumulation via both foreign and domestic savings (Singh, 1998).

Figure 3-4: Savings Rate (% of GDP, 3-year Moving Average), East Asian Economies versus Selected Countries, 1960-2000
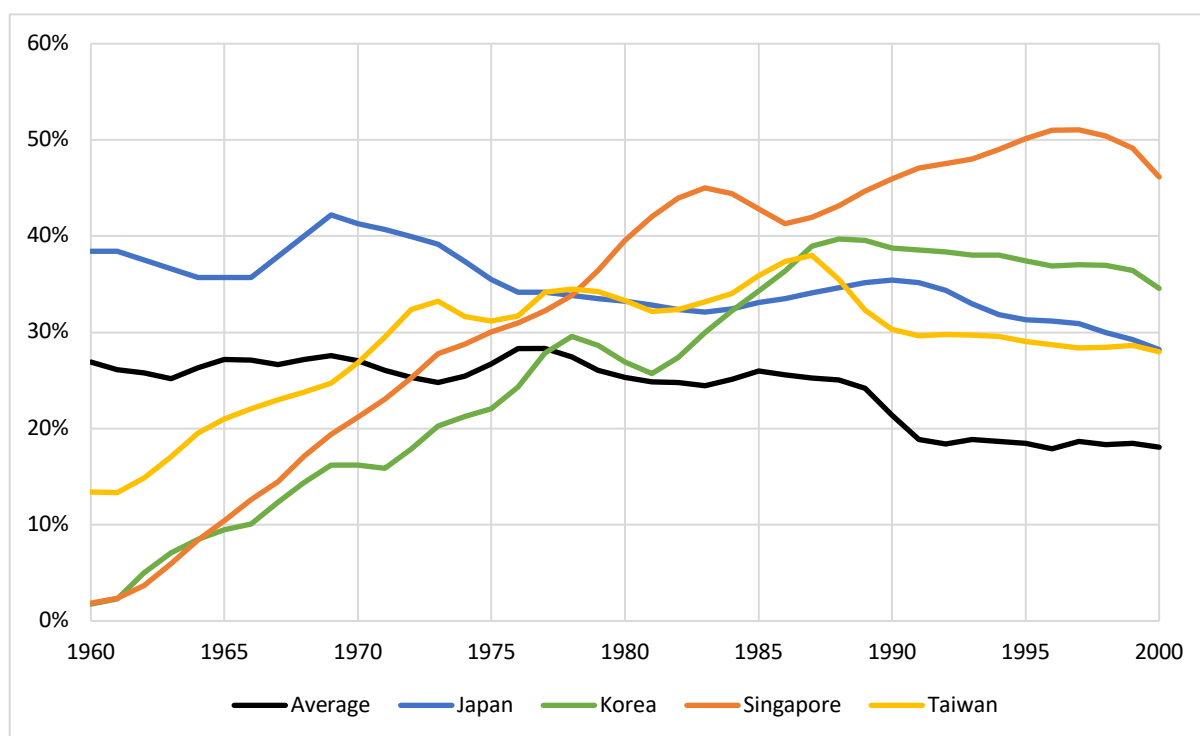
Source: World Bank (2020). Data for Taiwan are from the National Statistics Office of Taiwan (2021).
Note: *Average* is the average of Brazil, Argentina, and Turkey

Figure 3-5: GDP per capita (3-year Moving Average), East Asian Economies versus Selected Countries, 1960-2000
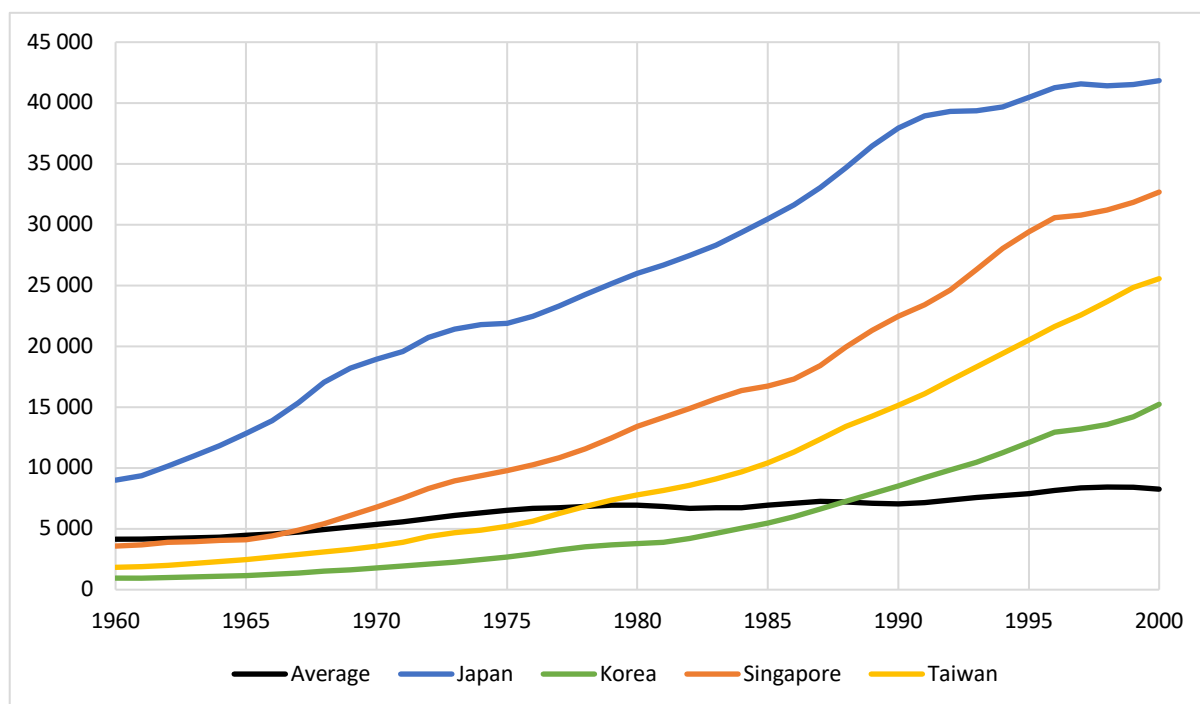
Source: World Bank (2020). Data for Taiwan are from Penn World Tables.
Note: Constant 2010 dollars. *Average* is the average of Brazil, Argentina, and Turkey

3.7 Household Savings

Differently from the standard Classical model, in the East Asian growth episodes, household savings also played a role in financing the investment drive. In both Japan and Korea, despite very high rates of corporate savings compared to most other countries, only about a third of all savings came from the corporate sector. The rest had to be mobilised from other sources, mostly via state involvement. In Japan, household savings' share in GDP increased quickly and remained stable for the most part, whereas corporate savings rose steeply and steadily (figure 3-6). In Korea, household savings started very low but increased gradually, although they were much more volatile than in Japan (figure 3-7). During recessions, household savings dropped sharply, and it was during these periods when most of Korea's foreign debt was accumulated, which proves the importance of household savings. Government savings were also very important in both countries but more so in Korea, accounting for around one-third of all savings (Collins, 1988).

In both Japan and Korea, governments' low interest rate policy allowed corporations to extend their investments way beyond their already high savings capacity. Singh (1998) argues that this *financial repression* was sustainable thanks to high domestic savings rates, which were critically supported by all components of the national income, including households, corporate, and government. In Korea, the financial system was under direct state control, which provided the government with both the power to allocate resources and the information about how they are used. In Japan, although state involvement was less direct, the government still regulated finance towards preferred sectors through *window guidance*. According to Singh (1998), given the high inducement to invest, dual financing of corporate investments by both internal and external sources was critical. Indeed, during this period, both Japanese and Korean firms were highly geared compared to their counterparts in other economies.

Figure 3-6: Domestic Savings by Source (% of GDP), Japan, 1952-1972
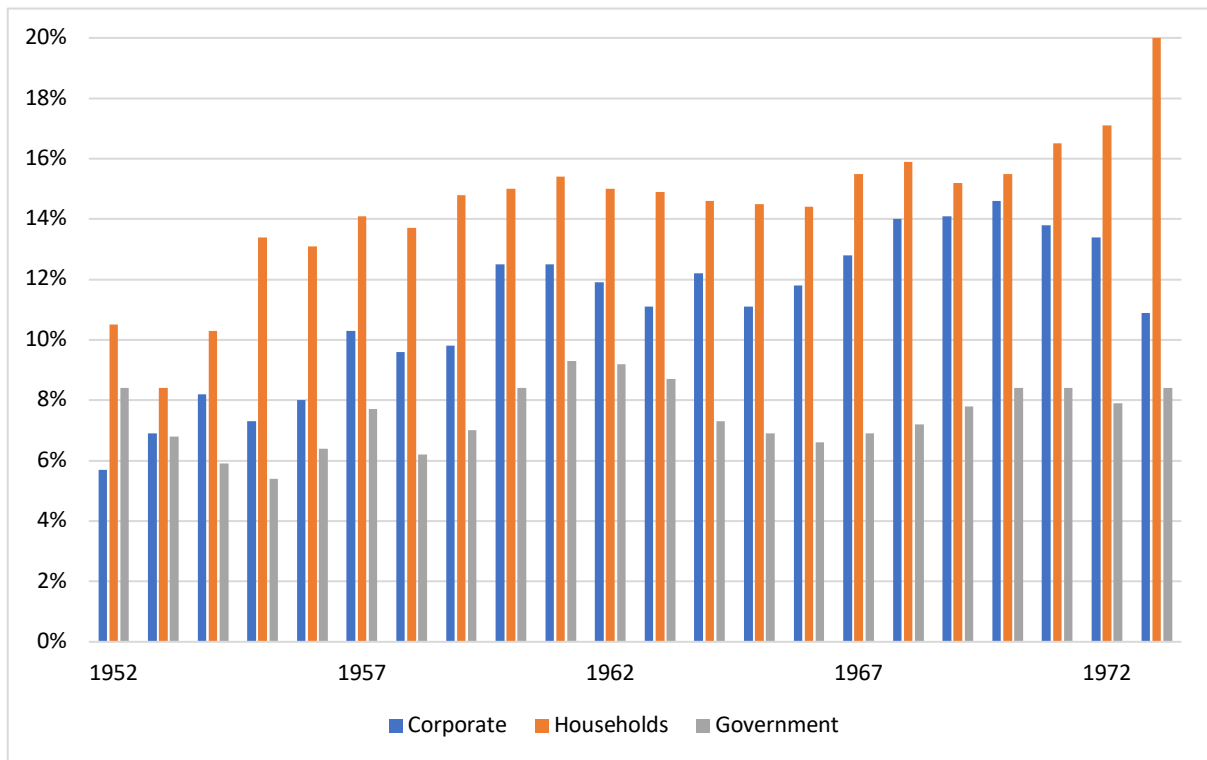
Source: Collins (1988)
Note: The "household" category includes non-profit institutions and unincorporated businesses as well.

Figure 3-7: Domestic Savings by Source (% of GDP), Korea, 1965-1984
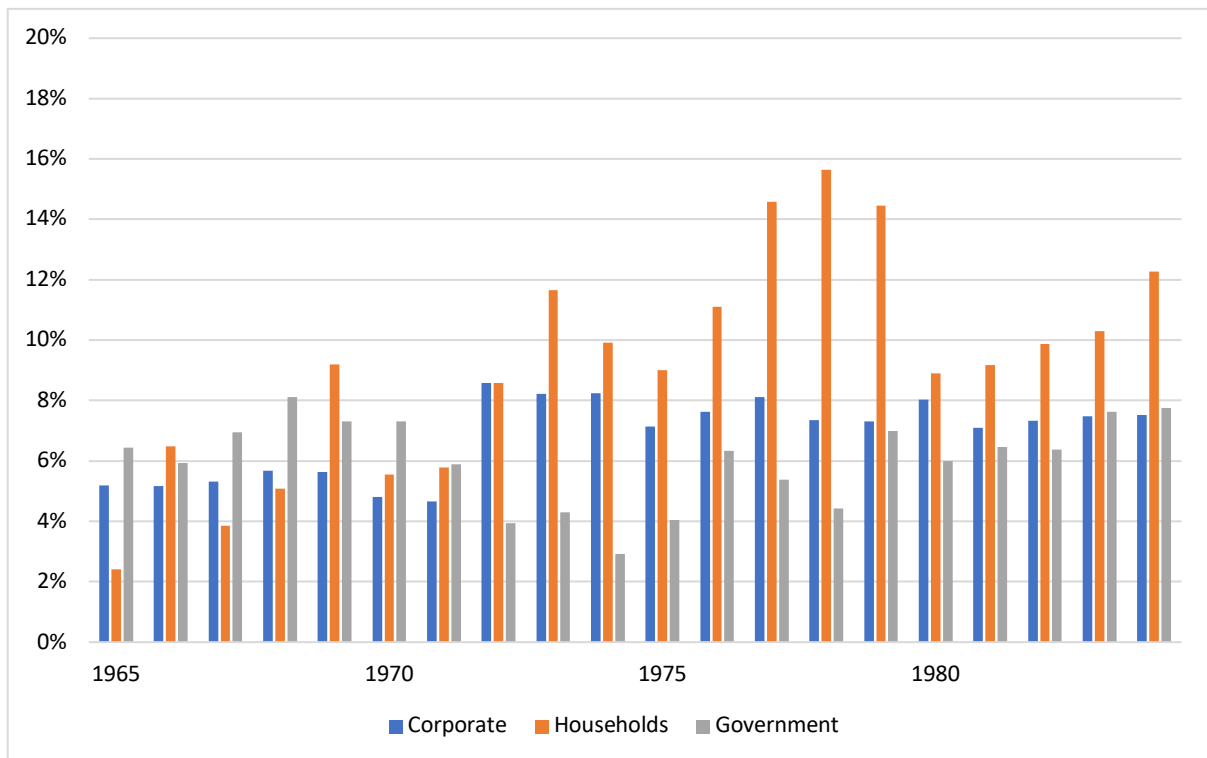
Source: Collins (1988)
Note: The "household" category includes non-profit institutions and unincorporated businesses as well.

According to Akyüz and Gore (1996), high household savings in East Asian countries were also due in part to high profits. First, as Collins (1988) also notes, household savings data from both countries include the savings of unincorporated firms. In other words, the data is not properly disintegrated between profits and labour income, so it underestimates corporate savings and overestimates household savings. Second, bonus payments, which on average accounted for almost a quarter of worker incomes in Korea and around 15-20% in Japan, were also dependent on profits (Akyüz & Gore, 1996, p. 465). This means that, in high-profit periods, workers were receiving higher bonuses, and vice versa, which explains the sharp cyclical volatility in households' saving behaviour especially in Korea. Because these bonuses were unpredictable one-time cash payments, most of them were saved to smooth consumption over time. Moreover, they were held in corporate accounts for considerable time periods before being distributed, which served as a form of interest-free credit for corporations.

Household savings are important for other reasons as well. Incentivising household savings also means reducing domestic consumption, which is basically the other side of the same coin, but it has separate implications. In developing countries, high consumption levels are usually unsustainable due to balance-of-payments considerations. Therefore, suppression of consumption, even without channelling the extra savings into investment, which may be difficult to achieve in countries with weak financial intermediation, is important for sustainable growth. Such economies, by definition, do not have the capabilities necessary for producing capital goods as well as sophisticated consumption goods, so, assuming the country is open to trade, high consumption usually drives imports rather than domestic production of such high-value-added products. Reducing consumption helps to limit imports as well as direct domestic producers to export markets rather than internal demand. Arguably, this was one of the critical achievements of fiscal policy in the East Asian growth miracles.

At this point, it is more convenient to disaggregate income taxes further into wage taxes and capital income taxes. Considerable literature argued that capital income taxes are more harmful to economic growth than labour income taxes. This is likely to be true especially in developing countries for three reasons. First, if profits, as opposed to wage income, is the main source of funds for capital formation, then taxes on capital income will slow economic growth. This is, of course, based on the assumption that capital accumulation, rather than effective demand, is the real engine of growth because labour tax will reduce the latter. Second, most of what we call wage tax is actually a form of mandatory savings enforced by the government,

which builds up pensions and other social funds. Then, leaving aside consumption taxes, switching from capital income taxation to labour taxation should mean an improvement in savings and thus growth, because it increases profits, which are the main source of savings, and creates household savings that are non-existent otherwise.

Singapore, for instance, used such a forced saving mechanism through its Central Provident Fund (CPF) for financing an important share of its investments. When this compulsory social security fund was established in 1955, employees and employers were both contributing an amount equal to 5% of employee's wage. This amount had gradually been raised and reached 25% by the mid-1980s. The contribution of the fund to the gross national savings had risen from 10% in the 1960s to 20% in the late 70s and peaked at 36% in 1985, which amounted to 15% of Singaporean GNP. It should be noted that during this entire period, the investment rate of Singapore rose from less than 10% to above 40%, for which the CPF played a critical role in financing (Young, 1992). The CPF provides a good example of how taxation, specifically taxation of labour income, can contribute to the financing of capital income, without deteriorating income distribution, in developing countries. This will be discussed in more detail in Part III.

It can also be argued that, in developing countries, the growth rate is comparatively more immune to wage taxes. In theory, wage taxes may lead to a reduction in labour supply because it reduces its price (i.e. wage). This may indeed be the case in rich countries where there is a choice between labouring and leisure; in response to a reduction in pay due to higher taxes, an individual may choose to work less and opt for more leisure. However, in most developing countries, people are unlikely to withdraw their main and often the only source of income (i.e. labour) from the market because of a reduction in take-home wages. In technical terms, labour supply is fairly inelastic in developing countries; employment does not respond to changes in wages and sometimes is even downward-sloping[21] (Garcia-Peñalosa & Turnovsky, 2005; Jayachandran, 2006; Goldberg, 2016). Furthermore, in almost all developing countries, the unemployment rate is quite high, so labour supply is not a binding constraint for growth anyway. Overall, the adverse impact of labour income taxes on economic growth is

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[21] Mercantilists and some Classical economists have also argued for a negatively sloped labour supply curve. They thought as people need a certain amount of income to survive, when hourly wages decline, they would work more to meet their basic consumption (see, for instance, William Petty, 1679/1899).

likely to be limited in developing countries, and it will certainly be smaller than it is in developed economies.

3.8 Conclusion

Modes of taxation which suppress consumption and favour profits support growth in the context of developing countries by boosting savings and thus investments as well as by directing production to exports instead of domestic consumption. The classical approach provides us with a useful framework to ground this claim in theory. In an environment where the capital-labour ratio is so low that there is an almost unlimited supply of labour available at a stagnant wage, marginal returns to capital do not diminish with further investments. Furthermore, productivity growth is mostly embodied in capital formation. Therefore, capital accumulation promises high and increasing returns and thus sustainable growth in developing countries. As capital inflows are usually neither sufficient nor sustainable to finance the investment drive in developing countries, with some rare exceptions, high domestic savings indeed have the potential to fuel economic growth by allowing a higher investment rate. Therefore, changing the composition of taxes from capital income taxes to consumption and wage taxes is expected to support growth via increased rates of savings and investment.

4 Taxation and Demand-led Growth: Keynesianism Revisited

4.1 Introduction

This chapter discusses the potential impact of tax structure on economic growth in developed economies. Specifically, it analyses the effect of changing the tax composition between capital income, wage, and consumption taxes on long-run growth in the context of mature industrialised economies. It argues that in developed economies, where capital is abundant and investible funds are not a limitation, taxation should aim to suppress savings and boost effective demand, which in turn incentivise further investments, as in the Keynesian model. The chapter presents this argument specifically through Hansen (1934, 1938)'s *secular stagnation* thesis and claim that Hansen's concerns about mature economies are still valid in the contemporary context, with important policy implications for taxation.

4.2 Taxation and Effective Demand

The connection between savings and investment, which is taken for granted by classical and neoclassical economists, is a controversial issue in the literature. To repeat, Say's law postulates that all savings necessarily translate into investments, and all supply creates its own demand. From this perspective, savings are considered to be the fuel of capital accumulation, which is the key to economic growth in the classical framework. In response, beginning from as early as the 19th century, an array of economists from different strands of economic thought challenged this reasoning and argued that savings do not always translate into investments and the lack of aggregate demand is a realistic threat, which, in the absence of offsetting factors, can lead to an underutilisation of productive capacity and thus stagnation. Following this line of thinking, the causal link between savings and investments, which is argued in the previous chapter, breaks down, and suppressing consumption through taxation becomes problematic as it reinforces this tendency.

It was, of course, John Maynard Keynes who formulated the most powerful and coherent criticism directed at Say's law. In contrast with the classical approach, Keynes argued that investment decisions are independent of savings. Investments do not have to increase in reaction to a rise in savings, and neither does a lack of savings prevent investments from taking place. According to Keynes, it is not savings but expenditure decisions that drive investment. Investments follow effective demand but not the other way around; if effective demand rises,

profitability will increase, and investments will follow to reap the benefits of higher profits. The lack of savings is not a problem because, if the level of savings falls short of investments, the credit channel will finance the gap; then, higher investments will increase real income, which will eventually give a boost to the level of savings as well. Savings, therefore, are just a function of investments, linked through changing income levels, and they just passively follow and adjust to investment decisions (Keynes, 1936/1978).

In a sense, Keynesian theory turns the classical approach upside down; savings become the last ring in the causal chain, instead of the first. Investment decisions, labour demand (i.e. unemployment), and, needless to say, growth is determined by the level of effective demand, rather than supply-side factors. Consequently, policy suggestions reverse too; as Keynes openly argued, the government should use fiscal policies, including taxation, to incentivise spending, not savings, in order to support growth until the full employment level is reached. According to Keynes, contrary to the orthodox understanding, there are no natural forces (i.e. *invisible hand*) that drive an economy towards a stable full-employment point at the aggregate level. Unfettered markets are not inherently programmed to make use of all the available productive capacity. On the contrary, unless the government intervenes, unregulated markets more often than not settle at a below full-employment equilibrium.[22] Neoclassical theory in that sense is "applicable to a special case only and not to the general case", which assumes full employment (Keynes, 1936/1978, p. 3).

In this approach, active government policy is of prime importance, and, naturally, taxation has a key role to play. Michal Kalecki, another central figure of the demand-side economics, said in his paper, *A theory of commodity, income, and capital taxation*:

> Mr Keynes's theory gives us a new basis for the inquiry into the problems of taxation. The analysis of the influence of various types of taxes on effective demand leads, as we shall see, to quite unexpected results, which may be of practical importance. (1937, p. 444)

Similar to this study, Kalecki analyses the effects of different tax structures on economic growth, without any reference to overall budget size. Furthermore, deficit financing is neither

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[22] In this understanding, economic decisions, such as investments, are not driven by self-correcting structural mechanisms but factors that are usually unstable and self-reinforcing. According to Keynes, these factors are socio-psychological forces, which he labelled the *animal spirit,* and they create a sense of uncertainty, affecting investment decision.

discussed nor implied (i.e. all the tax revenue is spent on unemployment benefits); so, contrary to the common misconception, the growth effect is not derived from temporary imbalances in the government budget.[23] Kalecki concludes, in a nutshell, that under the assumptions of Keynesian theory, capital income taxes are more preferable than consumption taxes for their growth effects, and taxes on wealth are better than both. As suggested by Kalecki (1937), this conclusion is "quite unexpected" compared to the policy suggestions arrived in the previous chapter (p. 444).

When analysed from this demand-side perspective, taxing income, especially capital income, is more beneficial for economic growth because it favours current consumption and thus effective demand over savings. Switching from consumption taxes to income taxes penalises higher savings and induces more spending on current consumption, which should lead to a rise in production to meet the increased demand (i.e. demand-led growth). Moreover, this rise in output should be more than proportional due to *the multiplier effect*; that is, increased production generates more employment, which leads to more consumption and thus a yet further increase in effective demand, and so on. Obviously, this approach stands in opposition to the classical model discussed in the previous chapter as well as the standard neoclassical models. I claim that Keynes's *General Theory* along with its policy implications was developed for and is still valid exclusively in a developed country context, where the capital-labour ratio is high, financial intermediation is developed, and technological sophistication is advanced[24]. This claim requires a proof of two parts: exclusivity and validity. Namely, it needs to be shown first, why the Keynesian theory does not apply to developing countries and second, why it is to developed countries.

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[23] A comprehensive treatment of Keynesian theory is beyond the limits and intensions of this study, but Kalecki's analysis, which he claimed to be a direct application of the Keynesian theory to the public finance literature, can be taken as proof of the fundamental differences between Keynesian and neo-Keynesian approaches. Unlike Neo-Keynesians and contrary to the common perception today, Keynes argued that the reverse causality between demand and investments is not restricted to the short-run disequilibrium conditions (where prices are sticky) but also valid in the long run.

[24] Actually, the first part of this claim, that the Keynesian theory is formulated for developed economies, is trivial to prove as, in the preface to the German edition, Keynes himself acknowledged that his *General Theory* "is illustrated and expounded mainly with reference to the conditions existing in the Anglo-Saxon countries" (Keynes, 1936/1978, p. xix).

4.3   (Ir)relevance of Keynesian Framework to Developing Countries

Arguably, the Keynesian approach is based on a number of assumptions that are valid to make in developed countries but not in developing countries. First of all, Keynesian analysis has meaningful policy implications as long as the economy is assumed to be capable of generating adequate savings to match the rise in investments induced by increasing effective demand. Keynes calls the amount of savings that can be generated by an economy at full employment, *the indicated level of savings*. According to him, the main task of government policy is to boost effective demand until investments equal the indicated level of savings so full employment can be attained. Keynes (1943/1978) stated this as follows:

> The problem of maintaining full employment is, therefore, the problem of ensuring that the scale of investment should be equal to the savings which may be expected to emerge (…) when employment, and therefore incomes, are at the desired level. (p. 321)

So, the government's capacity to drive economic growth via boosting effective demand, for instance by changing the tax structure, is limited by the level of savings which can *potentially* be generated by an economy at full employment conditions. Otherwise, if the level of investments induced by the government is greater than the indicated level of savings, the inflation rate tends to rise.

In other words, if an economy has limited capacity in terms of generating savings in response to a rise in effective demand (i.e. aggregate supply falls short of aggregate demand), fiscal policies which were intended to increase the investment rate will lead to problematic consequences (Brown-Collier & Collier, 1995). This is likely to be the case in developing economies, where inducement to invest already exceeds the savings capacity even without a government boost to effective demand, because the capital-labour ratio is low and thus the rate of return is already high, whereas saving capacity is limited due to low income levels. In a developed economy with a very high capacity to create savings compared to the investment potential, a rise in effective demand can lead to an equivalent rise in actual investments, but in developing countries, it is more likely to cause higher inflation and/or rising external debt to make up for the deficient domestic savings[25]. Keynes himself said, when the full-employment

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[25] It is possible that growth is driven by external demand, which would probably lead to different consequences. However, the central question that is dealt with here is whether a government can boost

level of investments exceeds the indicated level of savings, the government should introduce policy controls, such as rationing, to suppress consumption and boost savings (Keynes, 1943/1978).

The specific case Keynes had in mind for his unexpected advice to suppress consumption was post-war Europe, which was in dire need of substantial investments in infrastructure and production capacity but lacked the savings capacity at the time. Arguably, most developing countries have similar conditions in general; they have vast investment opportunities but lack the resources (i.e. savings). Relevant to this study, Keynes (1943/1978) describes three stages of transition in the post-war period. First is the one described above. In the second phase, he said, there will be "less urgent but nevertheless useful investments", which can be adequately financed by available savings, so there is no more need for the suppression of consumption by the government (p. 321). In the third phase, after several decades of large-scale investments, the economy should have a large savings capacity but face investment saturation, so the government should step in to boost effective demand via consumption because the indicated level of savings exceeds the full-employment level of investments. It is this last stage that fits well with the assumptions of the standard Keynesian theory.

Second, Keynesian analysis takes, as Lewis (1954) suggested, capital to be unlimited in supply and proposes an explanation for the contradiction of having unemployment in societies with massive capital stock. In this framework, unemployment is caused by the fact that real wage does not decline in response to a negative shock (i.e. real wages are *sticky*), so the labour market does not *clear* the way neoclassical economics foresee*,* and a part of the available productive capacity remains idle. Then, the Keynesian solution is to raise effective demand via government action, which increases profits and helps solve the problem by increasing the use of otherwise unutilised capital and/or labour. For that matter, it is not clear how real wages can be *high* or *sticky* in developing countries where wages are already close to subsistence level for most of society (Dasgupta, 1954).

In a developing country, the full employment level in the Keynesian sense arrives with the full utilisation of already available capital stock, which would leave still a major part of the

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growth by incentivising domestic demand via changes in the tax structure. Presumably, tax structure should not have any impact on foreign demand.

society unemployed. As many have noted, this is not the *involuntary* type of unemployment described in the *General Theory* but a structural one[26]. So, in developing countries, the nature of unemployment is different. It is caused by not an underutilisation but a fundamental lack of productive capacity. In other words, even if all the available capital stock is utilised, it still cannot employ the entire labour supply. Therefore, it is questionable what a boost to effective demand would accomplish. The following long-disputed quote by J. S. Mill (1848/1909) is related to this:

> What supports and employs productive labour, is the capital expended in setting it to work, and not the demand of purchasers for the produce of the labour when completed. Demand for commodities is not demand for labour. The demand for commodities determines in what particular branch of production the labour and capital shall be employed; it determines the direction of the labour; but not the more or less of the labour itself, or of the maintenance or payment of the labour. These depend on the amount of the capital, or other funds directly devoted to the sustenance and remuneration of labour. (p. 79)

This anti-Keynesian statement by Mill arguably describes the situation in developing countries (or in the earlier stages of development) better. In fact, Kalecki also made the point that the central issue of growth in developing countries is the expansion of productive capacity (i.e. capital accumulation), whereas in developed countries, it is boosting effective demand so the unutilised capacity can be put into use and employ labour. According to Kalecki, demand-driven growth strategies, while crucial in developed countries, would be ineffective in developing countries[27] (Ghosh, 2005).

Third, the Keynesian framework assumes a deep and advanced capital market which is critical for the supposed independence of savings and investments. In this understanding, the financial system can finance an investment, without having to wait for new savings deposits, and the newly financed investments create employment and raise income levels. While a part of the extra income is saved, the rest is consumed, which initiates another cycle as such thanks to higher effective demand. Once this virtuous cycle is taken to its limit, *the multiplier mechanism* should create enough savings to match the initial finance. What this line of thinking

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[26] See Toye (2006) for a detailed account.

[27] Unlike Keynes, Kalecki worked on developing economies. He was invited to advise the governments of India, Israel, and Cuba. He also organised an Advanced Seminar for Experts on Planning Economic Development of Underdeveloped Countries in Warsaw, which led to the establishment of the Centre of Research on Underdeveloped Economies in 1961, with Kalecki as the chairman of the research board.

implies is that no effort is needed to raise the ex-ante savings capacity, because increased investments should automatically come to equality with rising ex-post savings. Note that, however, the Keynesian literature discusses this process as if it is instantaneous or happens with a very short time gap (Asimakopulos, 1983). This may be plausible if, first, the financial markets are deep and complex, which is itself partly dependent on the underlying savings capacity (and thus the stage of development), and second, what we mean by investments is mostly increasing capacity usage, as discussed above, rather than creating new capacities.

It is unlikely that this mechanism would work in developing countries with thin financial markets and an unsophisticated banking mechanism, as it does in developed countries. William Darity (2013) elaborates on this point:

> Perhaps the connection between saving and growth was stronger in earlier times. The connection may be weaker after the development of a complex financial apparatus that can provide credit without necessarily awaiting a new act of private saving. Investment can move independently of saving to such an extent that by the time he wrote the General Theory, Keynes already was treating savings as the passive actor in the macroeconomic game. (p. 233)

Even though the credit mechanism may finance investments through whatever banking system the country has, the multiplier process identified by the Keynesian framework completes itself only in the very long run. This is because, in a developing country, what is meant by investment is building the productive capacity of an economy; investors build factories, buy machinery, hire and train workers, etc.. This time lag exacerbates the financial risks involved in the open position of the banking system. Therefore, investments in developing countries are, to a large extent, constrained by the current (or short-term) savings capacity, inclusive of foreign savings, which has its own problems as discussed above. In developed countries, however, financial intermediaries allow the use of future savings to a much greater extent for current investments, even when currently available savings are limited.[28]

This does not negate the importance of credit channel for financing an investment drive in developing countries. On the contrary, it implies how critical it can be to have deep and wide channels for financing large-scale, long-term investments that are very much needed in

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[28] Even in the post-Keynesian literature, it is acknowledged by some that rising credit volume can eventually derail growth in developing countries, unless ex-ante savings quickly increases to match the increase in credits (Studart, 1993; Thirlwall, 2013).

developing countries. This was seen in successful growth episodes in East Asia, where developmental states made sure financial channels remained functional for financing investments at least in key industries. Still, the supposed independence between savings and investments in the Keynesian framework applies to the East Asian cases only to a very limited extent. The functionality of the kind of thin and largely primitive financial intermediation mechanism that existed in the East Asian economies during *miracle growth* periods depends on a stable flow of savings (Studart, 1993). Indeed, as already discussed, it was quickly rising savings rates and thus a stable flow of savings that kept bank balances viable and allowed government-sponsored financial channels to remain functional in Japan and Korea in the long run (Singh, 1998).

Related to this, Keynes also assumes savers and investors to be two different sets of people. Thus, a desire to save on ones' part does not imply a desire to invest on the others'. In this understanding, if the investors see a profit opportunity, they will invest regardless of the level of available savings. Similarly, even if the savers tend to save more, this will not necessarily translate into more investments unless investors have favourable expectations about the profitability of investments in the future. In developing countries, however, savers and investors are usually the same people. Classical economists indeed took this to be the fact; it is the same people, the capitalists, who save and invest while workers and landowners do neither but only consume, which is why savings and thus investments are considered simply to be a function of profit. This is still, though to a lesser extent, true in developing countries, where the desire to save usually implies the desire to invest, and the higher the rate of savings, the higher the rate of investments. So, Keynes's assumption about the disconnectedness of investment decisions from the savings is again a more valid assumption for developed countries than for developing countries.

Last but not least, the demand-side approach assumes a certain level of technological sophistication. This is why it disregards the sectoral composition and is mainly concerned with the overall size of aggregate demand. In this logic, a rise in aggregate demand, regardless of its composition, is quickly matched by supply. In order for this expectation to be true, the productive capabilities of the economy should be advanced enough to follow the changes in the aggregate demand regardless of its pace and sectoral composition. This may be true for a developed country where production is at the frontier in terms of technological sophistication but is hardly the case in a developing country. As partly explained in the previous chapter, most

developing countries, by definition, do not have the technological capabilities necessary for producing capital goods as well as the more sophisticated consumption goods. So, assuming that the country is open to trade, an increase in effective demand usually drives up imports rather than domestic production of such high-value-added products. This is clearly not sustainable due to balance-of-payments considerations.

Not to mention, when the rise in aggregate demand is met with imports, investments cannot possibly lead to an equivalent rise in savings via the multiplier mechanism as presumed by the Keynesians. Note that this is a further reason why the independence of savings and investments may not be a valid assumption in developing economies. Namely, the Keynesian model assumes that when effective demand rises, it is matched by rising investments, which creates employment and income in a domestic economy. Then, higher income leads to higher savings, which in turn help to fund the initial investments by restoring the bank balances. However, if the rising demand drives imports instead of domestic investments, the multiplier mechanism is broken without leading to an equivalent rise in savings. Instead, in such a situation, the economy will continue accumulating foreign debt via current account deficits. As already said, this is especially the case in developing countries, where productive capabilities are limited, so most capital goods are imported.

Furthermore, increased domestic consumption may lead to a regressive structural change in the sectoral composition of a developing economy by incentivising domestic investors to concentrate on non-tradable sectors. An increase in domestic demand naturally directs domestic suppliers to the internal market. For obvious reasons, domestic producers may have a comparative advantage in non-tradable sectors, such as construction, retail, or various types of services. Consequently, because these sectors are usually low-value-added and experience limited productivity growth over time, the reallocation of resources away from export-led industries to such domestic, non-tradable sectors will likely lead to a reduction in the level and growth of productivity in these economies over time. Loureiro (2019) points at the importance of this dynamic in the context of Latin America in the early 2000s when the so-called *pink-tide* governments adopted redistributive policies and thus led to a rise in domestic consumption. According to Loureiro, this created a regressive structural transformation, so demand-led growth created by these redistributive policies was bound to be short-lived.

In sum, it is plausible to say that demand-led growth, as prescribed by Keynesian economics, is usually unsustainable in developing countries. This is why the demand-side

approach is *exclusive* of developing countries. Every economy naturally settles at a balance between investments and savings. The basic discussion between supply-side and demand-side analyses is about which one drives the other. However, different countries may very well be bound by either savings or investments. In the previous chapter, in the context of developing countries, I have argued and provided evidence that there are enough investment opportunities with high rates of returns, but the problem is that these countries do not have the resources (i.e. savings) to fund these investments. A boost to aggregate demand is neither needed nor sufficient to drive investments. Lack of savings may not be a restriction as long as there is a sophisticated, functioning credit market, so investments can precede savings thanks to the credit channel. However, financial intermediation is also weak in such economies, so investments are largely constrained by the savings capacity.

4.4   Changing Nature of the Relationship between Savings and Growth

In contrast to developing economies, developed economies have an enormous capacity to generate funds for investments and a sophisticated financial system to fill the gap if there is any. The problem lies in that investment opportunities with high rates of return are limited, relative to available funds for investment, which explains the *validity* of the Keynesian approach for developed countries. Keynes (1936/1978) himself states that his theory explains a "wealthy community" better than a "poor community" (p. 31) because poor societies spend most of their total income on consumption for their many unmet needs and desires, so there is much less likely to be a gap between savings capacity and investment demand. In a wealthy society, however, the level of savings is higher. Moreover, "owing to its accumulation of capital being already larger, the opportunities for further investment are less attractive" and therefore, a wealthy society "will have to discover much ampler opportunities for investment if the saving propensities of its wealthier members are to be compatible with the employment of its poorer members" (p. 31). This is, in Keynes's words, "the paradox of poverty in the midst of plenty" (p. 30).

The interesting contrast between the approaches of Lewis and Keynes to the rising share of capital in national income vividly demonstrates how developing and developed countries are different from each other. Lewis claims that the central difference between a stagnant economy and a growing one "is the emergence of a new class in the society – the profit-making entrepreneurs -which is more thrifty than all the other classes- and whose share of national income increases relative to others" (1955, pp. 225-226). So, from Lewis's perspective, as the

share of capitalists in national income rises, economic growth accelerates, because capitalists have a high savings rate. Keynes, on the other hand, problematises the very economic dynamic Lewis celebrates. Keynes claims that increasing savings (while may be a virtue for an individual) afflicts the economy as a whole because it leads to low effective demand and stagnation; hence *the Paradox of thrift*. Again, Keynesian analysis is based on an environment where industrialisation is at its maturity and thus the capital-labour ratio is high.

In fact, the argument about the changing nature of the relationship between rising savings and economic growth along the development path was also made by classical economists. As already pointed out, the idea that the lack of spending or a high savings rate can be problematic pre-dates Keynes. Beginning from the early 19th century, a number of economists, who can be most broadly categorised as *underconsumption* theorists, claimed that capitalist economies have an inherent tendency towards a state of depression, that is caused by insufficient consumer demand, and saw the solution in boosting consumption. Underconsumptionists, especially the Marxists, were concerned with the long-term dynamics of capitalist expansion. They claimed that modern capitalist economies are unsustainable in the very long run precisely because of the achievements of the capitalist system. In other words, they foresaw what Keynesians had before them. But different to Keynesians, they were exclusively concerned with consumer spending, rather than effective demand inclusive of investments (Bleaney, 1976).

Simonde de Sismondi (1819/1991), for instance, was the first to develop a theory of underconsumption based on the unequal distribution of income. He claimed that the declining share of workers in national income would eventually hamper the realisation of surplus due to low levels of consumption, and suggested redistribution of income towards workers (or simply higher wages) as a solution. Malthus (1820/1989), using a cruder version of Sismondi's earlier theory, welcomed falling profits and rising rents due to the Corn Laws, which he claimed to be beneficial for the economy as it kept effective consumption at optimal levels; unlike profits, which were almost entirely saved and reinvested by the capitalists, landowners' rents, just like workers' wages, were mostly spent on consumption. So, while Sismondi was concerned about the relative share of workers in national income, Malthus was interested in the absolute level of consumption. What they had in common was that they were both concerned with an ever-increasing rate of savings and saw the solution in supporting consumption (Bleaney, 1976).

Marx also had a notion of underconsumption. He argued that, as capitalism advances, production becomes more mechanised and labour is substituted with capital (e.g. the capital-labour ratio rises), which, assuming wages are stagnant, reduces the wage share in total income. One consequence of this is consumer demand falling behind of ever-increasing capitalist production, which is, according to Marx, the main reason for economic crisis: "The ultimate reason for all the crises always remains the poverty and restricted consumption of the masses…" In the very next line, he further argues that "The only case in which we can speak of a genuine lack of productive capital, at least in the case of developed capitalist countries, is that of a general harvest failure, affecting either the staple foodstuffs or the principal raw materials for industry." (Marx, 1894/1991, p. 615). So, according to Marx, the problem of low effective consumption is the main cause of economic depression, and this is especially so in developed countries. Otherwise, the lack of productive capital is never a problem in developed economies unless there is a shock leading to a shortage of principal raw materials. Following Marx's reasoning, it is tempting to say if there was not a shortage of oil (*a principal raw material*), the 1970s' oil crisis might have never happened, and Keynesianism lived on.

From the long-run perspective of underconsumptionists, it is a natural extension to argue that developing countries, that are at an earlier phase of economic development and far from their steady-state path, should be immune to the problems of underconsumption. Developed countries with very high levels of capital-labour ratio, in contrast, are exposed to the extent that they remain unreformed. At this point, it should be noted, however, that underconsumptionists omit the fact that the demand for capital goods (i.e. investments) is also demand (Bleaney, 1976). That is why they were easily defeated by classical economists when Say's law was put forth. They could not consider the possibility that saved capital in the hands of the capitalists may not turn into investments and simply be hoarded, perhaps because they did not have finance (or a *rentier* class, in Keynes's words) in their analysis.

I would argue that in the three stages of post-war reconstruction discussed above, Keynes also describes the changing nature of the relationship between savings and investments at different stages of development, which was accelerated in Europe after the war. According to Keynes, very much in line with the main argument of this study, the balance at the full-employment point between the levels of savings and investments is determined by the capital-labour ratio, because the capital-labour ratio determines the rate of return on investments and thus the investment appetite at different stages of development. In developing countries, where

the capital-labour ratio is low, there is strong investment demand, but the indicated level of savings is deficient even at the full employment level. As the capital-labour ratio rises, the rate of return and thus investment demand declines while savings capacity increases. After a certain point, when the rate of return on capital investments comes close to zero (or, more accurately, nears the depreciation rate), governments need to boost effective demand to incentivise investments because otherwise economies fall into stagnation.

An analysis of the last stage (e.g. Europe after a period of post-war transition) Keynes describes, which is actually the normal state of matters in developed economies, gives us the reasons for why the demand-led approach indeed has valid implications for a developed country context. In Keynes's own words, at this stage, **"**it becomes necessary to encourage wise consumption and discourage saving" (Keynes, 1943/1978, p. 323). So, from Keynes's point of view, a developed economy, where the capital-labour ratio is high, is a stagnant one without government intervention, because investment demand usually falls short of the level of savings. One way to intervene for the government is to boost consumption, which would in turn increase investments and employment.

4.5 Secular Stagnation

The macroeconomic conditions in developed economies were discussed in great detail by Alvin Hansen in the 1930s, who elaborated why the demand-side approach is indeed crucial for such economies. Hansen introduced his famous doctrine about the consequences of economic maturity and problematised ever-growing savings in rich industrialised economies. Because of limited population growth and slowing technological progress, Hansen claimed, there are fewer and fewer profitable investment opportunities in developed economies, so savings keep piling up unused in corporate accounts instead of being invested in employment-generating economic activities. Hansen coined the term *secular stagnation* to refer to this situation with limited growth and involuntary unemployment (Hansen, 1934, 1938)[29]. Unsurprisingly, Hansen was a Keynesian[30], but unlike Keynes and similarly to underconsumptionists, he did not interpret this dearth of investments merely as an analytical

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[29] See Backhouse and Boianovsky (2016) for an extensive discussion of *secular stagnation* in the economics literature in historical and contemporary context.

[30] Hansen is known for introducing the Keynesian policy approach to the American administration thanks to his close relationship with the government. He was even dubbed as 'American Keynes' at the time.

possibility caused by socio-psychological factors (e.g. self-fulfilling pessimistic expectations about the future) but rather as a consequence of long-term structural factors such as demographic and technological dynamics. According to Hansen, this tendency intensifies with economic maturity unless countered proactively through fiscal policy measures (Hansen, 1946).

Hansen strongly supported deficit spending by the government, but he also focused on the tax structure. Specifically, Hansen (1941) said the government should design the tax structure to encourage consumption and discourage savings:

> To the extent that our tax system could be shifted away from regressive taxes bearing on consumption to progressive taxes on that part of the income stream which flows into the savings channel, private consumption expenditures would rise. Such increase in expenditures would stimulate private investment. (p. 398)

According to Hansen, consumption taxes had been a deterrent (more than other types of taxes) to the full recovery of the American economy after the Great Depression. As for capital income taxes, Hansen said they could have been harmful to growth "in the days of small-scale, individual proprietorship" when "savings naturally flowed directly in the normal case into investment", but given the fact that "real investments are now typically made by large corporations minimises very much the objection to the capital gains tax as a deterrent to real investment, since corporations are under less inducement than individuals to realise on their capital gains through sale." (1941, p. 389-390). So, Hansen explicitly differentiated developing and developed economies in his analysis of tax structure and supported capital income taxes in the latter.

As expected, secular stagnation mostly fell from the economic lexicon following the economic boom in the 1950s. However, Hansen (1954) denied that post-war prosperity disproved his stagnation thesis about mature economies[31]. On the contrary, he claimed, the economic boom took place thanks to the Keynesian fiscal policies he supported as well as other sources of the post-war positive demand shock, and actually proved the demand-led growth theory right. Indeed, war spending during the World War II, post-war reconstruction, the

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[31] Hansen actually foresaw a post-war economic boom in 1943: "potentialities for expansion of consumption and private investment in the immediate post-war period are sufficient to indicate the possibility of a genuine and fairly prolonged post-war boom" (p.18).

Korean war, and the dramatic expansion of the welfare state meant that governments were strongly supporting aggregate demand in developed economies. This was accompanied by the baby boom and the release of pent-up civilian demand after the war. Interestingly, like Keynes, Hansen (1944) also reversed his standard policy suggestions in the exceptional conditions of the post-war period and suggested that the government should support savings, not consumption. He realised that contrary to normal conditions of a developed economy (and similar to a developing economy), there was a capital deficiency in the US economy and a population boom was taking place, so the level of profitable investments was greater than the savings capacity (Tobin, 1976).

In the aftermath of the 2008 global financial crisis, the secular stagnation literature has come back to life. Former American Treasury Secretary Larry Summers claimed that, given the long-run trends of developed economies, such as Japan, the Eurozone, and the US, market forces have clearly not been capable of generating full employment growth in recent decades. According to Summers (2015), the full-employment savings level (i.e. indicated level of savings) in developed economies exceeds the investment level at any non-negative interest rate, so it is not possible to revive growth via traditional monetary policy measures anymore. High growth rates may be attained for short periods, as in the case of the US between 2003-2007, but this is only thanks to speculative bubbles which soak up the excess savings. As the source of oversavings, Summers points at low capital requirements of today's key industries (e.g. IT, software), declining population growth (figure 4-1), and increasing income and wealth inequality. Summers says, governments should simply admit the impotence of central banks and give the central stage back to fiscal policies in order to boost aggregate demand. In fact, Summers has openly argued for a revival of the (old) Keynesian economics (Summers & Stansbury, 2019).

Figure 4-1: Working Age (15-64) / Total Population (Change in % Points), 1960-2019
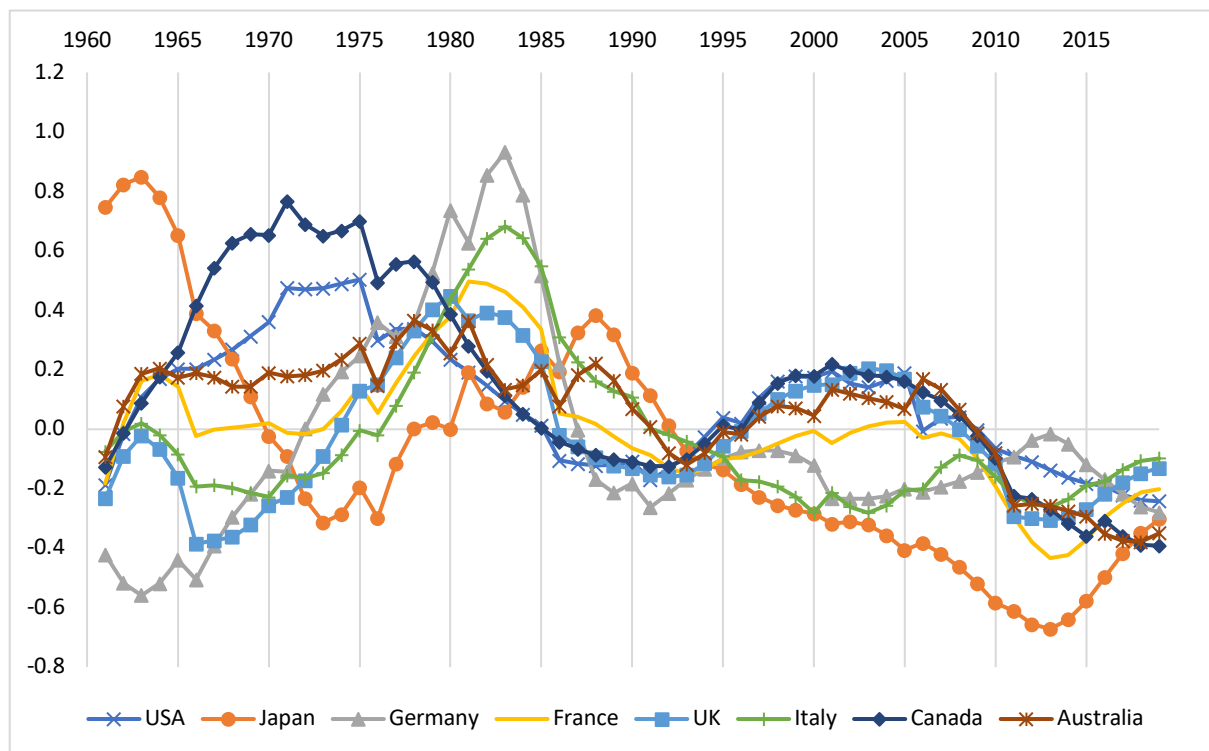
Source: World Bank (2020)

Summers is not the only notable economist who argues that the problems of developed economies lie in the demand side. Joseph Stiglitz, for instance, argued that because the rich pay less tax and spend less of their income than the poor in proportional terms, which reduces both the tax revenue and aggregate demand, inequality slows the recovery of the American economy from the financial crises by dampening growth. He said, "our middle class is too weak to support the consumer spending that has historically driven our economic growth." (Stiglitz, 2013, para. 3). A direct implication of this argument is that higher income taxes are better than consumption taxes because consumption taxes are regressive and suppress consumer demand. Paul Krugman (2014) agrees that economic growth may be reduced by low demand and claims that "if you're following events and looking at the data it's actually quite natural to raise once again the concerns Alvin Hansen raised 65 years ago" (p. 61). However, he disagrees that boosting consumption requires redistribution towards the poor and claims that consumption may be raised by rich individuals consuming more (Krugman, 2013).

This is the infamous *paradox of thrift*, which 70 years later, gives way to another secular stagnation in developed capitalist economies. As Hansen (1954) notes, the long break between the great depression after 1929 and the rise of neoliberalism in the 1980s, which led to the 2008 financial crisis, was thanks to the Keynesian paradigm. However, it seems that for a long while

policymaking in most developed countries has been shaped by the idea that in order to improve the investments rate and hence employment and economic growths, more resources need to be channelled towards the capitalist class (i.e. investors) so they can realise more investments. However, the real problem which limits the investments is not the lack of funds, and neither does tax cuts to capital income can give the necessary impetus for real business investments to take place, because they apply to financial or more generally rentier investments as well. The actual problem which afflicts real investments is the lack of profitability in non-financial businesses due to the lack of effective demand.

Turning back to implications for tax policy, Keynes explicitly and strongly argued that taxation should primarily be used to increase the propensity to consume. According to Keynes, governments should use "income taxes, especially when they discriminate against 'unearned' income, taxes on capital-profits, death-duties and the like" (Keynes, 1936/1978, pp. 94-95) to increase consumption and limit savings, especially by the rich. According to him, "up to the point where full employment prevails, the growth of capital depends not at all on a low propensity to consume but is, on the contrary, held back by it" (pp. 372-373). He claims that "in contemporary conditions the growth of wealth, so far from being dependent on the abstinence of the rich, as is commonly supposed, is more likely to be impeded by it" (p. 373). Keynes also talks in great detail about the use of redistribution and public spending for the purposes of increasing effective demand, but these will be discussed in Part II and III.

Also, it is easy to see that between wage taxes and capital income taxes, the latter is more beneficial for growth from a demand-side perspective because the share of savings in workers' income is usually smaller compared to the one in capitalists' income. This result can be understood in the Kaleckian version of the demand-side model better, which assumes that workers do not save at all so the entire wage bill is spent on consumption. Capitalists' consumption is determined by capitalists' share in total income and their marginal propensity to consume. Then, the Kaleckian multiplier emerges from the wage share of workers as well as the capitalists' propensity to consume. Although Kalecki (1937) does not specifically consider the implications of a wage tax, it is straightforward to conclude from his reasoning that capital income taxes are better than wage taxes. Elsewhere, Kalecki shows that, if the government taxes exclusively profits and spends the entire tax revenue on public services,

profits actually return to their pre-tax levels while increasing investments and employment in the process (Kalecki & Sachs, 1966).[32]

It should be said that the implications of the Kaleckian model in its simplest form are restricted to the short term, where the level of capital is taken as given. In this model, capital refers to installed productive capacity, such as machinery and buildings, which means that increased consumption can lead to an increase in the rate of utilisation of capital but not its overall level. However, these results can also be applied to a broader understanding of capital, inclusive of more liquid assets ready to be invested in productive uses, such as accumulated savings in corporate and individual accounts. Then, the model can be applied to the long run as well. That is, the possibilities of increasing investment would not be restricted by the already installed capital equipment but by the available working capital funds in the economy. Even the latter, however, would be limited in a developing country. Indeed, Kalecki claimed that in a developing country, financing investments in capital, not its utilisation, is the central problem (Kalecki, 1955).

4.6 Conclusion

In developed economies, where capital stock is vast and thus the rate of return on further investments is low, increasing savings do not stimulate higher economic growth, as claimed by the classical model, because economic growth is not constrained by available savings but profitable investment opportunities. The excess of savings capacity over investment demand represents a shortfall in aggregate demand and lead to stagnation. In such an environment, in order to support economic growth, governments should better try boosting consumption than savings, as Keynesian economics postulates. Although this approach has been interpreted by neoclassical economists as a recipe for dealing with short-run fluctuations, in capital-rich developed economies, investments are generally driven by effective demand even under equilibrium conditions. This implies that income taxes are more beneficial for growth than consumption taxes, and capital income taxes and wealth taxes are better than wage taxes.

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[32] Furthermore, in Kalecki's model, there is an underconsumptionist twist. Similar to Sismondi's model mentioned above, a smaller wage bill (or a larger profit share) causes a deficiency in effective demand.

5   Administrative and Political Considerations

As pointed out above, this study focuses on the growth effects of tax structure and fiscal policy in general. Apart from economic reasoning, however, administrative and political considerations should also be taken into account while formulating tax policy. Policy suggestions relating to tax structure has little meaning if governments are unable or unwilling to enforce them for political or administrative reasons. Therefore, it may be appropriate at this point, at the abstract level at least, to look at issues that involve a clear trade-off between increasing growth and other considerations and that make it difficult for governments to follow policy suggestions sketched above.

The most important administrative issue is arguably tax compliance. In this respect, incomes taxes are more problematic than consumption taxes, especially for governments with limited capacity. Typically, income taxes are imposed on individual income at the source before the individual acquires it. For instance, taxes on some capital income (e.g. interest on bank deposits) and wage taxes are withheld by the bank or the employer, respectively, and transferred directly to the government. In developed countries, this largely limits the scope of tax evasion to the cases where individuals or corporations report their income themselves (Smith, 2015). In the US, for instance, the share of misreported income is only 1% in cases where taxes are withheld and remitted to the government by a third party, whereas it is around 63% when it is self-reported and subject to little information reporting requirements. Moreover, the taxes withheld are predominantly wage taxes (Internal Revenue Service, 2016).

Therefore, evading capital income taxes is relatively easier than wage taxes because the latter requires long-term collusion between the employer and the employee whereas capital incomes are more mostly self-reported. However, in less developed countries, even wage taxes are problematic. Most workers are typically employed in agriculture or the informal sector, and they are rarely paid regular wages. Furthermore, in these countries, especially the poorest ones, governments have limited administrative capacity to properly monitor either form of income (Tanzi & Zee, 2000). Indeed, in developing countries, income taxes have been contributing less than others to the total tax revenue. For instance, in 2017, while the US, Germany, and Japan collected 45.7%, 32.5%, and 30.6% of their tax revenues from income taxes (inclusive of taxes on corporate profits and capital gains), respectively, the figure stood at 21.6%, 22.6%, and 20.4% in China, Russia, and Brazil, respectively (figure 5-1).

Figure 5-1: Tax Structure Across Selected Countries, 2017 or Latest Available
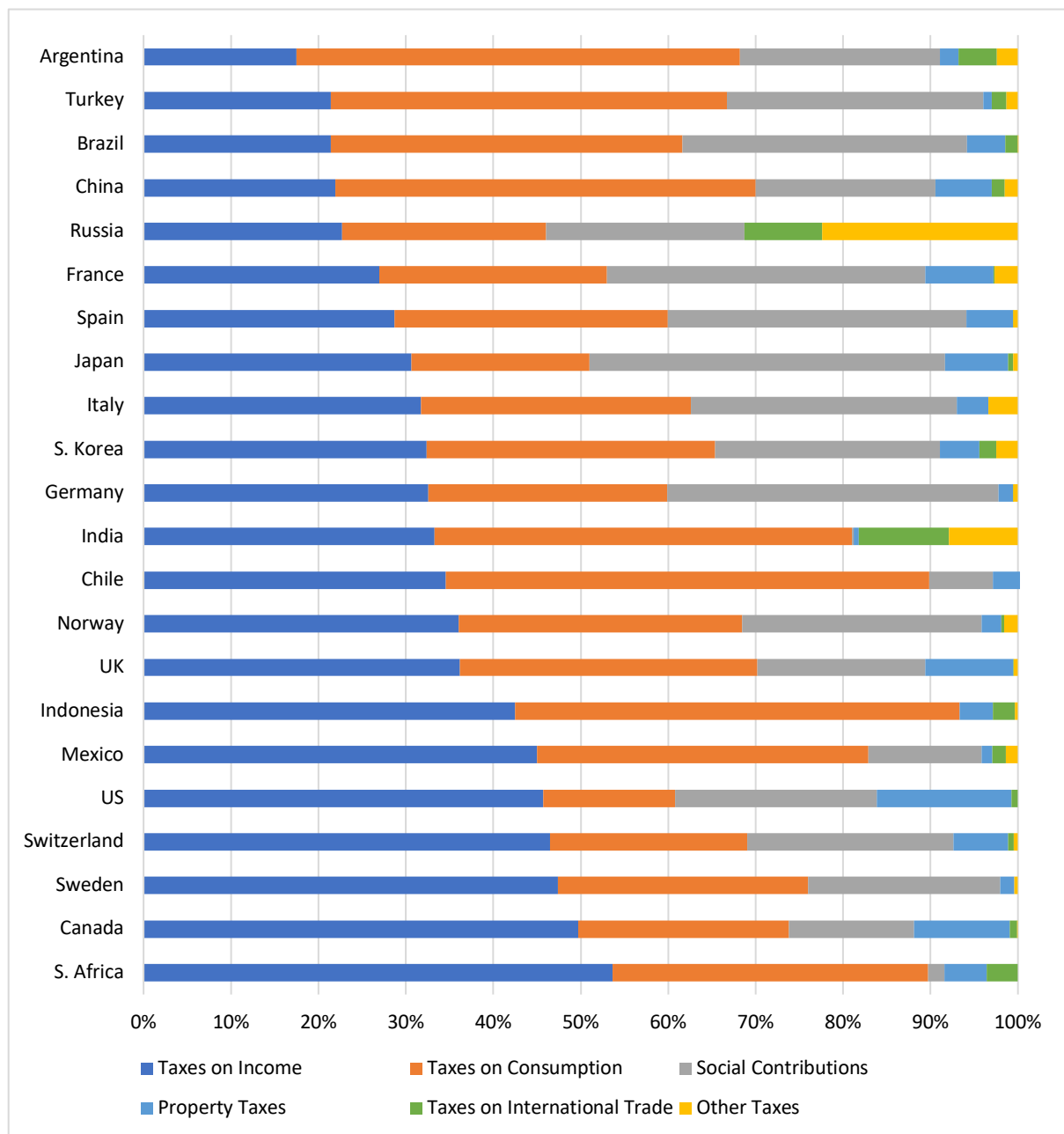
Source: ICTD/UNU-WIDER (2019).

Consumption taxes can also be evaded but this is more difficult. For example, a business may underreport its sales to tax authorities to pay lower VAT or sales tax. However, in a VAT system, there is a limit to this because businesses usually need to report their purchases as well to get reductions on their tax payments by the amount of VAT paid on their purchases; so, tax authorities can compare companies' purchases with their sales and detect any discrepancy (Smith, 2015). In a supply chain, sales taxes of big firms can also be monitored by the government in a similar manner. Namely, tax authorities can detect a mismatch between the information reported by suppliers and retailers. In the case of small firms, transactions with

customers (e.g. payments without receipt etc.) are usually monitored by inspectors at the point of sale.

Tax competition is another administrative challenge. In a world of liberalised capital movements, countries compete with each other in order to attract foreign capital (both direct and portfolio investments) or keep it home, which compel them to lower taxes especially on capital earnings. Consumption taxes are at least partly immune to this problem because, while it is easy to move capital, it is not that easy to consume somewhere else. Moving to another country with lower rates of consumption taxes would be beneficial for the capitalists only if consumption is a bigger part of their spending compared to investment. It should also be mentioned that countries such as Japan and Korea had strong capital controls at earlier stages of their development. So, liberalising capital movements as a policy choice is open to question in the first place.

Therefore, it might be argued that consumption taxes are better in terms of both tax compliance and tax competition. They are especially preferable in the context of developing countries because they remove the need for monitoring and taxing different sources of income separately as well as limiting the pressure of tax competition. That's probably why so many developing countries rely more on consumption taxes rather than income taxes. Even among consumption taxes, some are easier to collect than others. It is commonly accepted that tariffs are easiest to collect, followed by the VAT and sales tax. Baunsgaard and Keen (2005), for instance, report that after episodes of significant trade liberalisation (i.e. reductions in tariffs) since the 1980s, most developing countries, especially the poorest ones, could not recover their public revenues to previous levels via other sources, whereas developed countries have been able to accomplish this more easily. This supports the claim that consumption taxes are easier to collect and especially so in developing countries.

However, consumption taxes have other problems. An important drawback of consumption taxation is its regressive nature. Consumption taxes usually lead to deterioration in income distribution because they are often flat rate and the poor spend a larger share of their income on consumption. It is, in theory, possible to formulate a progressive consumption tax and there are indeed suggestions in that direction. Specifically, two very important reports in the late 1970s laid out the ground for progressive consumption taxation. *The Structure and Reform of Direct Taxation* report, also known as the *Meade Committee Report*, was prepared in 1978 by Institute for Fiscal Studies (IFS) in the UK while *Blueprints for Basic Tax Reform*

came from the US Treasury in 1977. Both reports propose taxation of income after savings and investments are deduced; so, this is still a consumption tax but allows for progressivity by imposing higher rates for higher levels of consumption. They claim that this method "gives opportunity and incentive for economic enterprise while at the same time taxing the rich heavily on consumption expenditure," (IFS, 1978, p. 517) and "by eliminating disincentives to saving…would encourage capital formation, leading to higher growth rates and more capital per worker and higher before-tax wages" (US Department of the Treasury, 1977, p. 10).

Since the publication of these two volumes, a variety of economists have proposed other ways to implement a progressive consumption tax. Most notably, Hall and Rabushka (1995) propose a flat tax (i.e. *the Hall-Rabushka flat tax*) on all marginal income excluding investments and a minimum income, so the rich will pay more taxes on average. They argue that this would lead to a dramatic increase in US growth by giving a boost to productive activities. They also claim that, from an administrative point of view, this system is far more practical and efficient than the current system in the US because it avoids all the complexities of income taxation. Bradford (1986) proposes a variant of the Hall-Rabushka tax model, known as the *X-tax*. It consists of 2 components: first, firms pay a flat tax on all their income excluding payments to the workers and, workers pay at graduated rates per their income level. This is clearly a more progressive tax model. What all these studies have in common is that they try to combine the administrative simplicity of indirect taxation and the progressivity and flexibility of direct taxation.

Also, the process of switching from one mode of taxation to another (i.e. tax reform) may be problematic itself. For instance, democratically elected governments may find it hard to reform tax policy if it involves welfare costs to the current generation. This is true, for instance, for the policy conclusions we arrived at for the developing countries. Suppressing consumption in order to boost savings involves a trade-off between current welfare and future welfare (or a trade-off between wealth and growth for the current generation), which democratic governments have to take into account in order to get re-elected. So, even if we prove that consumption taxes are more supportive of growth, it may be politically challenging to move in that direction because growth benefits will come at the expense of the current generation. Then, governments need to be convincing, potentially on socio-political rather than economic grounds.

Under the assumptions of the demand-led approach discussed above, the opposite, switching from consumption taxes to income taxes in the context of developed countries, should be less challenging in terms of popular support, as this should benefit most social strata both in the current and future generation. Namely, first, the current generation would save less and consume more, leading to an improvement in their welfare, and then, demand-led growth should enhance investments and the growth rate, bringing about more prosperity to the next generation as well. In other words, lowering consumption taxation should be an intergenerational Pareto improvement for most people, again as per the Keynesian framework discussed above. However, the challenging aspect of such a tax reform would be to confront the high-income earners who enjoy a much bigger lobbying power. This may be why so many developed economies rely more on wage taxes, instead of capital income taxes, as wage tax is still a form of income tax but does not affect the rich as much who earn their income from returns on their already accumulated capital.

Lastly, in recent years, wealth taxation has become increasingly popular in policy discussions in the developed world. Proponents make the case that wealth inequality has drastically increased in countries like the US and the UK in recent decades and that, unless counteracted, it may have important social and political consequences in the near future (Piketty, 2014; Saez & Zucman, 2019). Piketty et al. (2013) argue that taxing the very rich through income or consumption taxation involves administrative difficulties, in terms of both measurement and classification, so a progressive wealth tax is the best way to achieve progressivity at the very top. They argue for broad-based wealth taxation in addition to progressive income taxation, and support especially taxation of inheritance, more than self-made wealth, for normative reasons.

Wealth tax has some advantages for tax compliance. Most forms of wealth, especially real estate, are almost impossible to hide and usually needs to be publicly registered for legal or insurance purposes (Smith, 2015). This is also true for financial assets. However, detecting and valuing certain other assets, such as jewellery or art objects, can be an obstacle. Some argue that improving the tax capacity via higher wealth taxes would allow for reducing income taxes without sacrificing overall tax revenue. They say this would maintain progressivity without having to punish investments and work via income taxes (Rudnick & Gordon, 1996). However, a serious reform towards higher wealth taxes also hits the barrier of the lobbying power of the rich. Moreover, wealth taxes may encourage capital flight. Indeed, concerns

relating to tax competition and capital mobility have been put forth as the main reasons why wealth and capital taxes may fail.

Nicholas Kaldor supported wealth taxes in the context of developing countries based on his observation that wealth-owners have a much higher capacity to pay taxes than those with similar levels of income but less wealth. Arguably, this is also true for most developed countries today, or any other context where wealth-owners keep most of their wealth in unproductive, non-capital assets which do not generate that much income. As Kaldor put it, "a man earning £5,000 a year by way of salary cannot be presumed to have the same spending power as a man who obtains £5,000 a year from property worth £100,000" (Kaldor, 1955/2014, p. 31). The absurdity of this becomes even clearer if capital gains (i.e. increases in the price of private property over time) are exempt, as they usually are, from taxation until they are realised.

In sum, we can say that taxing consumption, compared to taxing income or wage, is better in terms of achieving maximum tax compliance and avoiding tax competition. Labour income taxes sit somewhere in between consumption and capital income taxes in terms of both tax compliance and tax competition concerns. However, the most convenient applications of consumption taxes are regressive and involve wealth costs to the current generation. Even though a more recent literature on consumption taxes somewhat addressed the issue of progressivity, it is not sure if these suggestions are practical on the ground as they are not applied yet in any real-life context. It is tangible to say that these new applications will come at the expense of other advantages of consumption taxation mentioned above, such as tax compliance and tax competition.

Benefits of switching to income taxation from consumption taxation are that, first, it allows for progressivity in an administratively manageable way (compared to proposals of progressive consumption taxation, discussed above), and second, it may involve a Pareto improvement across generations for most of the society. However, it needs to be accomplished against the political opposition of the rich. It is argued that wealth taxation is both progressive and more supportive of growth than income taxes and that it has certain tax compliance advantages; however, tax competition is still a major challenge for wealth taxation. Furthermore, wealth taxation is also rejected by the elite who hold a lot of political power, so reform in that direction may face insurmountable political opposition.

Part II. Public Spending

6   Basics of Public Spending and a Short Literature Review

On average, government spending on public goods, services, and transfers accounts for around 30% of the GDP around the world (figure 6-1). As per the Wagner Law[33], this figure is even higher in developed economies, reaching an average of more than 40% among OECD countries (Organisation for Economic Co-operation and Development [OECD], 2020a). Given its enormous size, reaching one-third to half of the entire economies, the importance of public sector spending goes without explanation. It enables governments to alter the allocation of resources between different economic activities and income groups, affecting both efficiency and inequality. Thus, when well-targeted, public spending can play a crucial role in improving economic performance at all stages of economic development.

Most generally, public spending can be divided into two major categories as public investments and public consumption. The former refers to government spending on physical capital formation, including but not limited to investments in infrastructure, that is assumed to build productive capacity and increase welfare in the long run. The latter refers to spending on final goods and services, including compensation of employees, that are assumed to satisfy the current needs of the community and increase current welfare. Government decisions about the composition of public spending between these two major categories critically affect the macroeconomic balance of an economy between consumption and investments, which, relevant to this study, can influence economic growth. Needless to say, government investments and consumptions can further be divided into various subcategories, which also have relevance to our discussion, but this will be discussed below in relevant chapters.

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[33] Wagner (1883/1958) anticipated that the relative size of the public sector in the economy would grow with the advent of modern industrial societies due to increasing political pressure.

Figure 6-1: Public Spending / GDP vs. GDP per capita, 2015
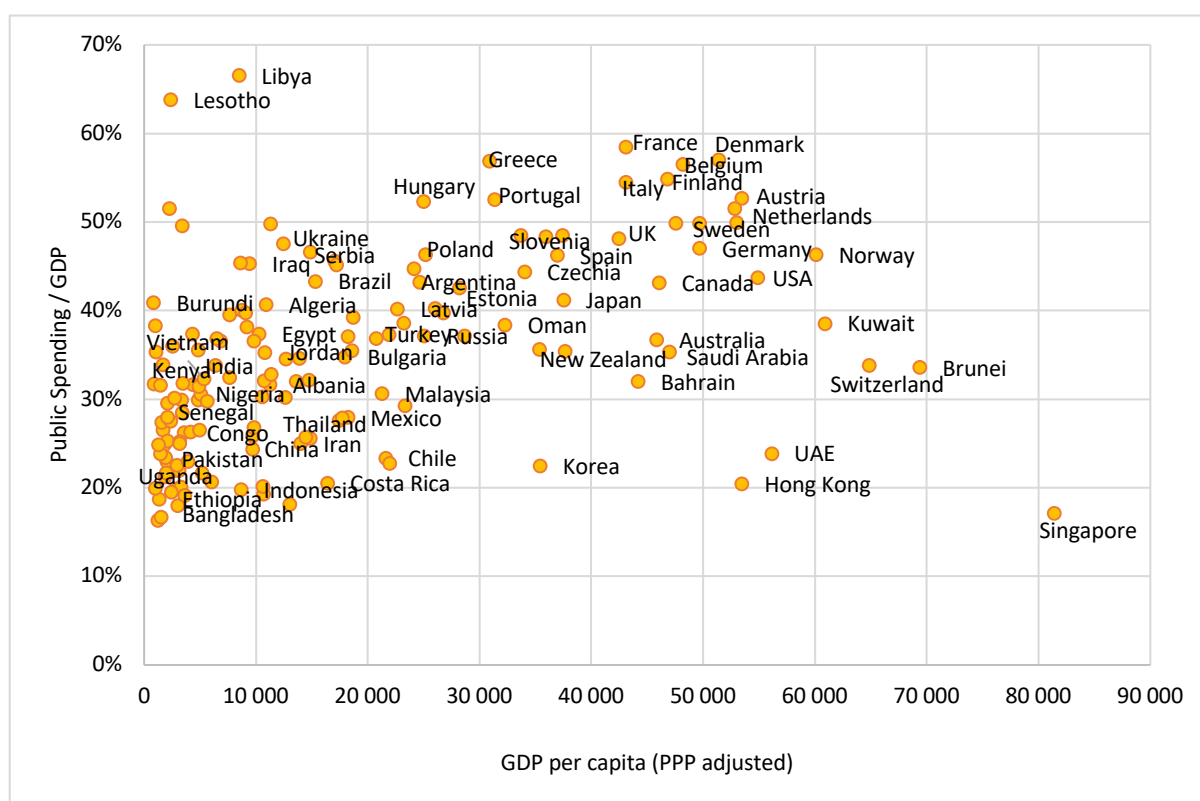
Source: Mauro et al. (2015); retrieved from IMF (2021). GDP per capita is from World Bank (2020).

Figure 6-2: Composition of Public Spending Across Countries, 2015
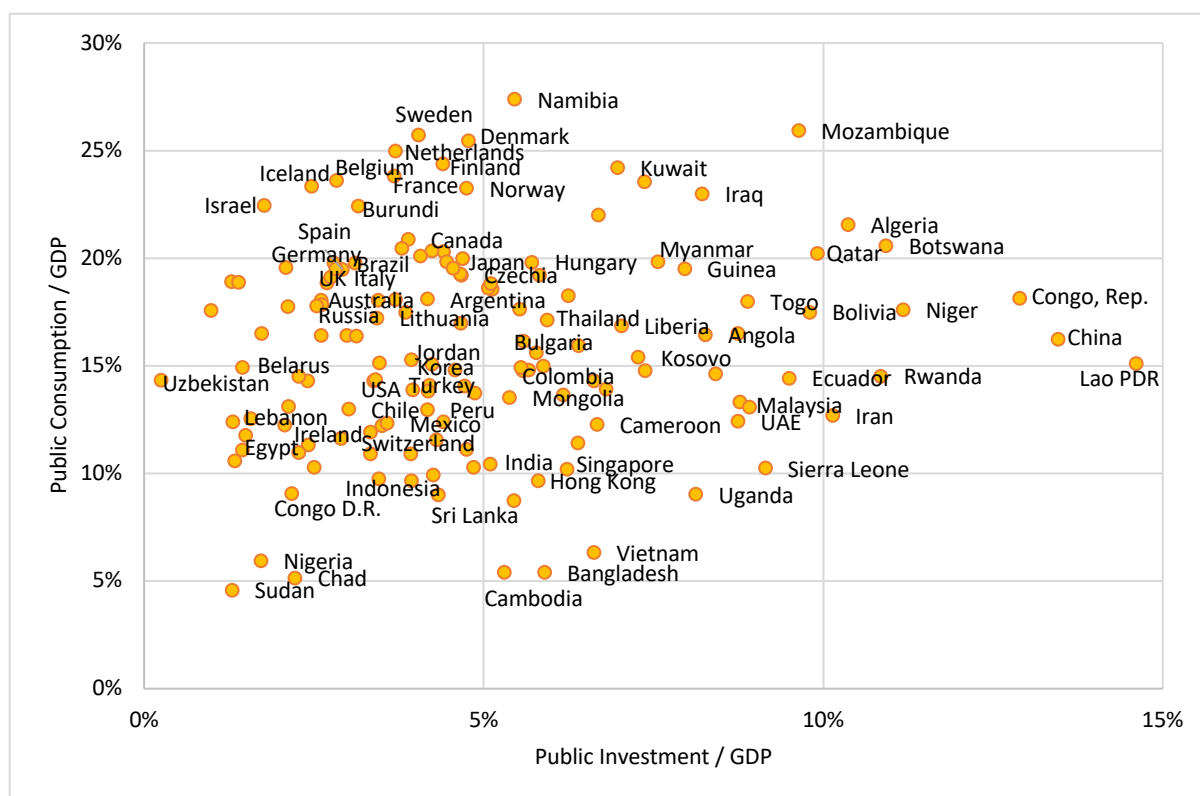
Source: Public Consumption from World Bank (2020). Public Investment from the IMF (2017).

Most of the literature on public spending has been devoted to the investigation of how changes in the sheer size of government spending may affect growth performance, especially in the short term. Adjusting the size of government spending is considered as a mechanism to smooth business cycles. Many studies also investigate the sustainability of expansionary fiscal policy and associated debt-financing. Given the recent depressive growth trends, accompanied by skyrocketing public debt rates, in developed countries as well as recurrent fiscal defaults in developing countries, the importance of understanding the impact of public spending size on economic performance cannot be overstated. However, the composition of government spending is much less studied although it is arguably equally, if not more, important as the sheer size of government spending for understanding cross-country differences in economic performance and fiscal sustainability (figure 6-2). The composition of the government budget is particularly important in developing countries, where state capacity to collect taxes or borrow at reasonable costs is limited, putting severe limits on the size of the budget.

In the neoclassical exogenous growth models, the growth effect of public spending, similar to taxation, is assumed to be transitory. To repeat, in these models, in response to a policy change, the rate of capital accumulation and thus growth may change in the short term, but, the long-term growth rate is determined entirely by exogenous factors, such as technological change and population growth (Solow, 1956; Swan, 1956). For instance, the government can change the composition of public spending towards investments, thereby accelerating capital accumulation, but this effect should gradually decline and eventually disappear due to the assumption of diminishing marginal returns to the factors of production (Arrow & Kurz, 1970/2013). The steady-state *level* of capital may still be higher after the redirection of public spending towards capital investments but increasing capital stock becomes self-defeating after a certain point because, as marginal return on capital drops below the depreciation rate of capital, net marginal output on capital becomes negative[34]. In short, growth and welfare gains via increases in capital accumulation are inherently limited.

Unlike earlier neoclassical models, beginning from the 1980s, endogenous growth models led to a large literature on the growth effect of public spending. In contrast to exogenous

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[34] Given a certain amount of labour, as an economy accumulates more capital, the marginal return on capital declines whereas depreciation rate of each additional unit of capital is constant. At the steady state, new investments equal capital depreciation, so net capital addition is zero (Solow, 1956; Swan, 1956).

growth models, endogenous growth models assume that some categories of capital have non-diminishing marginal returns, so output can grow via further investments without any intrinsic limitation (Lucas, 1988; Romer, 1986, 1990; Rebelo, 1991). To clarify, at the micro-level, diminishing returns still apply so the individual or the firm has no incentive to keep investing after a certain point. However, certain investments have the potential to create non-diminishing returns at the aggregate level, due to positive externalities emanating from them, increasing productivity across the economy. So, from social planner's perspective, incentivising such investments are desirable. Investments in education and training (i.e. human capital) or R&D, or in any sector which exhibits some sort of positive externality (e.g. learning-by-doing) are claimed to fall into this category (Jones et al., 1993; Stokey & Rebelo, 1995).

In his seminal work, Romer (1986), for instance, introduces *the creation of new knowledge* as a source of sustained growth. In this model, if private benefits from R&D-intensive investments are not aligned with social benefits, due to positive externalities, market equilibrium will be suboptimal. So, government investments in such economic activities increase the long-term growth rate of the economy. Another seminal work is Lucas (1988), which introduces human capital into the production function as an accumulable productive factor via education and training. According to this model, even if the amount of labour is the same, its productivity can be raised through human capital investments, and render non-diminishing returns to scale possible at the aggregate scale. Following this reasoning, many studies attempt to measure and usually confirm the growth effects of spending on education (Barro, 1991; Levine & Renelt, 1992).

Barro (1990) introduces some types of public goods as a factor of production. In this model, public goods are assumed to be complementary to private capital, so even though an increase in either one has diminishing returns, when private and public investments grow together, they create non-diminishing returns and the steady-state growth rate increases. However, there are also unproductive public expenditures, which do not have any effect on production and thus reduce the growth rate due to the tax-funding of them. Futagami et al. (1993) and Glomm and Ravikumar (1994, 1997) extend the endogenous models to include not only the flow but also the stock of public capital. They show that public investments can affect economic growth not only indirectly by improving private sector productivity, but also directly by contributing to the national capital stock. Some studies have shown that there is indeed a strong positive relationship between public sector capital stock and growth (Aschauer, 1989),

and developing countries are likely to benefit more from such public capital investments (Romp & de Haan, 2007; Bom et al., 2010). Especially infrastructure spending is pointed out as one important contributor to economic growth at all stages of development (IMF, 2015a).

However, public investments are also criticised as inefficient, especially in developing countries. Pritchett (2000), for instance, argues that, unlike private sector investments, only a fraction of public investments turn into productive capital due to the inefficiencies involved with government activities. He further argues that that fraction is even lower in developing countries and that maintenance of these unproductive investments usually poses a perpetual burden on the state. IMF (2015a), for instance, reports that, in an average country, public investments lose 30% of their value during the investment process, though there is large variation between countries (p. 21). Agénor (2010) confirms that wastes are even more substantial in less developed countries where management of public investments is weak. So, this leads to the questioning of whether public investments' contribution to economic growth is positive, especially in developing countries, because public spending has to be financed through taxation, which dampens the growth rate.

In contrast to Pritchett (2000), some studies reported that public investment spending actually supports growth more in developing countries than in developed countries (Dabla-Norris et al., 2012). Berg et al. (2019) explain these conflicting results by pointing out the dual definitions of *efficiency*. That is, although the amount of productive capital actually installed by a certain amount of public spending may be lower in developing countries than in developed countries, the contribution of that capital to growth can still be much higher in the former because the initial amount of capital is small. So, even though public investments may be inefficient in terms of implementation and management in developing countries, their marginal productivity is much higher due to diminishing returns to factor accumulation.

Another argument against public investments is that they *crowd out* private sector investments, so the overall effect of public investment is likely to be the replacement of profit-driven private sector operations with usually inefficient public sector operations. According to this argument, rising government investments discourage private sector investments by squeezing demand and thus making them less profitable or by increasing the demand for loanable funds and thus making credits more expensive. It is questionable, however, whether the crowding-out effects would be substantial in developing countries, where there is not much private sector to crowd out to begin with. Indeed, some studies argue that government

investments can in fact crowd in the private sector in developing countries (Amsden, 1997). The Keynesian literature refuses the crowding-out theory in developed countries too, based on the assertation that in these capital-abundant economies, the saving capacity is often above the investment demand, so government investments cannot possibly squeeze the loanable funds market[35]; in this understanding, government spending raises the investment rate by boosting demand and profitability.

As for government spending on public consumption, beginning from Barro (1990), many studies have assumed that public consumption is not productive, and therefore that it negatively affects the growth rate. These studies define public consumption to affect only the immediate welfare (i.e. utility) of the society but have no impact on production. Therefore, changing the composition of public spending in favour of final consumption, thereby forgoing the growth impact of public investments, should reduce the growth rate while increasing current welfare. However, studies such as Irmen and Kuehnel (2009) and Ghosh and Roy (2004) take both public capital and public services as an input of private production. Thus, government spending on public services also increases the rate of return on private investments and the growth rate. According to these studies, the choice between public investments and public consumption represents a trade-off between current and future growth; while government consumption has an immediate effect on the production technology of firms and productivity of individuals, public investments add to the stock of public capital and thus improve growth more in the long run (Zhang et al., 2016).

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[35] It can be argued that the economic environment in developed economies since the 2008 global financial crisis, with near-zero interest rates and low investment demand, provides strong support for this argument.

7 The Case for Public Investments in Developing Countries

7.1 Introduction

This chapter discusses the impact of public investments on economic growth in developing countries. Specifically, it analyses how increased public spending on the accumulation of physical capital can contribute to industrialisation and thus economic growth in developing economies. It concludes that, when well-targeted, public investments in key industries, which involve substantial positive externalities and contribute to the overall productivity growth of an economy, can crowd in private sector investments and play an important role in stimulating growth. This conclusion is explained more formally with the use of the concept of *market failures* and supported with evidence from East Asian miracle economies.

7.2 Crowding-in versus Crowding-out

At a very general level, there are two approaches to the growth effects of government investments. According to the first view, government investments *crowd out* private investments (at least to some extent), so they do not increase the overall capital stock proportionally. Assuming that there are limited profitable investment opportunities in an economy or a specific sector, the realisation of some of these investments through public spending does not really lead to a considerable improvement in the productive capacity of that economy but mostly the replacement of private investments by less efficient public investments. According to another version of the crowding-out theory, this replacement happens through the financial channel; namely, when a government finances its spending through borrowing or higher taxation, thereby reducing the investible funds, interest rates rise and lead to a reduction in private investment demand. Either way, according to this way of thinking, public investments should not make a sizable contribution to the productive capacity and thus economic growth because of the simultaneous decline in private investments.

According to the second view, government investments do not crowd out private investments but, on the contrary, crowd them in. There are several ways through which this can happen, some of which I discuss below, but basically, government investments are assumed to cause a chain reaction that makes private investments more profitable by reducing risks or costs, so the private sector is incentivised to invest more. Following this reasoning, public

investments should lead to a more than proportional improvement in the productive capacity of the economy and increase the growth rate. In line with the general approach of this study, it is tenable to argue that whether public investments crowd in or crowd out private sector investments (and at what rates) is dependent on the country context, especially the stage of economic development. Needless to say, it is also possible to differentiate public investments of different sorts in terms of their effect on private investment demand, and the types of public investments which affect private investments positively may also change at different stages of economic development.

It should be noted that the two versions of the crowding-out theory may have validity in different contexts. One version, where the government is claimed to drive out the private sector by increasing interest rates, operates through the money market. However, a change in the composition of government spending should be unrelated to this version of the crowding-out argument, because it does not involve any alteration in the budget size or deficit, and so does not change the funds a government subtracts from the economy. The other version, where the government crowds out private investors by making their investments less profitable, operates through the real economy. Assuming that an economy is at its steady state, as in the standard neoclassical model, new additions to the capital stock through public investments may indeed reduce the marginal productivity of capital and drive out a part of the private sector investments, unless they increase the productivity level of the economy by increasing human capital, R&D, infrastructure, etc..

Arguably, the second version of the crowding-out argument, where the government is claimed to crowd out the private sector by squeezing demand and thus reducing profits, is based on a number of assumptions that are reasonable to make only in developed economies. As is already discussed in Part I, in developing countries, the neoclassical assumptions of full employment and thus diminishing returns to capital at the macro-level do not really apply. In developing countries, the fact that there is an almost unlimited reserve army of labour, which can be straightforward unemployment or disguised unemployment in traditional sectors, implies that when the economy accumulates more productive capital, the industrial sector simply pulls more labour at a more or less stable price, offsetting the tendency of the marginal product of capital to diminish. Then, until excess labour is entirely absorbed, there should be no loss of profitability in the private sector in response to increasing public sector investments, because capital expands without causing any significant decline in the profit rate.

The same reasoning can be expressed in the language of macroeconomics as well. Given the abundance of labour at a low price, comparative to the available capital stock, and high population growth typical of developing countries, profitable investment opportunities in developing countries should be unlimited in the short to medium term. So, unlike the conditions in developed countries, the macroeconomic balance between profitable investment opportunities (i.e. investment demand) and investible funds (i.e. savings) in developing countries is constrained not by the former but the latter. Therefore, by engaging in public investments, governments in developing countries cannot possibly crowd out private sector investments. However, this may not be so in developed countries, where capital saturation is achieved and population growth is low, so profitable investment opportunities are limited.

These conclusions regarding the differing crowding-out effects in developing and developed countries can be reversed for the other version of the crowding-out theory, the one which operates through the money market. Namely, in developing countries, where investible funds are limited compared to investment demand, governments can crowd-out private sector investments by using more of the investible funds for public investments, through either deficit spending (borrowing) or more taxation, thereby increasing interest rates and/or lower savings rates. Arguably, the validity of this assertion is dependent on where the government collects its revenue from for the increased spending; if public investments are funded via taxation of profits (capital income) or via debt financing, then there may indeed be a case for crowding-out. However, if they are financed via taxation of consumption or less-productive activities, government investments in sectors with high productivity growth may have no adverse impact on total private investments. For instance, a government taxing agricultural surplus to fund its industrial policy is effectively increasing the rate of investments. According to Kay (2002), this is what happened in Korea during its rapid industrialisation process.

Following the above-stated reasoning, the question arises that, if there are indeed profitable investment opportunities in developing countries waiting to be realised, then why private sector does not engage with them before the public sector does. The answer to this question also answers the question of why government investments can actually crowd in private sector investments. In the early stages of development, capital investments and productivity growth usually go hand in hand. Several reasons are cited for this in the literature, one of which is already explained in Part I; that is, technical progress is usually embodied in new capital. So, in developing countries, capital investments usually imply not only factor

accumulation but also productivity growth. As some of these productivity improvements spill over to the entire economy, thereby making other investments more profitable as well, public investments can crowd in private investments. As labour is not a binding constraint either, initial investments in capital accumulation can start a cumulative causation process, leading to dramatic improvements in the productive capacity of a developing economy. As Lewis (1954) notes, the virtuous cycle between rising rates of investment, technical progress, and output growth, constitutes what we came to call an industrial revolution.

Therefore, the fact that developing economies experience improvements in productivity simultaneously as they invest in capital, provides a strong case for public investments in the early stages of economic development. Public capital investments can lead to overall productivity growth and thus crowd in the private sector in a number of ways. For instance, government investments in sophisticated industries can create a thick labour market, with trained and experienced workers, engineers, and managers with sector-specific human capital, which lower costs for potential private investments in such sectors. Similarly, the government can build sector-specific infrastructure, establish the supply chains or marketing channels, all of which can be utilised by private-sector investors without paying the costs of creating them. Some of the other reasons as to why government investments, especially of the right kind, come with productivity improvements are discussed in the next section below.

All in all, if there are indeed positive externalities and/or increasing returns to scale at the macro level, which is a reasonable assumption to make for investments in sophisticated and often capital-intensive industries in the context of developing countries, then government investments can very well crowd in private investments. It should be underlined that for all these mechanisms through which the government crowds in private sectors, the government is assumed to be investing in the *right* places; investments in newly emerging, capital intensive, sophisticated industries that cannot be carried out by the private sector, because they involve very high set-up costs, high risks, coordination failures, knowledge spillovers, etc. These are discussed in more detail in the next section below, but in simple terms, governments pave the way for the private sector by shouldering the first-mover burden in sectors that are critical for long-term growth but otherwise non-existent. However, there is usually no point in government making investments in sectors where investments can be realised by the private sector and/or do not involve substantial market failures.

7.3   Market Failures

The conditions which legitimise and/or necessitate the introduction of public investments can also be explained more broadly in the terminology of public finance. In public finance, government interventions, including public investments, are often thought of as solutions to market failures, which most generally involve the provision of public goods (e.g. infrastructure), externalities (e.g. knowledge spillovers), natural monopolies (e.g. investments with very large fixed costs), and imperfect markets. In all stages of development, market failures are a reality, so government interventions are expected. However, in developing countries, market failures are often the norm rather than the exception, so they are more than small frictions in the system which is the standard understanding in public finance. Moreover, the types of market failures seen in developing countries are more substantial than the ones in developed countries. Consequently, government interventions also need to be more substantial and extensive.

The standard economic models assume organised markets for all goods and services (i.e. sectors), availability of a strong infrastructure, and developed financial markets, which allow promising investments projects to access credit. However, in developing countries, some (sometimes even all) of these assumptions are not realistic. It is often the case, for instance, that there are no stable markets and prices for some critical inputs and/or outputs. Similarly, financial mechanisms are almost always quite underdeveloped, even primitive, in developing countries. And physical infrastructure often has serious gaps. All these deficiencies can be described as market failures, as they fall short of the perfect market conditions of standard economic models, and public investments can play a critical role in overcoming or alleviating some of these market failures.

First, government investments can shoulder the *first-mover risks* involved in some key sectors that are non-existing in a country. The creation of new sectors/industries in developing countries involves substantial risks because investors do not really know the potential costs and gains that are involved in these new investments. As they cannot calculate their feasibility a priori, such investments require a certain level of experimentation. The private sector usually refrains from such ventures when their potential private gains do not match the risks of this experimentation process. What this implies is that critical investments in innovative non-traditional sectors, that are key to the technological upgrading of an economy, may not be realised. Therefore, there is a case for the government to step in and socialise the risks in new

sectoral initiatives if the social benefits of such investments are also very high. Once the industry is established by the state and (if) proven to pay off, private firms can follow suit, so the sector takes off. In other words, governments can create positive *information externalities* for other potential investors. Hausmann and Rodrik (2003) call this a "self-discovery" process, through which a country learns what it is good at producing via public initiative.

Second, government investments can realise indivisible investments when capital markets are imperfect. It is often the case in developing countries that private banks or the stock market fail to finance the most promising investments due to capital market imperfections (in monitoring or contract enforcement), which leads to suboptimal allocation of resources from a long-term perspective of economic development. When finance is lacking or limited, many potentially profitable investment opportunities remain unrealised, beyond what a small minority of wealthy capitalists, who have enough equity capital and/or the luxury of accessing credit, are both willing and capable of realising. This is especially so for capital-intensive and high-tech investments with large set-up costs and lengthy break-even points (i.e. self-liquidating only in the very long run) (Amsden, 2001). Some of these investments are expected to lead to substantial social gains due to their positive externalities. However, private financial institutions are not expected to have a consideration for social benefits, above and beyond their private gains.

Unlike the private sector, the public sector is expected to adopt a long-term perspective and internalise positive externalities and make sure that enough resources are allocated to sectors that involve significant social benefits but are otherwise not financed by the private financial organisations. This can take the form of direct public investments in sectors that have better prospects for productivity growth and involve significant positive externalities, which can be thought of as substituting private finance (deposits and credit) with public finance (taxation and spending). Alternatively, even when a government does not undertake these investments itself, it can provide preferential credit to these sectors through national development banks or other public funds, which are partly immune to the market imperfections discussed above (*risk-aversion* or *short-termism*), or through other less-direct interventions to the financial market, such as credit subsidies (Di John, 2016, 2020). In any case, governments can play a crucial role in mobilising and directing national savings to capital formation in newly emerging sectors with substantial social gains.

Third, government investments can solve the so-called *coordination failures* in the emergence of new industries. It is often the case that the emergence of a specific sector requires the existence of a bunch of other sectors, which provide the critical inputs for or use the output of that sector. So, unless a group of sectors that complement each other emerge simultaneously, none of them emerges. Public investments can solve this problem by creating complementary sectors or supporting them simultaneously, thereby creating the necessary environment for private investments. Rosenstein-Rodan (1943), for instance, proposes a *big push*, simultaneous public investments in various interdependent industries, to kick start industrial expansion in developing countries. In that respect, Rodrik (2004) discusses the example of Taiwan, where the government created a world-class orchid industry in the early 2000s through substantial and deliberate investments in complementary services and goods. Rodrik (2004) notes, "the government pays for a genetics laboratory, quarantine site, shipping and packing areas, new roads, water and electrical hookups for privately-owned greenhouses, and an exposition hall— in fact everything except for the cost of the greenhouses" (p. 8).

Relatedly, one can also revisit the concept of *linkages*, introduced by Albert Hirschman (1958). Hirschman claims that sectors that produce the necessary inputs for other sectors (*forward linkages*) or use their output in production (*backward linkages*) have the potential to pull other sectors as well, because having stable and cheap access to critical inputs or having ready demand for output is vital for their emergence or expansion. Therefore, governments can encourage private investments by investing in sectors with the greatest total number of linkages or what Hirschman calls the *leading sectors*. Though it follows a similar logic, this reasoning turns Rosenstein-Rodan's policy proposal upside down; the government, instead of investing in several complementary sectors simultaneously, invests in one sector which drives all the others. Either way, it is easy to see that in developing countries, many sectors are missing or weak, so there is a strong case for strategically targeted investments by the government, whereas in developed countries with advanced, complete, and often crowded markets, there is also less of a case for public investments in leading sectors or for a big push.

Last but not the least, newly emerging sectors with large set-up costs and increasing returns to scale often constitute natural monopolies in developing countries. Typical examples of such sectors are infrastructure investments, such as utilities, telecommunication, or transportation networks. However, in developing countries, natural monopoly qualities can also be seen in other highly capital-intensive sectors, such as steel production, automobile,

shipbuilding, mining, etc.. In such sectors, companies often need to incur enormous fixed costs at the initial stage, which create an entry barrier for other firms. As production expands, marginal costs gradually decline through scale economies and companies eventually start making profits at very high levels of output. However, if demand is limited respective to profitable output levels, accommodating more than a few (sometimes even two) firms profitably may not be possible. Then, there is a case for government control in such sectors because the private sector tends to abuse monopoly power.

It should be noted that the above discussion explains the puzzle regarding conflicting results in the literature on the efficiency and the growth effects of public investments in developing countries. To repeat, some studies including Pritchett (2000) and Dabla-Norris et al. (2012) criticise public investments in developing countries for inefficiency, claiming that they do not fully translate into productive capital, whereas others including Berg et al. (2019) and Gupta et al. (2014) show that the marginal product of public capital is much higher in developing countries than in developed countries, due to the low levels of capital stock in the former. Public investments in developing countries may indeed be inefficient and wasteful at the micro-level, but given the critical role played by them in development catch-up, the overall growth effect of these investments at the macro-level is very large. The central point is that the *efficiency* and *growth impact* of public investments and public capital should be distinguished.

Arguably, as the capital-labour ratio increases, the case for government investments in physical capital weakens. In developed countries, market size is larger and there are organised markets for almost all goods and services, finance is more developed and smooth-functioning, and the private sector is capable of realising large-scale investments itself. This does not mean that government involvement in supporting productivity and income growth is no more required; instead, as is discussed in chapter 8 below, the nature of how government investments can contribute to growth changes. In developed countries, government investments in R&D or human capital investments can still have the crowding-in effect, but there seems to be a limited area in which governments can hope for a crowding-in effect through investments in sheer physical capital.

Figure 7-1: Private vs. Public Investments at Different Income Levels, 2015
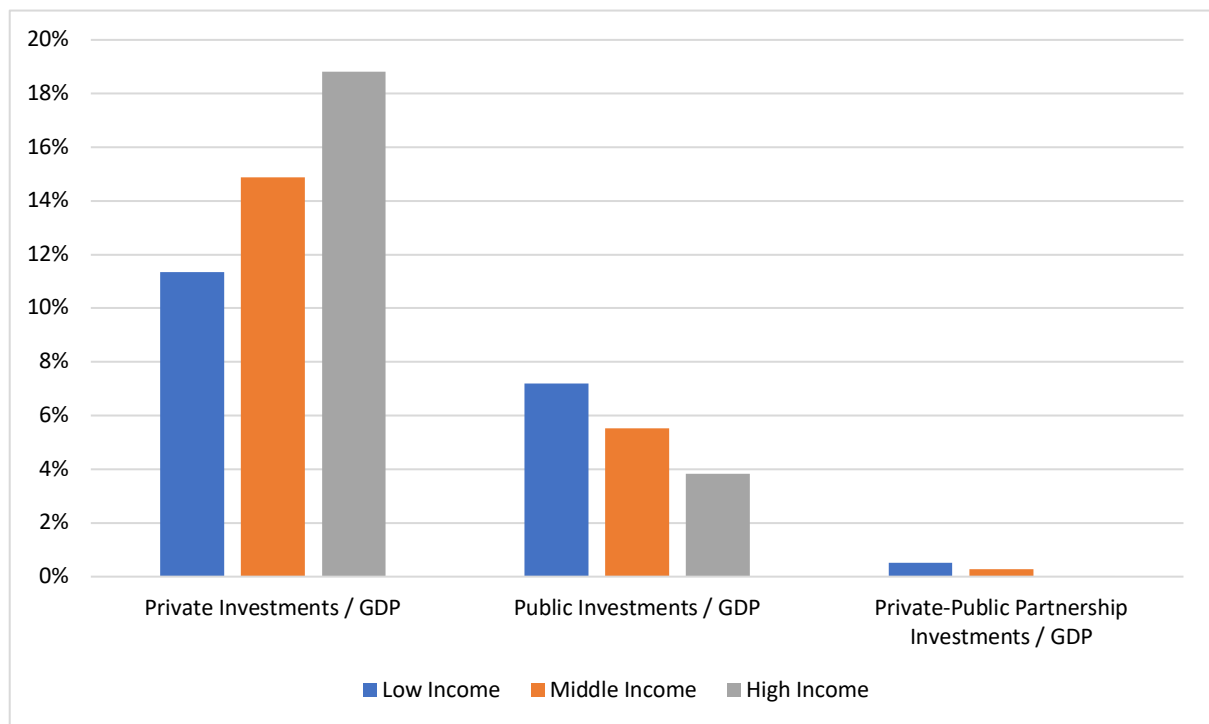
Source: IMF (2017)

Figure 7-2: Private vs. Public Capital Stock at Different Income Levels, 2015
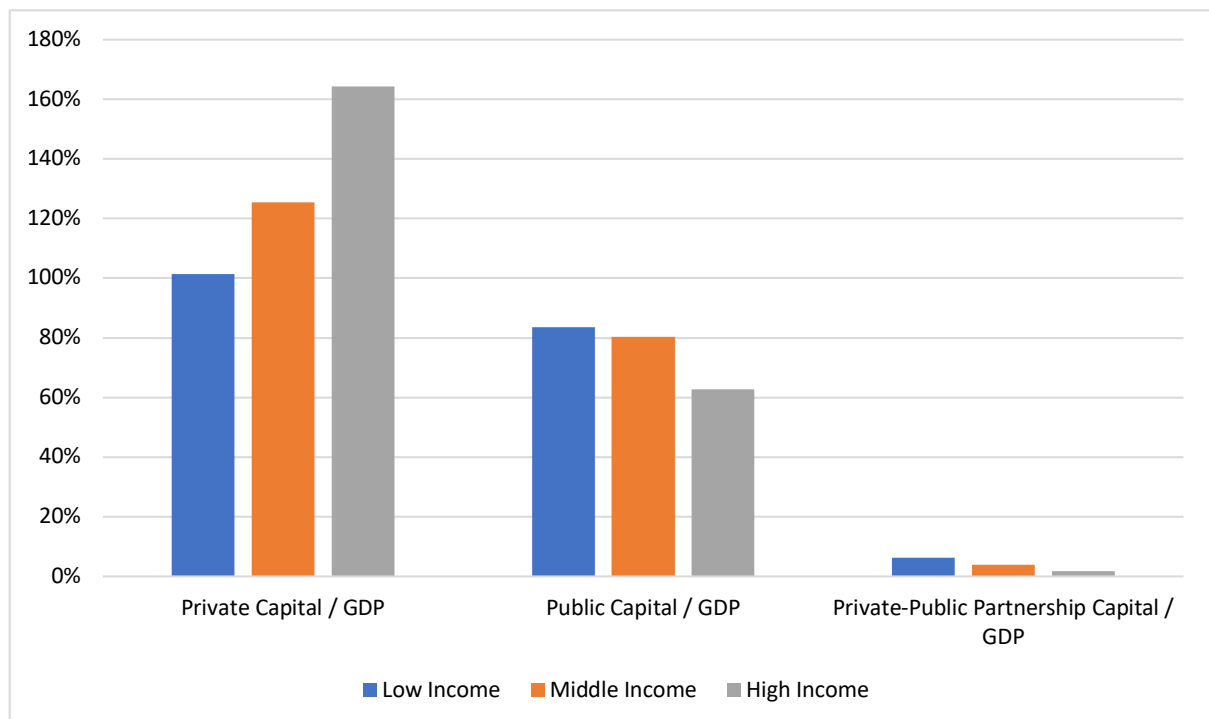
Source: IMF (2017)

7.4   Public Investments in Rapid Industrialisation: East Asia

Public investments historically played a key role in many rapid industrialisation episodes. In all of today's rich countries, increased public involvement in capital formation, in the forms of either state-owned enterprises (SOEs), direct budgetary investments, or growing prominence of state in capital ownership, was of critical importance in the earlier stages of economic development. Particularly East Asian growth miracles, including the more recent case of China, provided an example of how public investments can crowd in private sector investments and contribute to the long-term transitioning of the economy towards more capital-intensive, high-value-added activities. In many ways, these historical examples prove the points made above about the rationale of public investments.

Public investments in the context of East Asia can most broadly be categorised as follows:

1.   Investments by SOEs

2.   Direct budgetary investments

   a. Investments by public bodies (e.g. infrastructure investments by ministries)

   b. Subsidies for (public and private) firms investing especially in particular industries (e.g. capital-intensive, high-tech)

3.   Public capital ownership and finance

   a. Investments through public funds (sovereign wealth fund or other government investment funds)

   b. Preferential loans from state-owned banks for (public and private) firms especially in particular industries (e.g. capital-intensive, high-tech)

Needless to say, this categorisation can be varied depending on the context. However, in the case of East Asian growth miracles, these categories reasonably capture the basic ways through which fiscal spending was instrumentalised mostly with the target of directing resources towards the most promising industrial investments. These are discussed in detail below.

7.4.a Singapore and Taiwan

A most striking example of successful government contribution to industrialisation can be found in the economic development of Singapore. Between the mid-1960s and the 1990s, with its annual investment rate quadrupling from around 10% to above 40% of the GDP, Singapore transformed into one of the richest economies in the world. Young (1992) provides an extensive account of how government investments contributed to this success. After a series of unsuccessful indirect policies to kick-start industrialisation, including tax incentives and trade protection, in the early 1960s, the Singaporean government adopted the more radical approach of investing directly in manufacturing industries. Beginning from 1968, in less than two years, the Development Bank of Singapore (DBS)'s funding of investments through loans and equity investments expanded more than seven-fold, reaching 25% of all shareholder funds[36] by the end of 1970, one-third of which was in the electrical machinery and petroleum products industries. Young notes that in this period, the size of manufacturing employment increased by 60%, value-added in petrochemicals increased by 87%, while value-added in electric machinery increased by more than seven-fold.

The government's investments in the acquisition and expansion of manufacturing industries continued at an accelerated speed throughout the 1970s. By the early 1980s, state ownership extended across a vast variety of sectors ranging from food, textiles, printing, wood to chemicals, petrochemicals, iron and steel, engineering, and shipbuilding. By that time, state-owned Jurong Town Corporation, which was established in the early 1960s and initially considered a failure, controlled 21 industrial estates and export zones and was building 15 more. State also owned prominent non-manufacturing firms such as Singapore Airlines, INTRACO (trading), Neptune Orient Lines (shipping), and Hotel Premier and was the single largest actor in construction with more than 70% of the country's population being housed by the Housing Development Board (Pang & Lim, 1986, pp. 9-10; Mirza, 1986, pp. 56-58, 114-119; cited in Young, 1992). According to one estimate, by 1984, around a third of the total Singaporean GDP was accruing to SOEs and state agencies (*statuary boards*) as profit (Lee, 1984, pp. 103-107; cited in Young, 1992).

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[36] Shareholder funds refer to the amount of equities which shareholders put into a company. It can be calculated as a company's total assets in excess of total liabilities.

In this period, the Singaporean government also prioritised building sector-specific infrastructure in order to attract foreign investments. Combined with tax exemptions and other fiscal incentives as part of the Pioneer Industries Ordinance (PIO), tailor-made infrastructure was very successful at attracting the right kind of foreign investments (capital-intensive and high-tech) to the country. It should be noted, however, that the PIO was introduced originally in 1959 but for the most part failed, similar to Jurong Town Corporation, before the government started its investment endeavour in 1968. In other words, Singapore's manufacturing expansion between the late 1960s and the early 1990s was initiated and driven overwhelmingly by government investments mostly financed via public savings, rather than foreign capital. Relatedly, to fund its radical investments programme, the government consistently run budget surpluses throughout this process. In the 1980s, for instance, fiscal surplus averaged around 42% of total revenues (Young, 1992). Some of these surpluses came from the profits of SOEs, so the causality between rising public surpluses and investments in SOEs was two-ways. The government was also effectively using forced savings of workers by taxing labour income heavily as well as borrowing from the Central Provident Fund, discussed in Part I.

Another radical case of state's strong entrepreneurial role is Taiwan. Beginning from the 1950s, SOEs were a major element of Taiwan's tremendous success at achieving rapid industrialisation. Up until the 1980s, Taiwan had an extraordinarily large public sector, with SOEs' owning more than half of all the assets and at times producing more than a quarter of the GDP (Ho, 2010). During the 1970s, SOEs accounted for more than 30% of all capital formation, which was one of the highest in the world (table 7-1). Some estimates show that, in the 1950s, more than 50% of total industrial output was created by non-financial SOEs; as the private sector expanded, this figure declined to around 40% in the 1960s, 20% in the 1970s, and below 20% in the 1980s (Crane, 1989, p. 5; Kuo et al. 1981, p. 60; cited in Liou 1992). Throughout this period, SOEs' activities extended over a wide range of sectors from manufacturing industries, such as steel, machinery, and engineering to natural resources such as petroleum, coal, sugar and salt, or from public utilities such as electricity, communications, and transportation to finance such as banking, insurance, and trusts (Liou, 1992).

According to Short (1984)'s calculations, Taiwanese SOEs recorded losses in most years. Overall, they were less efficient than SOEs in developed countries but more efficient than the ones in other developing countries. However, SOEs' role in promoting industrialisation was beyond their sheer size or profits. They filled in critical gaps in the

economy, provided a functional substitute for imperfect capital markets, and created substantial positive externalities for the entire economy. As an interesting example, Amsden (1979), for instance, discusses the role played by the fertiliser industry, monopolised by the government, in the 1950s and the 60s, in transferring surplus from agriculture to manufacturing while enhancing productivity in the former. For sure, these social benefits have declined or disappeared entirely along the development path, as the private sector had grown stronger and the capital-labour ratio risen, making SOEs a burden from a social perspective as well. The important point is that the Taiwanese elite was aware of that and accordingly adjusted the composition and the direction of SOEs. Beginning from the 1970s, SOEs' focus was changed from heavy industries to other high-tech industries because the former depleted its dynamic potential. Beginning in 1984, the Taiwanese elite started reducing SOEs' dominance in the economy altogether, which culminated in the blueprint for privatisation of 1989 and the subsequent privatisation wave in the 1990s (Pao et al., 2008).

Table 7-1: The Share of SOEs, Taiwan and Selected Regions (%), 1951-1980

	% of Gross Fixed Capital Formation	% of GDP at factor costs
1951-53	31.4	11.9
1954-57	34.3	11.7
1958-61	38.1	13.5
1962-65	27.7	14.1
1966-69	28.0	13.6
1970-73	30.5	13.3
1974-77	35.0	13.6
1978-80	32.4	13.5
Developing Countries	27.0	8.6
Developed Countries	15.0	9.6
World	17.1	9.4

Source: Short (1984, p. 120, table 1).

7.4.b   Korea and Japan

Singapore and Taiwan were radical examples. However, SOEs and public investments played an important role in other East Asian miracle economies as well. In Korea, for instance, government investments in the so-called *leading industries* crucially supported rapid industrialisation. The number of SOEs in Korea was 36 in the late 1960s, most of which were created by Japanese colonisers, but increased to more than 120 by 1979. Between 1963 and 1972, the public enterprise sector grew by 14.5% while the economy as a whole grew by only

9.5% and the non-agricultural economy by 12.2% (Han, 1991, p. 96). Manufacturing accounted for more than a third of public sector investments while transport and communications and finance accounted for 20% each (table 7-2). By 1970, SOEs were producing 9% of the GDP and 13% of the non-agricultural GDP, which were higher than the corresponding figures in India, Italy, and the UK around the same time (Jones, 1975, p. 76).

Table 7-2: Sectoral Composition of SOE Value Added (%), Korea, 1963-1986

	1963	**1970**	**1972**	**1977**	**1986**
Agriculture & Fishing	1.8	1.2	0.7	0.0	
Mining	8.8	3.0	3.6	3.2	
Manufacturing	30.2	39.2	34.9	39.5	
Electricity & Gas	12.3	13.8	13.7	17.5	
Construction	1.8	2.2	3.0	3.9	
Wholesale & Retail	3.0	1.6	4.1	0.9	
Transportation & Storage	26.5	21.6	19.0	14.5	
Banking & Insurance	15.4	16.2	19.3	18.1	
Public Utilities & Service	0.2	1.2	1.8	2.4	
% of GDP	6.7	9.2	10.0	8.0	10.4
% of non-agricultural GDP	12.4	13.0	13.9	10.6	11.9

Source: Han (1991, pp. 96, 97, table 4-1) based on data from the Korea Development Review (1981, vol. 3, no. l). Data for 1972 from Jones (1975, pp. 74, 76, table 5-7, 5.8).

According to Han (1991), beyond and above their size, these investments were strategically positioned (table 7-3). They were three times more capital intensive than the rest of the economy and more than double in the manufacturing sector. Moreover, they were generally in the import-substituting sectors. Even when they did not make any profits from an accounting perspective, they were considered beneficial due to their unaccounted positive externalities or linkages to other sectors as well as their contribution to the balance of payments. The steel industry stood out as a particularly important sector with significant forward linkages especially as it provided a critical input to capital-intensive industries. POSCO, currently the world's fourth-largest steelmaker, was established by the state in 1968 with "the national mission of industrialization" (Woo, 1991). The company was fully privatised only in 2000.

Similarly to Singapore, Korea also went through significant fiscal reform to increase the investible funds in the hand of the government. Specifically, between 1962 and 1964, right in the early years of Park administration, government spending was cut from 25% to 11% of the GDP; then, between 1965 and 1971, tax revenue (in constant prices) was raised by an average of 25% annually; consequently, public savings had risen from -2% to 7% of the GDP

(Brown, 1973, p.1; cited in Han, 1991, p. 103). Moreover, SOE prices closely followed the inflation rate and remained profitable for the most part. During the 1960s, more than two-thirds of the investments by SOEs and Government-Invested Enterprises were funded by their own earnings while the rest came from the public budget and state banks (Brown, 1973, p. 79; cited in Han, 1991, p. 104). Considering their size in total investments, it can be said that efficient SOEs and budget surpluses contributed to the domestic funding of skyrocketing investment rates and the gradual reduction in dependence on foreign savings (figure 7-3).

Table 7-3: The Share of SOEs in Sectoral Value Added (%), Korea, 1963, 1972

	1963	**1972**
Agriculture, Forestry, & Fishing	0.0	0.2
Mining	37.1	31.0
Manufacturing	15.3	15.1
Construction	4.5	5.4
Electricity, Water, & Sanitation	90.2	66.2
Transport & Communications	47.1	30.5
Trade	2.5	2.4
Finance	76.1	87.0
Dwellings	0.2	0.4
Public Administration	0.0	0.0
Services	0.4	1.7

Source: Jones (1975, pp. 76-77, table 5-8, 5-9) based on data from Bank of Korea, National Income Statistics Yearbook (1973, pp. 122-124).

Figure 7-3: Fixed Capital Formation, Korea, 1963-1980
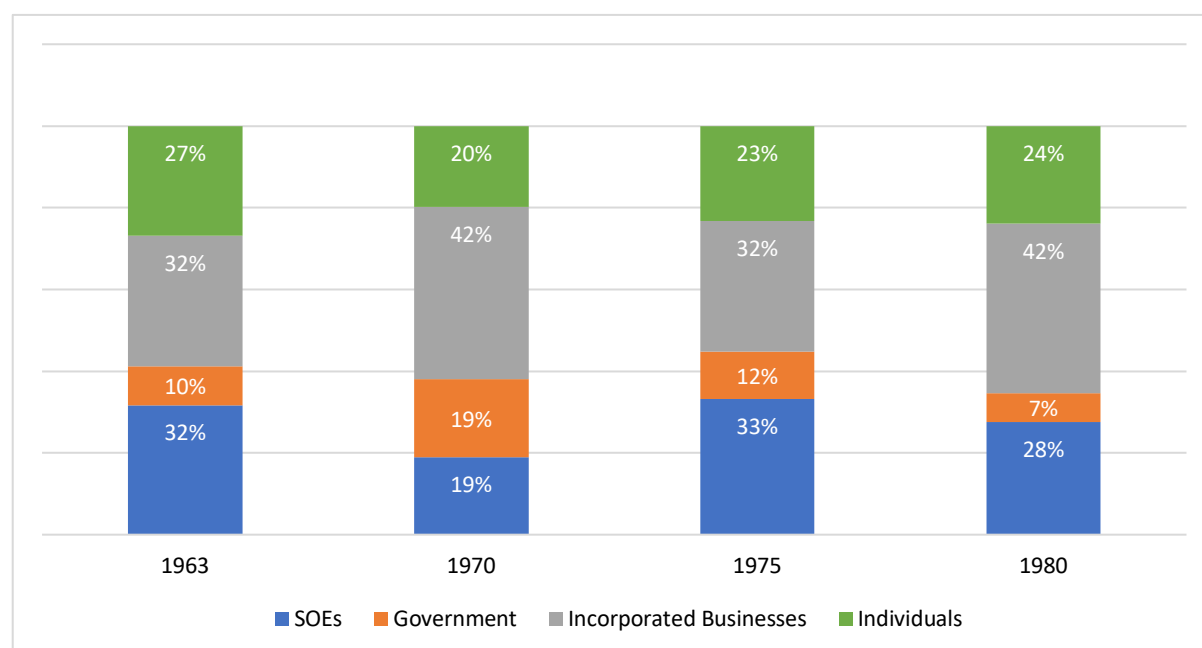
Source: Han (1991, p. 124, table 4.6) based on data from Bank of Korea Flow of Funds Accounts.

In Japan, government investments played a somewhat lesser role than in Korea in the post-war industrialisation. However, they played a far more important role in the early phase of Japan's industrialisation, which began during the Meiji era between 1868 and 1912. Alongside a major reform for military and political centralisation, Japan's imperial government had already launched the country's industrialisation; SOEs in industries that the government considered key to military empowerment, including steel, shipbuilding, mining, and munition production, as well as various consumer industries, including textiles, cement, chemicals, sugar, glass, etc. were set up in this period (Morck & Nakamura, 2007). In particular, military factories were critical for the transfer of the latest technologies to the country and produced critical inputs, including machine and machine parts, for private industries (figure 7-4) (Yamamura, 1977).

Figure 7-4: Number of Workers and Prime-Mover Capacity (in Horsepower) in Shipbuilding, Machinery, Machine-Tool, and Weapons Industries, Japan, 1899-1912
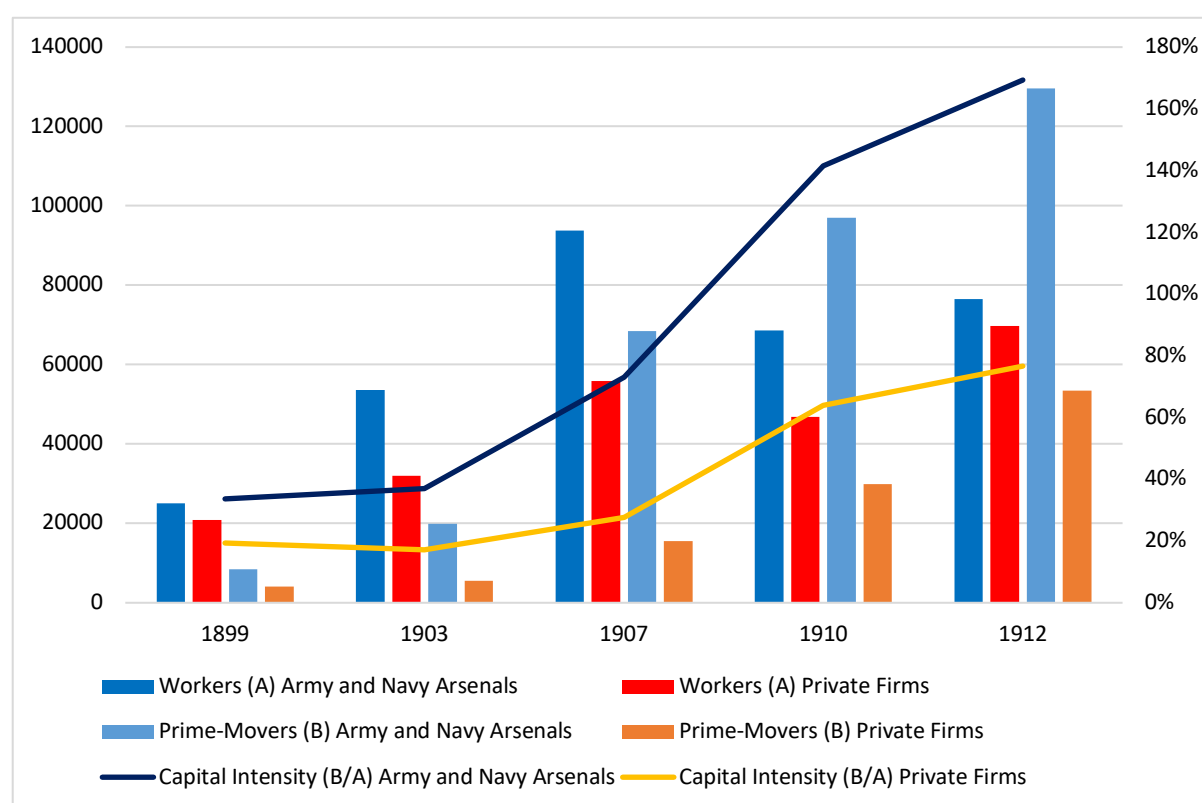
Source: Hirotake (1972, p.105); cited in Yamamura (1977, p. 124, table 1).

Between 1868 and 1885, ministries of Industry, Interior, and Agriculture paid a total of ¥69.3 million for SOE operating losses, frontier development initiatives, and targeted loans and ¥17.7 million for new SOEs, an investment capital trust fund, prefecture industrial promotion grants, and other programs. Considering that Japan's national income was ¥397

million in 1878, the first year of recorded data, these expenses were massive for the era. In particular, the Ministry of Industry had the lion's share in the government budget and controlled all the SOEs in mining, railways, telegraphy, shipbuilding, iron production, and various manufacturing businesses (Ishizuka, 1973, p. 131; Kobunkan, ch. 4; Umemura & Nakamura, 1983, p. 29; cited in Morck and Nakamura, 2007, p. 559). Large-scale investments led to excessive borrowing and eventually strained the government fiscally. Consequently, beginning from 1880, these companies were sold to well-connected private entrepreneurs. However, the government continued to direct and support them through substantial subsidies. These corporations later formed into large conglomerations, called *Zaibatsu*, such as Mitsui and Mitsubishi, which effectively controlled the Japanese industrial economy in direct contact with the government.

In this first phase of Japanese economic development, rapid industrialisation, combined with the collapse of the feudal system, pulled millions of people to industrial towns. Government investments in infrastructure and education facilitated this transition. The government established a modern and nationwide free public education system, which provided an educated workforce; by the end of the era in 1912, almost everyone in the country was attending free schools for at least six years. The government also built telegraph and telephone networks, postal services, railways, and shipping lines across the country. By the turn of the century, there was already a comparatively well-developed transport and communication system, ready for the further development of the industrial sector (Tang, 2014). In the process, Japan transformed from an overwhelmingly agricultural economy to a modern semi-industrial one. At the onset of World War II, it was capable of producing its own military ships and planes.

In the post-war period, SOEs were mostly concentrated on main services as well as on controlling natural monopolies. In particular, there were three main SOEs; Japan National Railway (1949), Nippon Telegraph and Telephone Public Corporation (1952), and Japan Tobacco and Salt Public Corporation (1949), which were privatised in 1987, 1985, and 1988, respectively (Baijal, 2000, p. 1106). The government also owned 35% of the Japan Air Lines (Sakoh, 1986, p. 1). The state's contribution to capital accumulation was mostly through the financial channel. Particularly, the Fiscal Investment and Loan Program (FILP), which is "often called a second national budget", was instrumental in financing key investments (Yoshioka & Kawasaki, 2016, p. 25). The program accumulated mainly pension funds and

household savings collected by the post offices across the country (postal savings), which amounted to almost 30% of the general government budget in 1955, and gradually increased and peaked at 50.6% in 1975 (table 7-4). Initially, FILP mainly invested in key industries of steel, shipbuilding, and power, but as capital accumulation increased and the country developed, loans started to flow to housing, small- and medium-sized businesses (SMEs), and infrastructure.

Table 7-4: Fiscal Investment and Loan Program (FILP) (%), Japan, 1955-1980

	1955	1960	1965	1970	1975	1980
FILP / GDP	3.5	3.7	5.3	5	6.9	7.4
FILP / General Account Budget	29.2	35.9	47.7	46.4	50.6	41.7
Revenue						
Industrial Investment Special Account	17.1	4.3	3.4	2.9	0.7	0.1
Trust Fund Bureau Fund						
Postal Savings	34.2	21.4	23.4	31.6	41.6	38.2
Pension Fund	9.6	12.7	23.2	25.8	21.6	16
Collection, etc.	8.5	22.2	19	13.7	21.2	29.9
Postal Life Insurance Fund	15.6	18.9	6.8	11	10.8	8.2
Government-guaranteed Bonds	15	20.5	24.1	15.1	4.2	7.6
Expenditure						
Key Industries	15.8	13.6	7.8	5.7	3	3
Housing	13.8	12.8	13.9	19.3	21.4	26.2
Transportation & Communication	12.2	14.1	13.9	13.2	12.7	9.6
Agriculture & Fishery	8.9	7.1	7.2	5	4.1	4.9
Local Development	8.5	7.1	7	4	3.3	2.6
SMEs	8.1	12.8	12.6	15.4	15.6	18.7
Improvements of Living Environment	7.7	9.3	12.4	11.6	16.7	14.1
National Land Conversation	7.7	6.5	3.1	1.6	1.2	1.7
Trade & Economic Cooperation	7	7.9	7.5	10.6	7.7	5.6
Education	4.5	3.5	3.1	2.2	2.9	4.4
Road	3.7	3.6	7.9	8.6	8	5.7
Health & Welfare	2.1	1.8	3.6	2.8	3.4	3.5

Source: Yoshioka and Kawasaki (2016, pp. 25-26, tables 5-1, 5-2) based on data from the Economic Planning Agency and Ministry of Finance of Japan.

There were also other, more implicit, channels through which the government utilised public resources for capital accumulation and industrial expansion. Even though they are not strictly public investments, the government's financing of strategic private investments at favourable terms through state banks, can also be regarded as an indirect fiscal mechanism for building capital (Di John, 2016). In that regard, the Japan Development Bank played a crucial

role in the long-term financing of industrial expansion. The close-knit connection between the state and private enterprise, which allowed for the long-term and low-cost financing of key industries, was often explicit; in the 1960s and the 70s, most retired bureaucrats were employed in private companies, especially in steel, transportation, and banking (through what is called *amakudari*, literally meaning "descent from heaven") (Usui & Colignon, 1995).

According to Amsden (1997), *the fiscalisation of finance* was in fact a crucial aspect of industrial policy in all East-Asian growth miracles. Amsden argues that fiscal policies in Japan and Korea were "falsely" identified as conservative, but these governments actually deployed off-budget resources, such as private deposits in state banks, pension funds, or state-contracted foreign loans, to finance industrial expansion in their fast-growth years (p. 470)**.** FILP in Japan is a good example of Amsden's argument. Similarly, preferential credit through state banks in Korea supported the emergence of heavy industries under *the Heavy and Chemical Industrialisation programme*, which was launched in 1972 and promoted shipbuilding, automotive, and machinery industries. Many of the currently global companies of Korea, including Samsung and Hyundai, have come into prominence under this programme. So, government subsidies and preferential fiscal financing of strategic sectors that are otherwise unfinanced by private financial institutions, was important in both Japan and Korea.

7.4.c China

Lastly, in China, it goes without saying that SOEs are the backbone of the economy. It has been more than forty years since China embarked on its market-oriented reform programme under Deng Xiaoping, which generated staggering growth and transformed the country into a manufacturing powerhouse. In the process, China has gradually privatised thousands of SOEs and opened space to domestic and foreign private firms, which meant that the share of SOEs in assets, profits, and employment has dramatically declined. However, this did not mean that SOEs' importance declined to the same extent. On the contrary, the largest and the most important Chinese firms remain to be SOEs (figure 7-5, table 7-5). As of 2020, of 124 Chinese firms listed among the largest 500 Global companies by Fortune, 91 (73%) are controlled by the state, with Sinopec Group, China National Petroleum, and State Grid ranking in the top five (Kennedy, 2020). In comparison, when the list was first released in 1990, there were no (private or public) Chinese firms in the top 500. The share of Chinese SOEs among the largest 500 global companies has risen from 3% in 2005 to 15% in 2014, and 18% in 2020. So, Chinese SOEs are important not only for the Chinese economy but also for the global economy.

Figure 7-5: The Largest 124 Chinese Companies in Fortune 500 by Ownership, 2020
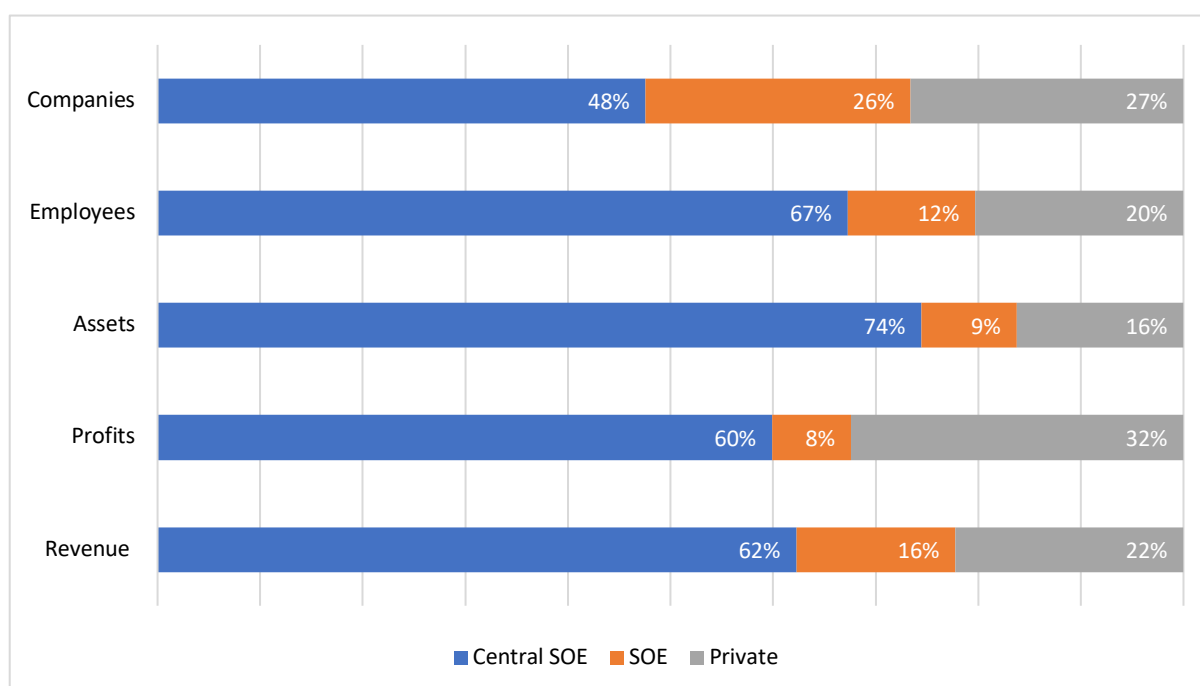
Source: Center for Strategic and International Studies (CSIS) Trustee Chair in Chinese Business and Economics (2020) based on data from Fortune Global 500.

Table 7-5: The Largest 91 Chinese SOEs in the Fortune 500 by Sector (%), 2020

Sector	Revenue	Profits	Assets	Employees
Energy	31.1	12.0	10.8	33.0
Engineering and Construction	10.9	3.3	3.6	9.1
Financials	21.2	64.8	70.0	17.1
Telecommunications	3.4	4.9	1.5	6.4
Motor Vehicles & Parts	3.0	1.7	1.0	3.5
Aerospace & Defence	6.5	3.1	1.2	3.8
Transportation	2.1	1.9	5.3	6.0
Materials	8.5	1.8	2.4	7.5
Wholesalers	5.9	2.5	1.6	2.2
Chemicals	4.2	3.1	1.4	7.5
Industrials	1.0	-0.4	0.4	0.8
Technology	1.7	1.5	0.5	2.4
Health Care	0.5	0.0	0.2	0.8
Total	100	100	100	100

Source: Center for Strategic and International Studies (CSIS) Trustee Chair in Chinese Business and Economics (2020) based on data from Fortune Global 500.

Of particular interest to this study, in the last forty years, China's reforms went through several stages, experimenting with different models of SOE involvement in the economy. Obviously, when the market reform started in 1978, SOEs were entirely dominating the

economy. In the next two decades, the government gave SOEs autonomy over their own management without changing the ownership structure while removing entry barriers for private firms. Between 1978 and 1994, while the number of SOEs increased only by 22.1%, from 83,700 to 102,200, the total number of industrial enterprises surged from 300,000 to 10.02 million, reducing the share of SOEs in total industrial output from 78% to 37.4% (Jefferson, 2018, p. 123). Consequently, the productivity of the Chinese economy rose markedly, causing fast growth, as SOEs were significantly outperformed by private firms. Between 1980 and 1991, SOEs, industrial collectives, and private enterprises recorded 7.8%, 18.6%, and 140.6% growths in annual output, respectively (Rawski, 1994, p. 272). Moreover, despite improvements, SOEs continued to make substantial losses. Fiscal and monetary subsidies to SOEs rose from only 1.4% of the GNP in 1980 to 10% in 1992; to put this into perspective, in 1996, the value added by SOEs were about 16% of the GDP (Huang, 1999, p. 113).

In 1992, the Chinese administration decided to move beyond managerial reforms and change the ownership structure of SOEs as well. Given that large SOEs were performing better, in 1995, the government adopted the perspective of "grasping the large, letting go of the small". Between 1995 and 2003, the number of SOEs declined from 118,000 to 34,000 (Song, 2015, p. 191), reducing their share in total output and employment from 52% and 60% to around 44% and 43%, respectively, around the same period. Consequently, productivity in both SOEs and private firms increased further, bringing SOEs closer to private firms in terms of returns on total assets and returns on equity. However, between 1998 and 2002, the share of loss-making SOEs was still 35-39%, almost four times that of private firms (figure 7-6).

With the establishment of the State-owned Assets Supervision and Administration Commission (SASAC) in 2003, the state embarked on a further wave of reforms, based on a new understanding which was first identified in 1999; only four groups of industries, high technology, non-renewable natural resources, public utilities and infrastructure services, and national security, were to retain SOE dominance (Broadman, 2002). In 2006, an even more detailed list of sectors was identified (see table 7-6). In line with the plan, between 2003 and 2012, the number of SOEs dropped from 34,280 to 17,851, while their average sizes in revenue and asset holdings significantly increased (figure 7-7). More importantly, SOEs' productivity considerably increased, surpassing that of the private sector firms between 1998 and 2007 (Brandt & Zhu, 2010). However, SOE performance was to drop again after the 2008 crisis because SOEs were used by the government as an instrument of crisis response (Song, 2018).

Figure 7-6: Share of Loss-Making Companies by Ownership, China, 1999–2017
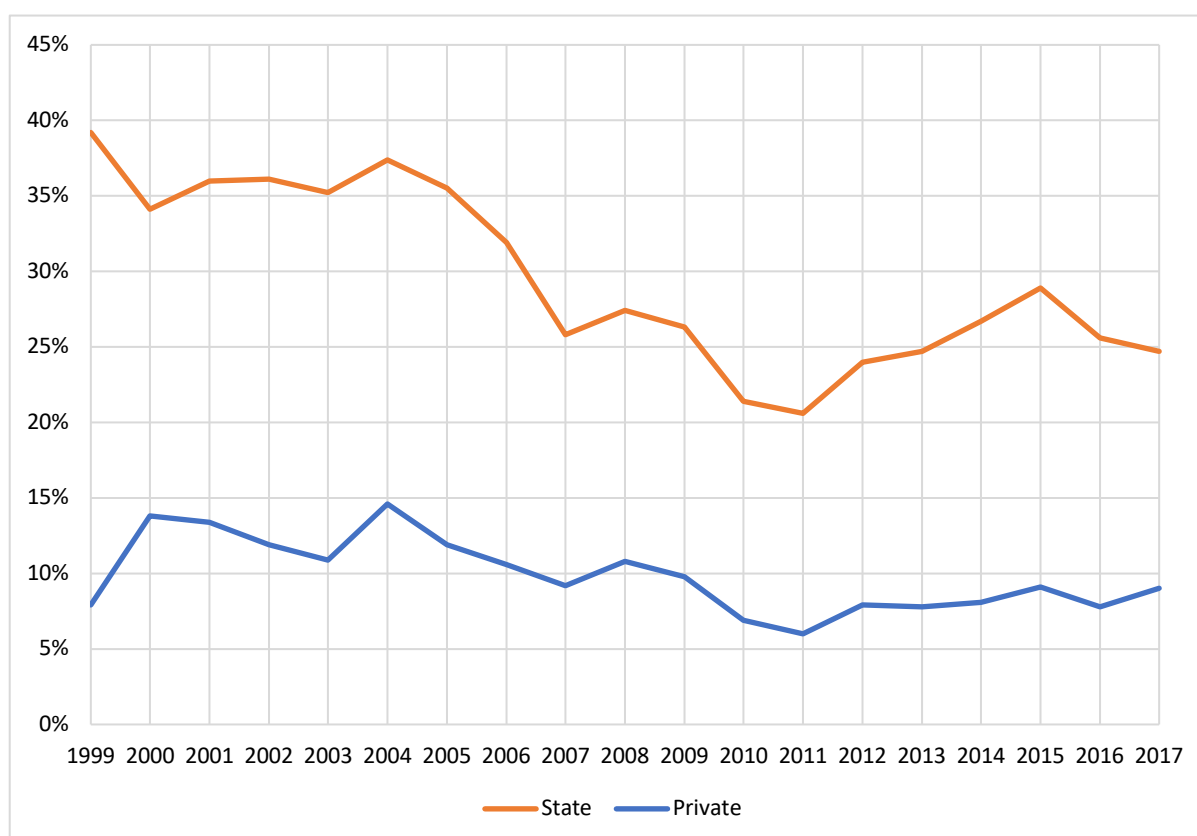
Source: Song (2018, p. 371, table A19.3) based on data from CEIC China Database.

Table 7-6: Targeted Sectors for State Ownership, China

Category	Sectors	Ownership
Strategic and key industries	Defence, power generation and distribution, oil and petrochemicals, telecommunication, coal, civil aviation, shipping	Maintaining 100 % state ownership or absolute control; increasing state-owned assets in these industries
Basic and pillar industries	Machinery, automobiles, IT, construction, steel, base metals, chemicals, land surveying, R&D	Enhancing the influence of state ownership even as the ownership share is reduced, where appropriate
Other Industries	Trading, investment, medicine, construction materials, agriculture, geological exploration	Maintaining necessary influence by controlling stakes in key companies; in non-key companies, state ownership will be reduced

Source: Mattlin (2007, p. 16, table 1); cited in Song (2018).

Figure 7-7: Number of Companies by Ownership, China, 1998–2017
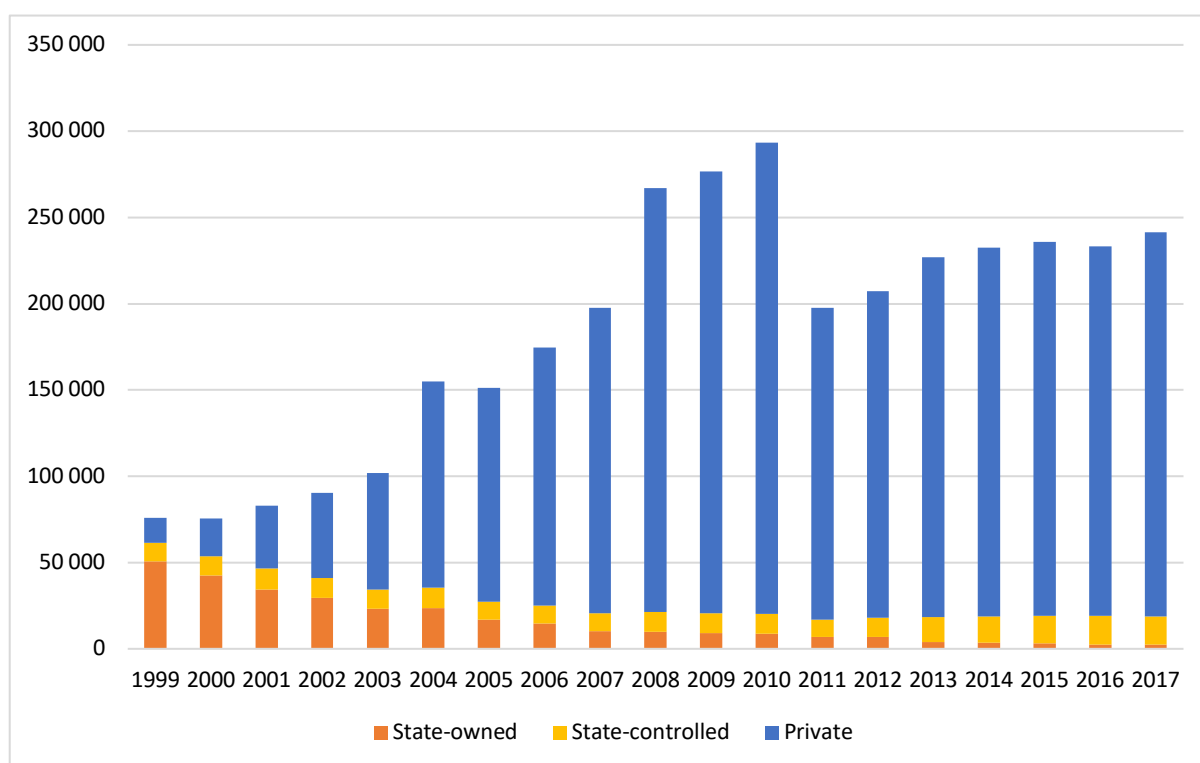
Source: Song (2018, p. 370, table A19.1) based on data from CEIC China Database.

Figure 7-8: Industrial Employment by Ownership (Thousand), China, 1998–2017
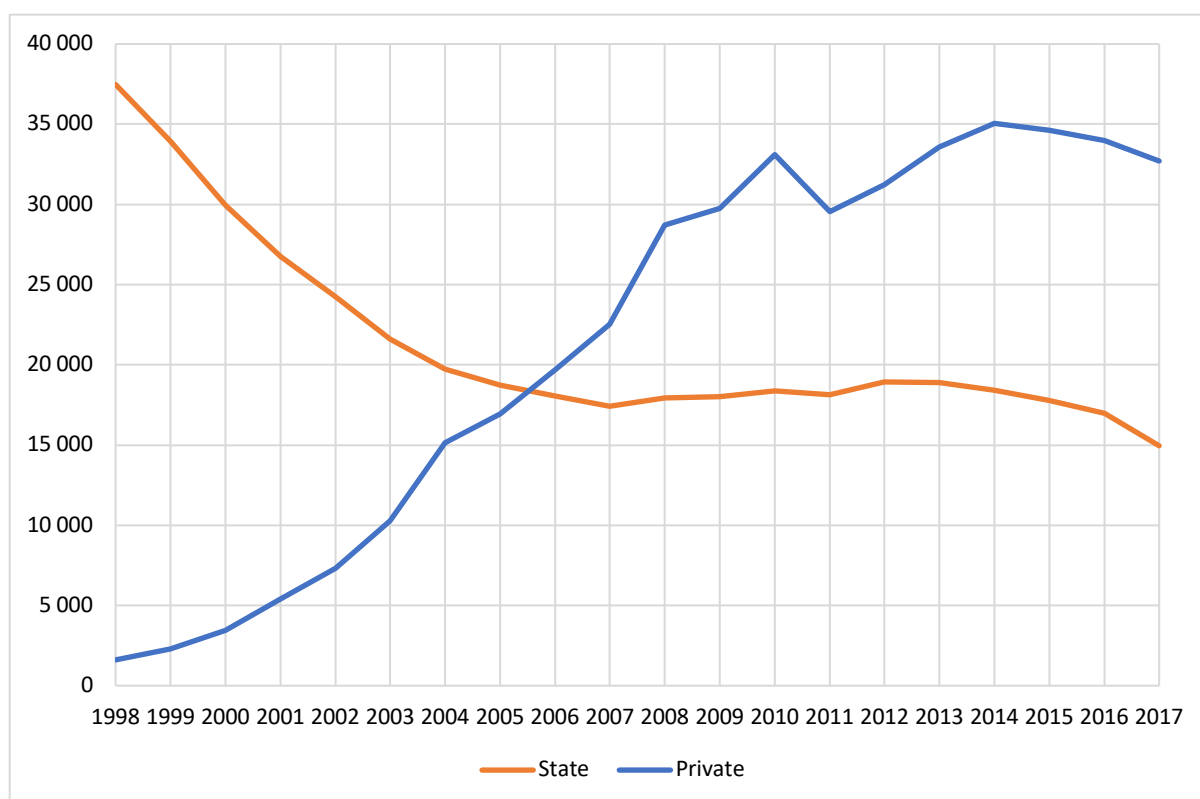
Source: Song (2018, pp. 370-371, table A19.2) based on data from CEIC China Database.

In a way, the Chinese case is illuminating of the fact that public investments' contribution to growth is not primarily about their size or share in the overall economy, but their function. In the case of China, the government retreated from straightforward central planning, which increased productivity dramatically by leaving major areas of the economy to much more efficient and productive private firms operating on a profit motive and under competitive pressure. However, SOEs continued to dominate the most strategic industries, which are important not for their profits but for their contribution to aggregate growth. Rawski (1994), for instance, notes that even in the first phase of reforms, between 1978 and 1992, when SOEs were making substantial losses, SOEs were a major source of technical equipment and know-how, management expertise, and subcontracting opportunities for private companies. A second lesson from the Chinese case is that along the development path, as the economy accumulates more capital and the private sector improves its capabilities, there is less need for the government in straightforward capital investments, so governments can and should leave more space to private firms.

All in all, government investments played a critical role in rapid industrialisation and technological upgrading in all these successful cases of transitioning to a higher stage of economic development in East Asia. Governments undertook key investments with the target of maximising long-term economic growth, which requires a view beyond firm-level profit maximisation. Investments in infrastructure and leading sectors, through SOEs, budgetary spending and public banks, created the momentum for further investments, where the private sector was initially weak and failed to realise these investments. In other words, these investments kick-started industrialisation and gradually crowded in private sector investments via the positive externalities they created across the economy.

7.5 Conclusion

In developing countries, there is a strong case for government involvement in capital accumulation and technological upgrading. In early stages of development, where the capitalist sector is weak, where capital accumulation is limited, and where sophisticated financial markets lack, investments with large scale economies or substantial positive externalities are often unrealised, even when they offer substantial profits in the long run and/or are of critical importance for growth take-offs. Then, public investments in such economies can fill in the critical sectoral gaps, provide functional substitutes for imperfect markets, build infrastructure, and thus create the necessary environment for the emergence and expansion of the private

sector. These results are valid even when public enterprises incur accounting losses, as they often do, because, when well-targeted, their unaccounted social benefits (i.e. externalities) far exceed their private benefits. However, they are not valid for investments that can be effectively carried out by the private sector and do not involve substantial social gains.

8 Public Spending and Long-term Growth in Developed Economies

8.1 Introduction

This chapter analyses the potential impact of public spending on economic growth in the context of developed economies. In particular, it discusses the role government spending can play in boosting effective demand to full employment levels and thus increasing growth rates in capital-rich mature economies. It argues that in developed economies, where investments demand is low compared to the savings capacity, high autonomous public spending is beneficial for growth in general, but public spending on consumption/services, rather than investments in physical capital, can be more growth-inducing because in such economies, the crowding-out impact of investments is more prominent whereas public services are mostly immune to this problem. The last section also analyses the potential role of increased government spending on productivity growth via its impact on effective demand.

8.2 From Investment Management to Demand Management

As already discussed, much of the discussion in the fiscal policy literature centres around the growth effects of temporary changes in government spending and the sustainability of associated debt-financing. Again, this is due in large part to a distorted version of the Keynesian theory - one that is understood as a short-term stabilisation mechanism that promotes deficit spending in exceptional times of turmoil and vice versa (Robinson, 1975). However, the demand-side approach, as originally formulated by Keynes (1936) and Kalecki (1933/1990), provides a more fundamental critique of and an alternative to the conventional approach to fiscal policy. According to this understanding, the need for robust government spending is not transitory or peculiar to exceptional crises situations; on the contrary, in advanced industrial economies, government spending is necessary at all times to maintain a full-employment equilibrium and fully realise the growth potential of the economy.

The premise of the Keynesian approach is that contrary to the standard business cycle models, where economies oscillate around a full-employment equilibrium, a free-market economy does not automatically revert back to full-employment conditions after transitory ups and downs in output; instead, advanced industrial economies have a general deflationary tendency and, absent government intervention, would most usually stay in a state of anaemic

growth and persistent unemployment. As already discussed in Part I, Hansen (1939) calls this continuous state of a growth slump a secular stagnation with "sick recoveries which die in their infancy and depressions which feed on themselves and leave a hard and seemingly immovable core of unemployment" (p. 4). The solution is a big government, which uses its fiscal powers to compensate for deficient demand, which would in turn stimulate productive investments by the private sector. This does not necessarily mean deficit spending, as public revenue and public spending can balance at a high level, but, regardless of their position in terms of budgetary balance, minimalist governments are considered a recipe for depression in developed economies by the Keynesians (Brown-Collier & Collier, 1995).

Beginning from Summers (2013), a number of prominent economists have convincingly argued that developed economies are again suffering from secular stagnation at least since the 2008 global financial crisis (Krugman, 2014). According to Summers, the trend did not start with 2008 but goes much further back to the 1980s; except for short-lived periods of market euphoria, both Eurozone and Northern American economies are failing to revive growth. In fact, Japan has been visibly suffering from what seems very much like a secular stagnation for at least three decades. Investment rates remain stubbornly low, far below the full employment savings levels of these capital-rich economies. Neither standard monetary policy channels nor usual dynamism of competitive market economy seems to have managed to reverse this trend; interest rates are at record lows but there is no sign of growth recovering back to its potential levels, giving the benefit of the doubt for old Keynesian economics which claims that the problem lies in the demand-side of the economy.

According to Hansen (1939), the causes of demand deficiency are not short-term exogenous shocks but rather long-term structural factors that are typical of mature industrial economies. These factors are discussed in more detail in Part I and III. At this point, however, it is in place to underline that Hansen differentiates the conditions in developing and developed economies, with his policy proposal being relevant only to the latter. Hansen (1954) points to the fact that developed economies initially had very limited capital, alongside rapidly growing populations and technical progress, which meant that marginal return on capital was very high. At that early stage of capitalist development, almost all gross investments were net investments (i.e. created new capital), financed almost entirely by current savings. In such a society, according to Hansen, "the rate of growth of capital accumulation was limited, not by demand, but by the amount of current net saving that could be pumped out of the community" (p. 411).

However, Hansen (1954) notes, over 150 years beginning from the early 19th century, rich developed economies transformed from being "capital-poor" to being "capital-rich", while population growth and technical progress slowed (p. 411). As the qualities of a fast-growing developing country faded away and capital saturation had been achieved, the marginal return on capital declined and profitable investment opportunities became scarce. In such an economy, almost all investments are to renew depreciated capital and the demand for new (i.e. net) investments is low, compared to these economies' enormous capacity to raise funds for investment. Due to this mismatch between latent savings capacity and investment demand, developed economies struggle to "generate enough steam to provide its full potential of growth" (p. 412). The only way such an economy can continue to grow is under the pull of rising aggregate demand, which can and should critically be supported by public spending.

According to Keynes (1936), "securing an approximation to full employment" requires "a somewhat comprehensive socialisation of investments" (p. 378), which does not necessarily imply direct government control of investments but the power to influence the inducement to invest and the consumption patterns via public spending. According to Hansen (1954), that is exactly how developed economies of Western Europe and North America escaped secular stagnation of the 1930s and the early 40s in the post-war period; skyrocketing public spending pulled the economy out of the slump it was in:

> How inventive, productive and dynamic the American private enterprise economy can be, when operating under the pull of adequate aggregate demand, has been demonstrated in a remarkable laboratory experiment during the last fifteen years. But there are sound reasons, I believe, for the proposition that the economy cannot on its own generate enough steam to provide its full potential of growth. Unaided by the massive fiscal powers of the federal government, we may not be able to achieve, in the words of the Employment Act of I946, 'maximum production, employment and purchasing power'. (p. 412)

Given that war-time military spending cannot be maintained forever, the demand-side approach leads to more general policy advice: public spending should make up for deficient aggregate demand at all times so as to boost investments to full-employment levels in developed economies.

Importantly, public investments' role in economic growth from this perspective is quite different from the role discussed above in the context of developing countries. Government spending is important not for its direct contribution to building capital or raising the productivity of an economy, but for its power to drive aggregate demand, which in turn is

expected to incentivise private investments. Capacity for investments is simply assumed in the high savings rates and accumulated wealth of developed economies, which are not easy assumptions to make in developing countries. Keynes (1936) explicitly points out that his proposal relates to the "volume of investments" but not "what in particular is produced, in what proportions the factors of production will be combined to produce it, and how the value of the final product will be distributed between them" (pp. 378-379). Keynes further elaborates this argument with the following example:

> When 9,000,000 men are employed out of 10,000,000 willing and able to work, there is no evidence that the labour of these 9,000,000 men is misdirected. The complaint against the present system is not that these 9,000,000 men ought to be employed on different tasks, but that tasks should be available for the remaining 1,000,000 men. It is in determining the volume, not the direction, of actual employment that the existing system has broken down. (p. 379)

Therefore, a demand push created by the government is not expected to create a transformative effect in the supply side, for instance, by changing the sectoral composition or technological sophistication of the economy. There is no concern for positive externalities, returns to scale, or technological upgrading, or even for direct social benefits of public spending; military spending can be as good as welfare spending. This approach is in direct contrast with the conclusions of the discussion above, regarding the role of public investments in developing countries. There is a change of focus from investment management to demand management.

Again, this is not to say that the Keynesian approach does not have long-term inference. On the contrary, government interventions in the economy, in the form of a big government using its fiscal powers extensively, is not expected to be temporary or transitory but is understood as a permanent and constant guarantor of full employment of the factors of production. Long-term is understood as "a succession of short periods" (Dasgupta, 1954, p. 101), which admittedly moves the focus away from long-term productivity growth to short-term fluctuations in the output level or from the supply side to the demand side, which is another reason why it does not amount to a useful theoretical framework in developing countries. However, the government is expected to ensure adequate aggregate demand and that total output reaches full-employment levels in each and every period so as to maximise growth potential in the long term. The government undertakes the role of, not an emergency unit, but a dialysis unit. Again, this does not necessarily mean permanent deficit financing; the government, by using its power to spend, can increase the level of output and thus public revenue, using it to balance the budget at a higher level.

At this point, a puzzle arises. If a high level of public spending is indeed sufficient to avoid stagnation in developed economies, then given the very high levels of public spending currently prevailing in most developed economies, why do we still discuss secular stagnation? Indeed, the share of public spending in total GDP has risen almost monotonically in all of today's developed countries, beginning from the early 20th century, gaining a dramatic momentum especially after the 1950s, until stabilising around the 1980s (figure 8.1). While Keynesian fiscal policies seem to have worked very well in the 1950s and the 60s, creating what is now known as *the golden age of capitalism*, governments in developed countries are currently failing to boost growth rates despite their giant budgets, most of which are even larger than war-time budgets. Put differently, given that developed country governments are already realising a massive injection of public spending, one may ask how much more exactly is needed to increase aggregate demand to full-employment levels.

A careful investigation of the data provides an explanation. When disaggregated, most of the public spending in developed countries actually goes to social spending, such as unemployment assistance, social security payments, and other forms of transfers to the people in need. These categories of spending are obviously supporting aggregate demand, which may be critical for avoiding deeper recession, but they have little impact on the long-term growth, because they are only substituting for declining private demand, rather than supporting effective demand *autonomously* above its long-term average[37]. In other words, the majority of government spending simply reacts to recessionary tendencies, rather than injecting extra demand into the economy. In the US, for instance, although public spending has consistently risen since the 1960s and is currently very high, the autonomous part of the government spending, composed of public investments and consumptions, has actually been steadily declining since the early 1970s[38] (Cynamon & Fazzari, 2017, p. 21). It can be concluded, therefore, that the US government's transfer payments have replaced private spending, having no net effect on total aggregate demand. In a sense, the government is spending on relief for the unemployed, instead of creating employment for the same people.

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[37] At least in some countries, especially in Scandinavia, a part of social assistance funds is spent on the retraining and relocation of workers.

[38] Also, Rachel and Summers (2019) report that a major share of government spending is old-age health spending in recent decades.

Figure 8-1: Public Spending / GDP, 10 Year Averages, 1880-2010
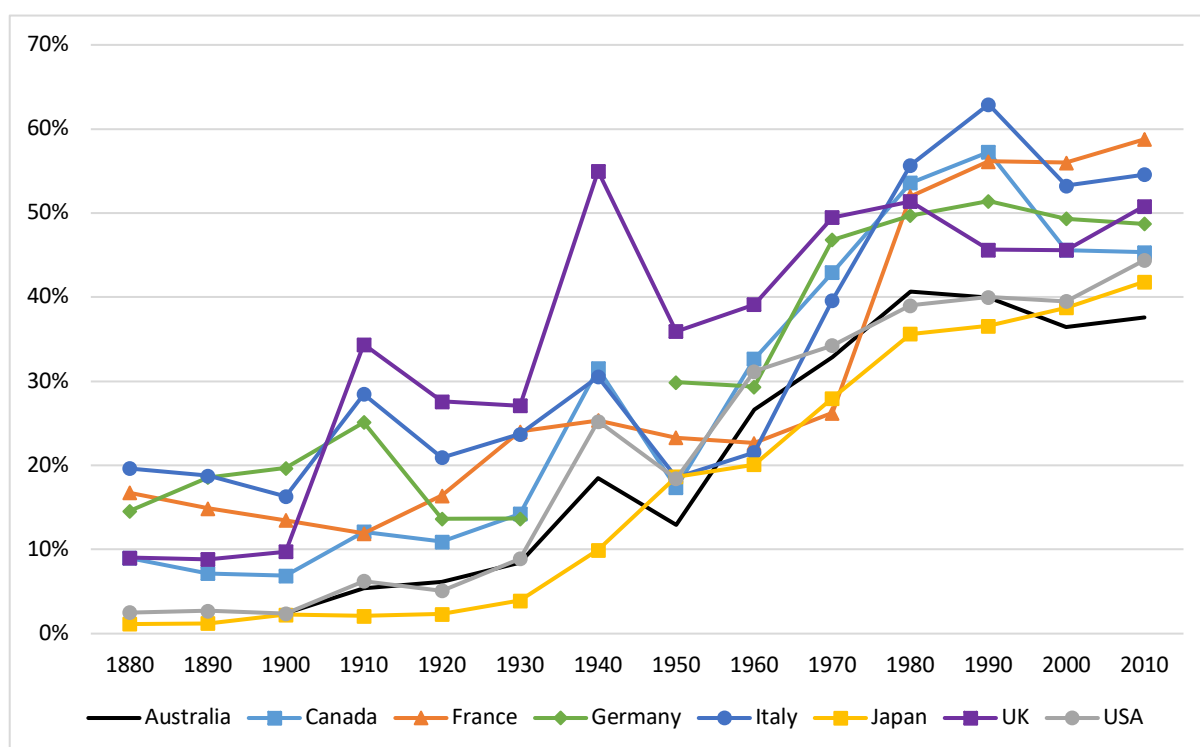
Source: Mauro et al. (2015); retrieved from IMF (2021).
Note: Data for 2010 is the average of 2010 and 2011.

Figure 8-2: Components of Government Spending (% of GDP), the US, 1956-2016
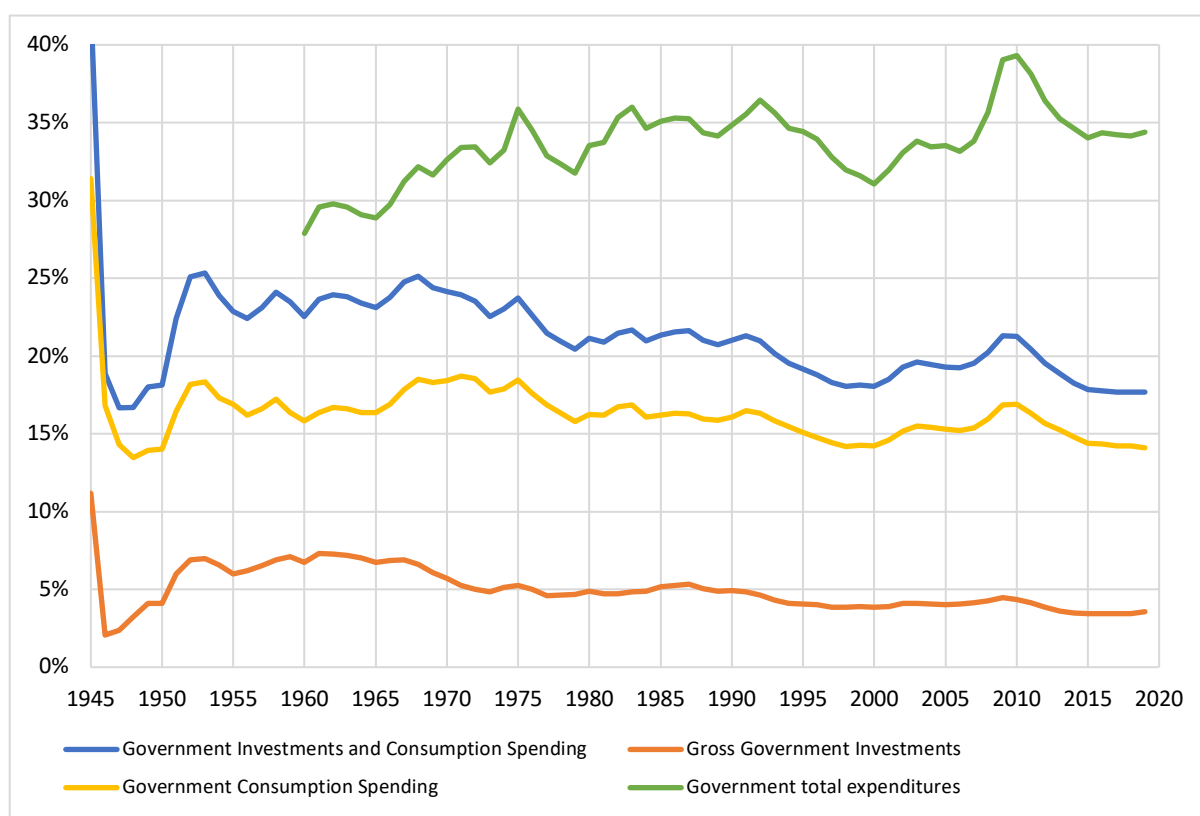
Source: US Bureau of Economic Analysis (2021); retrieved from FRED, Federal Reserve Bank of St. Louis.

8.3 Crowding-out and the Keynesian Case for Government Consumption

One caveat which concerns the validity of the Keynesian reasoning is the crowding-out effect discussed above. If the public sector crowds out the private sector, either by using limited available funds or by undertaking already limited profitable investment opportunities, then its effect on aggregate demand should be limited. However, under the current conditions of developed economies, which meet the assumptions of the Keynesian theory, crowding-out through the money market should not exist; In the presence of a *savings glut* and near-zero interest rates that are prevailing in most developed economies today, increasing demand via public spending cannot affect the cost of finance available to the private sector in any meaningful way until full employment of factors of production has been achieved (Summers, 2015). In advanced economies, the source of low economic performance is not the lack of resources but the underutilisation of capacity. That is, developed economies have vast amounts of accumulated capital and a high savings potential, so access to investible funds is not a limitation to their capacity to invest.

When it comes to crowding-out through the real market channel, the composition of public spending can be decisive. In the absence of substantial productivity effects, public investments that are aimed to increase the aggregate investment rate may fail if they crowd out private investments. In that regard, in developed economies, the scope of investments that governments can overtake without crowding out the private sector is more limited. When there is already a strong capitalist class, high capital stock, and sophisticated financial markets, profitable investment projects, even when they involve considerable scale economies or set-up costs, are easily financed and executed in the private sector. Market failures still exist, but they are limited in scope and less significant in effect, compared to the ones in developing countries. It is questionable, for instance, if many categories of capital investments, which lead to considerable knowledge spillovers or serve the function of filling in significant sectoral gaps in developing countries, would have the same effect in developed economies, where most sectors are already crowded.

This capital saturation in developed economies does not mean that the investment rate is too high or that there is no more need for productive capital in such economies. On the contrary, as is discussed, sustaining growth requires increasing the investment rate. However, when they do not create productivity improvements, investments amount to no more than sheer capital accumulation, which can indeed lead to little more than the replacement of private

investments in already crowded sectors, with no substantial change in the aggregate investment rate. That is why the composition of public spending should be more carefully considered in developed economies. In that regard, public investments in the creation or the maintenance of critical infrastructure or R&D can be expected to crowd in private sector investments; these will be discussed in Chapter 9 below under the category of productivity-improving investments. However, given the often-inefficient nature of SOEs, compared to private businesses, there seems to be no reason why a state may want to take over investments in sectors such as shipbuilding, steel, or automobile production[39] in developed economies although SOEs in these sectors played a positive role in early stages of economic development.

Apart from productivity-improving investments (e.g. infrastructure, R&D, etc.), there are other fields in which governments can boost aggregate demand and accelerate growth, without crowding out the private sector. More government spending on health and education, lower charges on government services, higher wages for public employees, subsidized housing for the poor, publicly funded retraining of workers, higher unemployment benefits and pensions can be listed. These categories of spending are usually generalised as government consumption because unlike public investments, they include the provision of goods and services for the current needs of a society[40]. In most studies, while public investments enter the production function of the society, public consumption is assumed to affect only the utility levels of individuals and leaves the productivity of firms unaffected (Barro, 1990). However, this is usually not accurate. While public investments create capital, public consumption/services can also provide other necessary inputs into private productive activities.

For instance, some public services, such as care for the elderly and children, are complementary to paid employment and hence enable a larger share of the population to join the labour force (IMF, 2015a; Turnovsky, 2000). Improvements in labour force participation are of great significance in developed countries with ageing populations (Cynamon & Fazzari, 2017). However, it is questionable whether they would create the same growth effect in

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[39] In these sectors, profitable investments are limited and quickly exhausted by the private sector when they emerge. For that regard, the sources of declining profits and investment rates in some of these sectors can more easily be found in trade and financial deregulation policies prevailing in developed countries since the beginning of neoliberal transformation in the 1980s.

[40] Some studies name them as current spending, as opposed to capital spending, which may be more explanatory (Ghosh & Gregoriou, 2008; Devarajan et al., 1996)

developing countries as in developed countries. As already discussed in Part I above, in a developing country, labour supply is most often not a binding constraint. In addition to straightforward unemployment, these countries usually have disguised unemployment, which means a sizable share of the labour force is employed in some very low productivity sectors, such as traditional agriculture, so they can be transferred to other sectors without incurring any opportunity cost. Under these conditions, policies that aim to increase labour force participation do not really have any effect on economic growth. It is only after the surplus labour is fully exhausted, as in developed economies, policies that increase labour supply can increase the growth rate.

Public spending on social protection in the form of unemployment benefits can also be critical for its efficiency effects, as it provides individuals with the opportunity to engage in economic activities which better match their abilities and aspirations, rather than having to take any job that comes along. These services and social assistance programmes provide, in labour economics' terms, better *matching* and *selection* in the labour market and thus increases labour productivity. Similarly, publicly funded retraining of workers in line with changing economic trends can improve matching and increase labour productivity (Mankiw, 1995). Matching can be of great significance considering the fact that skill mismatch is actually proposed by some as a contributing factor to declining growth in developed economies.

Most importantly, spending on education and healthcare, beyond their effect on aggregate demand, increases human capital and thus productivity on the supply side. Even though they are broadly categorised as consumption, spending on these services are in reality investments in human capital. The case for government spending on these services is strong. Given the fact that they involve substantial positive externalities, free markets normally underinvest in them as they do not account for positive externalities (Lucas, 1988). Even when these investments promise high private returns, people may fail to access these services (especially higher education) due to imperfections in the capital market. So, publicly provided education and healthcare are corrective of market failures and critical for improving human capital accumulation. Furthermore, Rachel and Summers (2019) also point out that the insurance character of critical public services, especially healthcare, reduces precautionary individual savings, thereby raising private demand as well.

Above all, any public spending programme that contributes to the progressive redistribution of income and wealth should increase effective demand. Fiscal redistribution will

be discussed in greater detail in Part III, but at this point, the Keynesian approach to income distribution illustrates very well how rising inequality is a major contributor to secular stagnation and that redistribution can in fact support investments and growth in developed economies. Hansen (1954), for instance, promotes "a balanced income distribution with as high wages as productivity can justify, and profits at a level moderate yet adequate for maintainable growth and expansion" (p. 414). In that regard, the rising gap between productivity growth and wage growth in many developed economies since the 1980s is well established. In particular, Hansen promotes higher minimum wages, higher pay for civil servants, better collective bargaining rights, higher agricultural prices, all of which clearly aims for redistributing profits to other classes. This does not conflict with the aim of increasing the investment rate; on the contrary, it is expected to raise aggregate demand because the marginal propensity to save is much lower towards the lower end of the income distribution.

Lastly, not all capital investments create a crowding-out effect even in developed countries. Some investments can create a demand push without crowding out private sector investments. One such potential area is infrastructure. Apart from its productivity-improving effect, which will be discussed below, many infrastructure investments are natural monopolies and do not crowd out other investments. In a recent study, Abiad et al. (2016), for instance, investigate the macroeconomic implications of public investments in infrastructure over 17 OECD countries between 1985 and 2013 and conclude that they actually crowd in private investments, reduce the unemployment rate, and increase growth both in the short and the long term. Moreover, they use a very Keynesian reasoning (even terminology) in explaining their results[41]. According to them, the reason for this strong positive effect of government spending is secular stagnation discussed above, which causes a substantial *economic slack* in developed economies, so government stimuli to demand helps to alleviate it. Furthermore, when debt-financed, spending push does not necessarily increase and may even reduce the public debt-GDP ratio, due to the more than proportional rise in the output level, provided that these investments are efficient.

It should be underlined again that the real concern for the demand-side approach is less the content than the size of aggregate demand. However, the composition of spending still

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[41] What is truly surprising is that Abiad et al. (2016) provides empirical evidence for the standard post-Keynesian policy suggestion, without referencing Keynes or any post-Keynesian researcher.

matters and its effect changes with changing macroeconomic conditions of an economy. According to Keynes (1943/1978), as capital stock gets larger and savings capacity starts to exceed the investment demand, the government should direct its spending towards less urgent but still useful investments, and later, when capital stock reaches very high levels, "more leisure" and "shorter hours" should come forward "to absorb some part of the unwanted surplus" (p. 323). So, in Keynes's understanding, the government chooses the composition of its spending on a spectrum with capital investments at one end and pure consumption at the other, and he suggests that the optimal composition changes in favour of the latter along the development path. Specifically, at later stages, when capital is abundant, Keynes points at investments with social nature, which can more accurately be described as public services, including investments by universities or local public authorities, etc. (Brown-Collier & Collier, 1995). Hansen also seems to have had a preference for public consumption over investments in 1954, for substituting declining military spending in the US. According to Hansen (1954), the Great Depression of 1929 "points to the dangers of stimulating the economy unduly in areas of investments and profits", and "it is much safer to buoy up consumption" (p. 414).

8.4   Demand-Driven Productivity Growth

There are reasons to believe that fiscal stimuli to aggregate demand can have a strong impact on the productivity of the economy as well. In standard economic models, productivity growth is a purely supply-side phenomenon and independent from aggregate demand; it comes from investments in R&D and innovations, that are either entirely exogenous, as in the exogenous growth models, or independent from demand but determined purely by supply-side decisions, as in the endogenous growth models. However, contrary to the conventional wisdom in mainstream macroeconomics, many studies have shown that productivity growth can actually be caused by high and increasing demand. If the key determinant of rising productivity is business investments, as in the endogenous growth models, and investments are in turn driven by rising demand, as in the (post-)Keynesian models, then the logical extension is that rising aggregate demand can drive productivity growth.

Following this reasoning, the effect of demand management on economic growth exceeds its short-term implications and the Keynesian theory becomes a truly long-term approach; increasing effective demand through government policies, including higher government spending, does not only increase actual output, thereby balancing savings and investments at a higher level of economic activity, but also improves potential output via

productivity growth. Then, a fiscal stimulus to aggregate demand has the power not only to eliminate temporary fluctuations in actual output, or even to raise actual output to potential output levels, but also to raise potential output and long-term economic growth. To underline, this is a significant deviation not only from the mainstream thinking in macroeconomics, where a demand stimulus is useful only for short-term stabilisation (Lucas, 2003) but also from the standard Keynesian thinking, where the influence of fiscal policy is bound by the given level of potential output, that is determined by the economy's pre-given productivity level.

In fact, a correlation between output growth and productivity growth has long been established. The mainstream interpretation of this observation is that the latter causes the former. However, according to the Dutch economist Petrus J. Verdoorn, in what is now known as *Verdoorn's Law*, the causal relationship between the two works in the opposite direction (Verdoorn, 1949/2002)[42]. According to Verdoorn, labour productivity rises with rising output, especially in manufacturing. Kaldor (1966) estimates this relationship in advanced economies between 1953 and 1963 and concludes that a 1% annual growth leads to a 0.5% rise in labour supply and thus a 0.5% rise in labour productivity, which points to significant scale effects. The implication is that an initial rise in aggregate demand can trigger a cumulative causation process, leading to self-reinforcing growth; rising demand drives output growth, which raises productivity. Then, rising productivity leads to higher wages and profits, initiating another round of demand-driven expansion and so on. The law is considered a critical component of the demand-side approach to economic growth (Myrdal, 1957; Kaldor, 1978; Thirlwall & Dixon, 1979)

There may be several mechanisms that explain this causal relationship between the level of output and productivity growth. It is possible, for instance, that rising aggregate demand and related bottlenecks in supply incentivise investments in new and better machinery, more efficient business models, or other productivity-increasing technologies and methods. According to this argument, in an effort to meet high and rising demand, companies look for ways to expand production and increase supply, but without the dynamism coming from rising aggregate demand and the corresponding effect on profitability, companies lose momentum in adopting innovations, capital deepening, and technical progress. In other words, in a static

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[42] Verdoorn's Law was made famous by Kaldor, who coined the term in 1966 in a lecture on the causes of the slow growth of the United Kingdom (Kaldor, 1966).

environment, productivity enhancements are limited (Storm & Naastepad, 2012). An alternative but similar explanation is that rising aggregate demand increases wages, which encourages companies to adopt labour-saving technologies (Dutt, 2006; Storm, 2017). Interestingly, Marx (1867/1990) points at the same effect in the 19th century; after new regulations on working hours in Britain, capitalists invested in new labour-saving machinery to compensate for the rise in labour costs[43].

Palley (1996) interprets endogenous growth models from a Keynesian perspective, where technical progress is ultimately driven by rising aggregate demand. In particular, investments do not only create capital stock but also drive technical progress, as in the endogenous growth models, by opening new avenues for innovations and facilitating the incorporation of already available innovations into production. Then, combined with the Keynesian assumption that demand drives investments (or supply), aggregate demand becomes the real source of technical progress and thus long-term economic growth. This reasoning amounts to an endogenous demand-driven growth path or what can be called "a reverse Say's law" (Summers, 2014, p. 71); namely, an autonomous demand push can generate the necessary stimulus for supply to adjust to the rising demand. Or, as Cynamon and Fazzari (2017) put it, "investment will take care of itself if the demand growth path accelerates" (p. 32).

Obviously, a demand stimulus cannot generate high levels of growth without a limit. In that regard, Fazzari et al. (2020) introduce a model of demand-led growth, where demand increases labour supply and labour productivity, but the potential output is ultimately limited by the available labour force and the extent of adoptable technologies. However, unless this upper bound is reached, demand growth can generate a wide range of long-term growth rates, so fiscal austerity can unnecessarily impose low growth on advanced economies. Similarly, Dutt (2006), criticising mainstream neoclassical models for their neglect of aggregate demand and Keynesian models for that of aggregate supply, propose a model where aggregate supply and demand interact to determine the long-term growth rate. Similarly to the argument mentioned above, he proposes shortage of labour as the cause of technical advancements; when

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[43] "This occurs in two ways: the speed of the machines is increased, and the same worker receives a greater quantity of machinery to supervise or operate. Improved construction of the machinery is necessary…" (p. 536).

an economy reaches full employment of labour, bottleneck forces companies to find ways of increasing labour productivity.

Considerable empirical evidence has been accumulated in the recent decade in favour of this way of thinking. Kataryniuk and Martínez-Martín (2018), for instance, investigate the determinants of total factor productivity (TFP) growth across 41 mostly advanced and some emerging economies and find a robust relationship between TFP growth and output gap, in support of the Verdoorn's Law. According to their study, especially in advanced economies, the output gap is the single most important factor affecting TFP growth, which in turn determines potential output. Girardi et al. (2018) attack the question of demand-led growth directly. They study 94 demand expansions in 34 OECD countries between 1960 and 2015 and find that a 5% rise in "autonomous demand", including primary public spending and exports, leads to a 3% higher GDP level 10 years later, compared to the counterfactual without a demand push. They conclude that the effects of demand stimulus, potentially via public expenditure, on capital stock, unemployment, labour force participation, and productivity are not restricted to the short run but persistent in the long term as well.

Just like a fiscal stimulus and the consequent demand expansion can lead to productivity growth, low demand can also suppress productivity growth. DeLong and Summers (2012), for instance, point out that, in recessions, the decline in investments may mean a permanent loss of business dynamism, causing a decline in long-term potential output. Workers' skills may decay, business networks may disappear, and accumulated know-how may be lost. Indeed, businesses are not built overnight; they require long learning periods to acquire the necessary sector-specific know-how and experience as well as to train their workers; so, when businesses fail, it leads to more than output loss for the overall economy. This understanding can be generalised to what is known as the *hysteresis effect* (Blanchard & Summers, 1986). That is, a collapse in aggregate demand may cause a persistent effect (a negative long-term legacy). For similar reasons, a fiscal stimulus can have persistent positive effects and improve long-term productivity growth even after the stimulus is removed; this effect may even be strong enough to compensate for the initial extra spending and thus limit the associated rise in debt. Fatás and Summers (2018) find empirical support for significant hysteresis effects of fiscal policy.

The reason why developed economies are struggling to revive productivity growth in recent decades can also be explained by persistently weak aggregate demand. If this is true,

implications of declining aggregate demand in advanced economies go beyond their effect on the volume of production. In this view, the source (as well as the consequence) of secular stagnation in advanced economies may be less the gap between the potential and the actual growth rates than the decline in the potential output itself. According to Storm (2019), for instance, the neoliberal transformation of developed economies in the 1980s is the real reason for low productivity growth in recent decades. With the bashing of organised labour and declining bargaining power of workers, wages have gradually declined, job security has deteriorated, and inequality has risen, suppressing aggregate demand. In turn, low aggregate demand and low wages reduced the incentive for technological advancements. Following this reasoning, demand management, via public spending, is critical for increasing productivity growth.

Cynamon and Fazzari (2017)'s findings show that increased public spending indeed failed to make up for declining private demand since the 1980s; when social transfers are discounted, autonomous public spending (investments and consumption) has in fact declined in this period. Low interest rates have supported a higher demand level to some extent but also fed into speculative bubbles in the financial markets and real estate. In any case, this was not enough to compensate for the decline in aggregate demand due to the saving glut and rising inequality (Summers, 2015). Furthermore, when the bubble burst with the 2008 crisis, the consequence was an even more dramatic collapse in aggregate demand, which led to an even further decline in productivity growth (Storm, 2019; Mian et al., 2020a). The direct relationship between deteriorating income distribution and declining aggregate demand will be discussed in greater detail in Part III below, but relevant to the discussion here is the fact that there is a causality between rising inequality, declining aggregate demand, and declining productivity growth, which defines the secular stagnation; so, fiscal demand management, especially of redistributive nature, is critical.

The above-mentioned studies have significant implications for fiscal policy. They suggest that public spending can and therefore should support productivity rise in order to boost long-term economic growth to its maximum. Furthermore, they show that a small gap between actual and potential output levels is consistent with the existence of secular stagnation and does not invalidate the effectiveness of demand-led growth. Low aggregate demand, especially over a long time, may very well be the cause of a productivity slowdown and hence low potential output, whereas high and rising aggregate demand can lead to an increase in potential output

by creating a supply bottleneck and forcing companies to renew machinery, innovate, and adopt new methods. Therefore, demand management through public spending can be supportive of growth in developed economies not only because it raises actual output to its long-term potential but also because it improves potential output by raising productivity.

It should be remembered, however, that these conclusions are embedded in the developed economy conditions. As Palley (1996) and Dutt (2006) explicitly point out, these studies assume that the economy can produce capital goods almost with no limit and it is ultimately bound only by available labour supply, which is the exact opposite of what a developing country is like. Developing countries are, by definition, incapable of producing capital goods and have limited access to them. In other words, in a developed country, unemployment rates can drop to near-zero levels, without any shortage of capital; however, in a developing economy, where capital is limited relative to the labour supply, *full employment* usually means full utilisation of available capital, not labour.

8.5 Conclusion

In a developed economy with a high capita-labour ratio, low population growth, and limited technical progress, the savings capacity often far exceeds the investment demand, causing deflationary tendencies. In such an environment, there is a case for high levels of autonomous government spending as a channel through which governments can maintain aggregate demand at full employment levels. However, in such capital-saturated economies, government investments, when they do not contribute to productivity growth, can crowd out private sector investments by squeezing demand and thus profits. In that regard, in developed countries, there is a case for an increased share of public spending on services/consumption rather than direct investments in sheer capital accumulation. Moreover, increased government spending and the demand push associated with it, can also accelerate productivity growth by forcing companies to innovate and renew capital in order to meet the increased demand and resolve the supply bottleneck.

9 Public Investments and Productivity at Different Stage of Economic Development

9.1 Introduction

This chapter discusses how public investments can contribute to economic growth via their effect on productivity growth. Specifically, it analyses how public investments in research and development (R&D), human capital (education and training), and infrastructure may affect productivity growth and how this effect may change at different stages of economic development. It concludes that investments in R&D and higher education can indeed lead to substantial productivity enhancement in developed economies, which operate at the frontier of technological advancements, whereas in developing countries, imitation of proper technologies and transfer of knowledge from developed economies is more fiscally sustainable and growth-inducing. Infrastructure investments are claimed to support productivity at all stages of economic development.

9.2 Imitation versus Innovation

Not all productivity growth can be associated with improvements in capital accumulation. There is a firm belief, for instance, in the positive growth effects of education in the development literature because education improves the human capital of a society, which has been identified as a determinant of productivity (Schultz, 1963; Becker, 1964). Similarly, R&D investments, which support scientific advancements and technological progress, can lead to productivity improvements to the extent they are applied to production. Positive externalities of these activities or capital market imperfections imply that individuals and organisations may underinvest in them (Romer, 1986; Lucas, 1988). Therefore, there is a case for government spending on these investments for correcting market failures and enhancing long-run economic growth.

Lucas (1988), for instance, argues that increasing physical and human capital together leads to perpetual growth. In this model, when combined with human capital accumulation, capital investments can be assumed to have non-diminishing returns to scale. However, this is true only at the aggregate scale, due to positive externalities of human capital accumulation, but not at the micro level; that is, investments in human capital have diminishing returns for the individual or the firm but not to the society, which presents a case for public intervention

in favour of human capital accumulation (Gerson, 1998; Fisher & Keuschnigg, 2002). In particular, Lucas (1988) considers both schooling and on-the-job training as potential ways of accumulating human capital and thus increasing growth rates. Furthermore, because on-the-job training goes together with capital investments in sophisticated industries, governments can increase the steady-state growth rate simply by investing in these sectors.

The same logic can also be extended to public investments in R&D, which improves the productivity of an economy via scientific and technological progress (Romer, 1990; Aghion & Howitt, 1992). While public investments in education or training accelerate human capital accumulation, investments in R&D help to create new knowledge, both of which can translate into more efficient ways of using existing resources. Furthermore, R&D investments directed at making improvements in a specific firm or sector diffuse to other sectors and bring about positive productivity effects in the overall economy. So, the reasons why governments should support human capital investments, such as non-diminishing returns and positive externalities, are also valid for R&D investments. And direct public investments in or subsidies for R&D are considered as ways of enhancing economic growth.

While they both contribute to productivity growth, the distinction between human capital investments and R&D can still be very important. Mankiw (1995), for instance, questions the argument that human capital has non-diminishing returns in the long run. According to Mankiw, while scientific and technical knowledge can be accumulated indefinitely without diminishing returns, the accumulation of human capital is limited simply by individuals' capacity to acquire information via education or training. In other words, while human capital investments may be decisive for the rate of growth in the short term, they cannot be a source of perpetual growth, because there are limits to learning, such as the life span or the learning capacity of individuals. Assuming that population size is constant, a country can accumulate only so much human capital. Therefore, according to Mankiw, it is rather *knowledge* that is the real source of unlimited, perpetual growth, not human capital.

Relatedly, reflecting on East-Asian growth miracles, Krugman (1994) predicts that high growth records that have been accomplished in some of these economies in the post-war period through very high investment rates (on either physical or human capital) are ultimately not sustainable, as it was not in the Soviet economies before. According to Krugman, newly industrialising economies that already have high investment rates in physical capital and well-educated or -trained populations, have to invest in "technological advances" if they want to

maintain their high-growth trajectory (p. 68). Krugman makes a clear distinction between productivity improvements that come with (physical or human) capital accumulation and the ones that are not embodied in them, and claims that increases in productivity "in the long run are primarily due to increases in knowledge" (p. 66). It can be said, however, that Krugman underestimates the possibility of switching from a strong emphasis on factor accumulation to knowledge accumulation through deliberate government planning when the former does not offer much anymore[44] (Acemoglu et al., 2006).

In fact, Lucas (1988) also explicitly makes the point that knowledge should be defined differently than human capital, but he points at the fact that, when it is not transferred into people, knowledge should have little relevance for economic growth:

> I think when we talk in this way about differences in 'technology' across countries we are not talking about 'knowledge' in general, but about the knowledge of particular people, or perhaps particular subcultures of people. If so, then while it is not exactly wrong to describe these differences by an exogenous, exponential term like A(t) neither is it useful to do so. We want a formalism that leads us to think about individual decisions to acquire knowledge, and about the consequences of these decisions for productivity. The body of theory that does this is called the theory of 'human capital'…. (p.13)

So, following Uzawa (1968), Lucas (1988) replaces technological knowledge with human capital as the main source of perpetual growth. Indeed, many economic models often naively assume that technological and scientific knowledge is readily transferable to human capital or applicable to production on the ground. However, substantial cross-country differences in manufacturing productivity prove this assumption to be simplistic. Universal knowledge has little meaning when they are not transferred to humans through education and training. It should be noted that Lucas's use of the term human capital, at least implicitly, includes knowledge acquired by firms or other organisations as well. Indeed, organisational knowledge, which includes business routines, managerial practices, and other forms of tacit productive knowledge, can be equally important as individual-level knowledge (Amsden, 1997; Andreoni & Chang 2016). Most of these *productive capabilities* are often acquired through experience or learning-by-doing, which requires investments in sophisticated industries to begin with.

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[44] Some of the economies Krugman takes issue with, including Korea, Taiwan, and more recently China, have gradually increased the levels of public investments on R&D and became some of the most innovative economies.

In short, scientific and technological knowledge is not embodied in either humans or organisations (firms) and has no boundaries (available to everyone around the world) while human capital or organisational knowledge is embodied in humans and organisations, and country-, even sector- and firm-specific. Following this logic, R&D can be thought of as the production of *knowledge* as an abstract and general variable while education, training, or learning-by-doing is the transformation of such knowledge into human capital or organisational knowledge embedded in individuals and firms. Reflecting on this distinction, Mankiw (1995), on the one hand, argues that human capital cannot lead to perpetual growth, because it is bounded by population size and physical capabilities of humans; it is rather knowledge capital that has no limits and is accumulable without diminishing returns. Lucas (1988), on the other hand, argues that knowledge capital has little meaning if it is not accumulated in "particular people, or perhaps particular subcultures of people", which is why we should focus on human capital and organisational knowledge to explain cross-country differences in growth rates.

It is plausible to argue that Mankiw (1995) and Lucas (1988) are both right depending on the context. There is a universal technological frontier that expands through innovations or scientific advancements; countries that operate on this technological frontier, at least in specific sectors, should indeed benefit from its expansion. It is not difficult to see that such countries are, by definition, overwhelmingly developed countries. One can think of a vast number of sectors, especially knowledge- and technology-based sophisticated ones, including pharmaceuticals, electronics, automotive, software, or AI, where almost all the leading companies are located in developed countries. Developing countries, however, are typically far from the global technological frontier; in the most R&D-intensive sectors, they are usually only consumers, so discoveries and advancements in such sectors contribute close to nothing to these economies' productive capabilities. Therefore, it is plausible to argue that productivity growth in developing countries comes from not the improvements in universal knowledge but rather copying and transfer of appropriate technologies and knowledge from developed countries to individuals and firms in developing countries.

This distinction between the expansion of the global technological frontier and a country moving towards that frontier has clear fiscal policy implications. If technological upgrading in developing countries indeed occurs through the acquisition (rather than the universal expansion) of knowledge that is already available in developed countries, then investing in expensive R&D efforts may be neither necessary nor efficient for the governments

in developing economies. The creation of new knowledge usually requires substantial investments in training scientists and engineers, building sophisticated facilities such as laboratories, and expensive R&D experiments, and these governments do not have the resources (financial and human) for such endeavours. Policy efforts in these economies should instead focus on the transfer of knowledge from developed countries. Developed countries, however, are capable of and benefit from scientific and technological advancements, and therefore, it is of social benefit that governments in these countries invest in or subsidise R&D. In short, depending on a country's distance to the technological frontier, different policies may be more reasonable.

To be precise, this does not mean that innovations that come out of developing countries do not contribute to growth in these countries at all. However, the benefits of such innovations are in most cases limited because they have little application and thus do not lead to technological upgrading or improvements in productive capabilities in developing countries. Transferring knowledge and technologies to developing countries is not easy or automatic either. On the contrary, the leap towards the technological frontier can also be very costly and require long learning processes. However, comparing the costs and benefits of R&D investments and innovations versus the acquisition of technologies through learning, in developing countries, there is arguably a strong case for the latter, which is why education and learning-by-doing are more important.

This interpretation can also be found in old development economics, most explicitly in Gerschenkron (1952). According to Gerschenkron, the fact that *economically backward* countries are far from the technological frontier actually poses an advantage. Developing countries can spur economic growth by closing the gap of knowledge with the technological frontier, which requires imitation and transfer of already available knowledge from developed countries. Moreover, Gerschenkron (1952) claims, a country's gain from moving towards the frontier is proportional to its distance to the frontier; put simply, the further away a country is from the technological frontier, the more it gains from leaping the gap, because it can take longer steps towards the frontier with less cost in incorporating ideas, and this is the *advantage of backwardness.* As already said, taking longer steps towards the frontier is neither automatic nor easy, but requires encouragement and support from the government. As Gerschenkron (1952) argued, public investments are a critical element of the process.

More recently, following Gerschenkron's reasoning, Acemoglu et al. (2006) also argued that investments in innovation bring about productivity gains in countries that are closer to the world technological frontier whereas adoption of already existing technologies is more growth-inducing in countries that are far from the technological frontier. They suggest that governments in developing countries should follow an *investment-based strategy,* with investment subsidies and limits on competition while also focusing their efforts on adopting technologies rather than trying to achieve technological innovation. However, they also underline the need for switching to an *innovation-based strategy* and promote R&D as the economy approaches the technological frontier because otherwise, the economy is stuck in what they call a *non-convergence trap.* This approach contrasts with previous studies that relate productivity growth primarily, even entirely, to innovations that are disembodied from capital accumulation (Romer, 1990; Aghion & Howitt, 1992) but closer to others that see complementarity between the two (Howitt & Aghion, 1998).

Similarly, analysing post-war late-industrialisation episode of East Asian economies, Amsden (1997) makes a general argument about the differences between an economy that is at the global technological frontier and one that is trying to catch up:

> The general properties of an industrialization based on the generation of new products and processes -the hallmark of the North Atlantic countries- are fundamentally different from those of an industrialization based on "pure learning" (borrowing technology that has already been commercialized by foreign firms). (p. 469)

According to Amsden (1997), the problem in developing countries is not innovation, but imitation of up-to-date technologies, acquisition of firm-specific knowledge, and narrowing of the skill gap with developed countries. Chang (1993) also notes that setting up industries in developing countries is "a 'new thing' for the nation" but does not usually involve "doing anything 'new' from a global point of view" (p. 145).

To sum up, while R&D investments can improve growth in countries that are already on the frontier of technological change, it may not lead to economic growth in countries where production does not closely follow universal advancement in science and technology. To put it more simply, if production processes on the ground and people employed in these processes do not apply the latest knowledge and technology available, new knowledge do not make any real contribution to growth. It is rather the acquisition of already available knowledge or techniques (from the global point of view) through training and learning-by-doing which makes

a country's workers and firms more productive. This, I believe, has significant policy implications for public investments in education and R&D.

9.3   Different Categories of Human Capital

Country heterogeneity matters for decisions between different types of human capital investments as well. Just as the creation and the acquisition of knowledge are not homogenous processes, human capital investments do not have a single homogenous form either. It should be realised, for instance, that investments in education do not always perfectly translate into improvements in economic performance, as it is proven in cases like Soviet bloc countries, Sri Lanka, or more recently India. There are different forms (training versus schooling, vocational versus general) and levels of education (primary, secondary, tertiary). Accordingly, how governments can support growth via investments in human capital need to be carefully discussed rather than just assuming that investments in more education will increase growth.

Prichett (2006), for instance, provides an analysis of the growth effects of schooling in developing countries. According to Prichett (2006), a simple look at the data shows that a raw measure of education (e.g. years of schooling, enrolment ratio etc.) have very little explanatory power for cross-country differences in growth rates. He notes that, in the 19th century, today's developed countries had very little investment in education; enrolment rates in secondary schooling were much below the ones in today's developing countries. Schooling rates have increased dramatically over the course of the 20th century, especially in the second half of it, reducing the gap between developed and developing countries to the most extent. However, the divergence in the growth rates is still a fact. Therefore, Pritchett concludes, when it is defined and measured broadly, the contribution of schooling to growth is either very low or insignificant especially in developing countries.

Pritchett (2006) further concludes that there is not much of a case for positive externalities of schooling either. Macro-level return on schooling capital of a country does not significantly exceed the addition of individual-level return on schooling for the average worker. According to Pritchett, when the effect of physical capital is accounted for in the empirical analysis, the contribution of schooling to macro-level output drops even further, eliminating any positive externality there is altogether. According to Pritchett, the decisive role of physical capital can be shown by the simple observation that, when a worker migrates from a developing country to a developed one with more capital stock, his wage rises substantially without any

change in his human capital. In short, most of the wage differential between countries can be explained by available physical capital.

In line with Pritchett's findings, Rodrik (2004) argues that improvements in the schooling infrastructure (more schools, teachers, textbooks etc.) do not translate into better human capital or a higher productivity, because there is no demand for schooling on citizens' part. According to Rodrik, one should look at both the supply and demand sides of the human capital market; specifically, a government may increase the supply of schooling, but, if there is no demand for schooling, usually because the return on education is low, then there will be no improvement in the dynamism and the productivity of the economy. In this regard, one can think of many developing countries, where there is no use for a secondary or high school diploma because most of the population work in agriculture or informal services anyway. Related to the previous section, Rodrik (2004) also notes that the same logic applies to technological and scientific innovations as well that, unless there is demand by the private sector, they will not lead to productivity growth. In other words, unless they are incorporated by companies into the production processes on the ground, innovations and technological advancements have little meaning for economic growth.

Amsden (2010) takes a step further and applies the supply-demand analysis to the labour market as well. According to Amsden, even if governments or non-governmental organisations can successfully improve the level of education or more generally human capital, unless there is demand for labour with more human capital, this leads to very little success in creating income growth and poverty reduction in developing countries. Amsden calls this *the Kerala Effect* after the Indian state, which has remarkable achievements in healthcare and universal schooling but a relatively backward industrial basis and low income per capita (Ramachandran, 1996). According to Amsden (2010), governments often fall to the fallacy of Say's law with education – that is, the view that supply creates its own demand. However, Amsden (2010) notes:

> In the presence of high unemployment at all levels, improving the capabilities of job seekers (making them better fed and housed and educated) will only lead to more unemployment and not to more paid employment or self-employment above the subsistence level. (p. 57)

In other words, labour markets in developing countries are constrained on the demand side, not the supply side, meaning that people cannot find jobs not because they lack the skills for employment but because there are no jobs. A natural extension of this way of thinking is that

when faced with the choice between investing in physical capital versus human capital, governments in developing countries should be inclined to invest more in the former. Also, when combined with Rodrik (2004)'s thinking, Amsden's argument suggests that capital investments in employment-generating industries should also improve schooling by increasing the return on and thus the demand for it.

It should be noted that Amsden (2010)'s reasoning connects to Lewis (1954)'s understanding and the classical model discussed above. In developing countries, where labour is abundant compared to available physical capital, improving the capabilities of the labour force (which, in the neoclassical theory, could be expressed as increasing the number of *effective workers*) does not amount to much. In such a scenario, capital would be utilised either by overqualified workers, who has qualities that are not required for and contribute nothing to the job they are doing, or by fewer workers of higher qualities, which would lead to nothing but a larger surplus labour that these countries already have too much of. As Amsden (2010) notes:

> With slow-growing demand for new job seekers, further investments in skills may simply force people to 'hire' themselves at starvation wages, as in many micro-enterprises. If more money is poured into tertiary education, graduates are likely to add to the educated unemployed or to migrate abroad. (p. 60)

Obviously, this is an exaggeration; having more electronic engineers can create more jobs as some of them will turn into successful entrepreneurs. However, in an agricultural economy that is in pre-modern stagnation or one with limited modern industries, gains from high-level education is limited. These economies are not constrained by the lack of labour force but capital to employ it.

To be precise, this does not mean that developing countries should neglect investments in education. However, having very limited fiscal space, governments in developing countries have to weigh the costs and the benefits of different categories of public investments[45]. The emphasis that is put on high-level, academic education by the recent growth literature should be questioned in developing countries. Most developing countries do not need a big push for

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[45] Lee and Kim (2009) show that technological innovations (measured by the number of patents per population) as well as tertiary education has pronounced effects on growth in developed countries, whereas primary and secondary education matters more for less developed countries.

higher education. In earlier stages of economic development, basic education of the society at large, and vocational or on-the-job training of workers, which goes hand in hand with capital investments, is relatively more growth-inducing than having a large group of highly educated managers and engineers. Until relatively later stages of development, the marginal contribution of a highly educated workforce to productivity growth quickly declines with the number of people with such qualifications, because there is usually no use for them.

9.4 Investments in Infrastructure

Governments can increase productivity by building infrastructure as well. Investments in infrastructure are typically categorised as investments in physical capital. However, infrastructure capital is different from typical capital (machinery and equipment) in the sense that, apart from producing final consumption goods for households, such as water, energy, and telecommunications, they also increase the productivity of private investments by providing roads, railroads, ports, airports, water and sewage treatment facilities, telecommunications, or generation and distribution of energy, all of which can be critical for getting businesses to grow. Especially when there are close complementarities between infrastructure and other investments, the delivery and maintenance of good-quality infrastructure can increase productivity and thus growth substantially[46].

In developing countries, where serious infrastructure gaps exist, the productivity effect of infrastructure investments can be dramatic (Gunasekera et al. 2008). IMF (2015a), for instance, reports that public investments in infrastructure have substantially raised the growth potential of the private sector in countries such as Poland and Malaysia. Firms in developing countries often struggle to access inputs from distant markets or incur high logistics costs trying to do so, due to the weaknesses of transportation or telecommunications networks. Guasch and Kogan (2001), for instance, argue that investments in roads, ports, and telecommunications significantly improve the competitiveness and productivity of the manufacturing sector in developing countries. Specifically, they show that poor infrastructure in developing countries makes just-in-time delivery impossible and thus forces manufacturing firms to hold higher than

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[46] As in the Barro (1990) model, although private investments in capital can have diminishing marginal returns, when private capital and public infrastructure capital grow together, there can be non-diminishing returns.

optimal levels of raw material inventories. According to them, given much higher capital costs (i.e. interest rates) in most developing countries, this situation "massively" increases the costs incurred by these firms, thereby reducing their competitiveness vis-à-vis their counterparts in developed countries.

In many parts of the world, lack of access to reliable public utilities hurt local industries. For instance, weak electricity networks, causing unstable voltage or frequent power outages, force companies to invest in costly palliative technologies, such as electricity generators, creating a disadvantage relative to competitors (Alby et al., 2010). Eifert et al. (2008) show that indirect input costs related to weak infrastructure account for a higher share of firms' costs in poor African countries, compared to those in other countries, which reduces the competitiveness of manufacturing industries in Africa considerably. Poor infrastructure can also prevent or slow down technological upgrading and structural transformation. For instance, when energy is unreliable, firms may be inclined to operate on a small scale, stay in the informal economy, or avoid investments in better technologies due to the energy-intensive nature of technologically more advanced machinery (Basbay et al., 2016). So, beyond creating productive capital directly, public investments in infrastructure can be thought of as an indirect way of boosting total capital formation by promoting private investments.

Productivity gains through infrastructure investments are not restricted to firms but can also be extended to households. Better infrastructure reduces the labour time required for household services, such as fetching water, cooking, cleaning etc.. In many places, frequent electric outages break home appliances. Also, since electricity is provided for only a few hours a day, electric-powered appliances cannot be used most of the time anyway, so most of the household services must be realised through human power. Moreover, better telecommunication and transportation infrastructure can be important for access to schools and health clinics or commuting to work, while clean drinking water and sewage can prevent disease, all of which influence labour productivity in developing counties (Briceño-Garmendia et al., 2004). Following the discussion above, it can be argued that the growth effects of newly released labour thanks to better infrastructure will not be substantial because surplus labour in these economies is already very high, but having workers who can attend regularly and who are not unreliable due to poor transport or having to tend to family health issues etc. adds to productivity regardless of the total amount of labour available.

It is known that the upgrading of infrastructure, especially railroads, historically went hand in hand with rapid industrialisation in many parts of the world, such as Western Europe, the US, or Japan. A recent case of the critical role played by infrastructure investments is China. China is the world's largest investor in infrastructure, having spent around 8.6% of its GDP on infrastructure investments (overwhelmingly transport and energy) between 1992 and 2013, far exceeding any other country or region (the same figure stands at 2.5% in Western Europe and Northern America) (Woetzel et al., 2016). This time frame coincides with China's phenomenal economic growth. The Chinese government continues to spend enormous budgets on roads, railways, and bridges in order to connect the country's industrial and financial hubs along the eastern coast with inland regions as well as the international markets in Eurasia and the Middle East as part of its Belt and Road Initiative. Although some studies question their micro-level efficiency, there is substantial evidence for the effect of infrastructure building on growth, poverty alleviation and regional development in China at the macro level (Zou et al., 2008; Hong et al., 2011).

Infrastructure investments can be an element of selective industrial policies as well. By providing the infrastructure facilities they need, governments can encourage specific sectors that have better prospects in terms of productivity growth over others that have depleted their growth potential. For instance, construction of container ports or terminals and a strong electricity grid by the government can change the resource allocation in a region and direct more investments to tradable manufacturing sectors in place of others, such as tourism. Similarly, the building of so-called technology parks or broadband high-speed internet can reflect government preference for IT and software (Andreoni & Chang, 2016). So, the strategic orientation of infrastructure spending can be a part of sectoral targeting with the ultimate aim of increasing productivity level and growth in a country (Page, 2012).

One common way of infrastructure targeting is the creation of industrial clusters. Geographical concentration of similar businesses, especially in sophisticated industries, is documented to create considerable cost advantages and productivity improvements for firms through sharing of some fixed costs, knowledge spillovers between firms, and easy access to the sector-specific labour market or information about customers and competitors etc. (United Nations Industrial Development Organization [UNIDO], 2009, ch. 3). It is also shown that concentration of diverse economic activities in specific cities and regions increases productivity via knowledge externalities and diversity of intermediate services (Krugman,

1991; Ciccone & Hall, 1996). However, without government incentives, industrial clusters may not emerge due to coordination failure; that is, firms cannot coordinate their decisions to move to a specific location. Government-built infrastructure, therefore, combined with other incentives, such as tax breaks and rent subsidies, can provide the necessary incentive for firms operating in targeted sectors to relocate and create industrial clusters. Sonobe and Otsuka (2006), for instance, documents how government efforts to concentrate strategic sectors in specific geographies contributed to productivity growth in East Asian success stories.

Quality of infrastructure can be critical for attracting foreign direct investments as well (World Bank, 1991). Especially when they involve so-called greenfield investments, rather than the acquisition of already installed production capacity, foreign direct investments can increase productivity levels in developing countries by bringing the latest technologies and sophisticated know-how. A government can encourage such investments by creating tailor-made infrastructure for foreign investors operating in strategic sectors with significant technological spillovers. In this regard, Singapore and Ireland represent good examples, where the governments, by creating tailor-made infrastructure, attracted the kind of high-tech investments these countries needed and wanted the most (Chang, 2011). Most recently, in a deliberate act, Singapore built its second airport to attract the aircraft maintenance industry. Consequently, companies, including major ones such as Rolls Royse, moved their critical departments to the country (Chang, 2019).

It is tenable to argue that infrastructure gaps are one of the major reasons for the investment gap in developing countries. That is, even though there is a cheap labour force, abundant natural resources, unexhausted scale economies, and thus a high profit potential, the investment rate (foreign and domestic) in many developing countries remain very low, which poses a paradox for standard growth models. The benchmark neoclassical growth model neglects the importance of underlying conditions, including the provision of infrastructure, as necessary complements to private sector investments. Arguably, infrastructure gaps provide one (but not the only) explanation for the so-called Lucas paradox discussed above and also reveal the limitations of the convergence theory, arguing that given their comparative advantages, developing countries should automatically catch up with developed economies through capital accumulation (Solow, 1956). Unless adequate infrastructure is in place, cheap labour and unexhausted markets may mean very little. This is why China, not Africa, is the manufacturing powerhouse of the world, although wages are now much higher in the former.

It is obvious that infrastructure gaps are larger and so infrastructure plays a more important role in developing countries, suggesting that their governments should play a stronger role in infrastructure provision. However, it is difficult to argue that infrastructure matters only for developing countries. In his seminal study, Aschauer (1989), for instance, investigates the causal effect of different categories of public expenditure on aggregate productivity in post-war America, where the annual growth rate of TFP in the private sector dropped from an average of 2% between 1950 and 1970 to 0.8% between 1971 and 1985. According to Aschauer, 80% of the productivity decline was due to the deterioration in the non-military public capital stock. He further claims that the stock of public capital, especially what he calls *core infrastructure*, including transportation (e.g. highways, airports, mass transit) as well as city infrastructure (e.g. sewers, water systems), is "dramatically" more important for productivity growth than the flow of public capital spending. Shirley and Winston (2004) confirm that the positive effect of transportation infrastructure on lowering inventory levels, discussed above, also exist in developed countries.

So, in developed economies too, private sector productivity depends very much on the infrastructure provided by the government. In their empirical investigation, Easterly and Rebelo (1993) also conclude that government investments in transport and communication had a positive impact on economic growth across both developing and developed economies between 1970 and 1988. It seems that one category of public spending on which there is a large consensus in the literature is infrastructure spending, which is interestingly also the only category of government activity that is growth-enhancing both in developing or developed economies. This observation agrees with the interpretation of the fiscal policy literature provided in the introductory section above; that is, the main reason for conflicting theoretical arguments and empirical results in the literature is the neglect of the fact that policies may have asymmetric, even reverse, growth effects at different stages of development. When a specific policy (i.e. infrastructure spending) has similar growth effects for both developing and developed countries, the literature is also largely in agreement.

9.5   Conclusion

In developing countries, investments in R&D and/or widespread higher education usually do not translate into significant productivity improvements. These economies' productive capacity is limited in scope and unsophisticated in nature, so they fail to absorb a large and highly educated workforce and the latest technologies or knowledge into their

production processes. Then, it is not reasonable for governments in developing countries to spend their limited resources on expensive R&D initiatives or widespread tertiary education. Instead, these countries benefit more from a more vigorous transfer of already available knowledge and technologies from developed countries, most of which comes with capital investments and learning-by-doing. In developed countries, where the economy operates on the global frontier of knowledge progress and where companies closely follow the cutting-edge technologies, however, the creation of new knowledge and innovations contribute to productivity directly. Therefore, in developed countries, there is a case for government spending on R&D investments and higher education for a large part of the society, as the benefits of these investments outweigh their costs. One category of public spending which effectively contributes to productivity and thus income growth both in developed and developing countries is infrastructure investment.

Part III. Redistribution

10 Equality and Efficiency: *The Big Trade-off?*

Redistribution refers to government policies designed to influence the distribution of income and wealth in a society. Fiscal policies are the most direct and commonly used means of redistribution. Typically, redistributive fiscal policy aims to reduce inequality and poverty, and takes the form of taxing the rich their income or wealth at a higher rate than the poor (i.e. progressive taxation) and spending on cash or in-kind transfers (e.g. education, health care), which benefits the poor more than the rich (i.e. social spending). Redistribution can also function as insurance against old age or adverse events such as unemployment or illness, which allows individuals to smooth their lifetime consumption better. Redistributive fiscal policies have other intended or unintended effects as well. Especially how redistribution affects economic growth is a contested issue and central to fiscal policy discussions.

Arthur Okun, in his famous 1975 book, *Equality and Efficiency: The Big Trade-off*, summarises the widely accepted idea that redistribution is a *leaky bucket*; some fraction of the money flowing through government always leaks out of the system and "any insistence on carving the pie into equal slices would shrink the size of the pie. That fact poses the trade-off between economic equality and economic efficiency" (Okun, 1975, p. 48). Okun's metaphor goes beyond a consideration for administrative costs of redistribution. At the root of the *trade-off* theory is the idea that redistribution takes resources from those who 'earned' them by labouring or by making profitable investments and gives it to those who did not. By doing so, so the argument goes, redistribution distorts incentives. For instance, progressive taxation may disincentivise income-generating activities of those who have their incomes taxed while social spending may disincentivise job search via unemployment benefits or saving for old age and adverse events such as sickness (Mirrlees, 1971). According to this line of thinking, because market incentives lead to an optimal allocation of resources from an efficiency standpoint (i.e. *efficient equilibrium*), any government intervention to alter the incentives dampens growth.

To this day, Okun's trade-off theory seems to have dominated the literature. To be clear, most economists, including Okun himself, do not oppose governments acting against inequality, but they argue that there is an efficiency cost associated with it. One way or another, Okun's trade-off theory has given an excuse to many economists to neglect the distribution of income and wealth in growth analysis. Lucas (2004) makes the case for this neglect:

> Of the tendencies that are harmful to sound economics, the most seductive, and in my opinion the most poisonous, is to focus on questions of distribution (...) The potential for improving the lives of poor people by finding different ways of distributing current production is nothing compared to the apparently limitless potential of increasing production (para. 40).

So, unlike Okun (1975), Lucas does not even leave room for a comparison of welfare gains from higher equality and more income growth or a balancing of the two by policymakers. According to him, compared to the huge gains that can be accomplished through growth, welfare gains due to redistribution is virtually non-existent. Interestingly, however, in the same article, he also notes the fact that as countries develop, annual growth rates typically decline to a mere 2-3%. Following Lucas's own logic, in mature economies, contrary to Lucas's conclusion in the quote above, redistribution, unless it is too aggressive, can bring about more welfare gains than growth.

There is some empirical support for Lucas's reasoning, at least, in the context of developing countries. Ravallion (2010) estimates that poor countries (with consumption per capita under $2,000 at 2005 purchasing power parity) need marginal tax rates of 100% or more to provide an absolute poverty-level of basic income ($1.25 a day) for all their citizens. So, in the earlier phases of development, when income levels are very low, redistribution does not seem to be a viable way to eliminate even extreme poverty because the existing income and wealth levels are not enough to provide a basic livelihood to the entire society even under perfect equality. In simpler terms, for the majority of the poor countries, it is not possible to overcome absolute poverty through redistribution, as it brings about nothing but equality in poverty and, not to mention, significant administrative costs. To eliminate poverty, these countries need growth.

In the Classical theory, contrary to the neoclassical approach, the distribution of income is of utmost importance for understanding economic growth. In the very first page of his *Principles of Political Economy and Taxation*, David Ricardo, for instance, makes the case that the analysis of income distribution is "the principal problem in Political Economy" (1817/2015, p. iii-iv). In fact, Ricardo's interest in taxation is simply an extension of his interest in income distribution, and the conclusions he arrives at regarding taxation are simply the logical consequence of his theoretical approach to the distribution of income (Shoup, 1960). This serious approach to income distribution is common to all Classical economists, to whom it was not solely an issue of equality or fairness but, on the contrary, a key determinant of economic

growth. The contrast between Lucas (2004) and Ricardo (1820/2005) in their approach to distribution is striking:

> Political Economy you think is an enquiry into the nature and causes of wealth—I think it should rather be called an enquiry into the laws which determine the division of the produce of industry amongst the classes who concur in its formation. No law can be laid down respecting quantity, but a tolerably correct one can be laid down respecting proportions. Every day I am more satisfied that the former enquiry is vain and delusive, and the latter only the true objects of the science. (Ricardo, 1820/2005, p. 278)

So, according to Ricardo, economists should primarily be concerned with income distribution, which Lucas claims to be a *harmful* and *poisonous* occupation. And, according to Lucas, economists should focus on the ways through which production grows with no consideration for distribution, which Ricardo considers as *in vain* and *delusive*.

More specifically, Classical economics is deeply embedded in the idea that there is a strong positive association between economic growth and income accruing to capitalists. In the Classical framework, capitalists are assumed to be the agents of industrial expansion because they save most of their income and invest in productive activities whereas the rest of the society (e.g. landowners and workers) spent their income unproductively, which is around subsistence levels for workers anyway (Smith, 1776/2007; Ricardo, 1817/2015). Furthermore, in an economy with imperfect capital markets, a concentration of income and wealth in the capitalist class renders capital intensive investments with high fixed costs possible that would otherwise be impossible to make. Therefore, if a government redistributes resources from rich capitalists to poor workers, the rate of savings and investment decline and big industrial investments do not materialise, which means less capital accumulation and thud less growth, according to the Classical model. This reasoning is often referred to as the *Classical approach* in the literature.

So, although the Classical and the neoclassical approaches are fundamentally different, they do agree that attempts to flatten the income distribution (at least when the landed aristocracy is left aside) would reduce economic growth. However, Classicals' concern is not the distortions in individual incentives due to alterations in the interpersonal distribution of income but rather changes in the functional distribution of income[47]. In the Classical

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[47] One exception to this may be J. S. Mill, who put forth an early version of incentives argument. Mill (1861/1967) consistently defended ex-ante rather than ex-post equality, which is, he believed, not only

framework, unlike the neoclassical theory, income distribution between classes has macroeconomic implications; it relates to growth through its effect on aggregate savings and investment rates. In other words, redistribution affects the rate of growth by changing not the ex-post rewards but the ex-ante distribution of income between different classes[48]. Given the socio-economic structure of the early industrial society in the 19th century, it is understandable that Classicals were not interested in interpersonal distribution as a separate issue. Arguably, this is still a reasonable convention for many developing countries today.

The arguments in favour of a positive relationship between redistribution and growth can also be categorised into two groups. First, there are neoclassical models which operate within the same theoretical framework as the above-mentioned models with incentive consideration. They are also concerned with interpersonal distribution and its effects on individual decision-making. However, these models take into account market failures, most importantly in the capital markets. Simply, redistribution can lead to higher economic growth by enabling poor individuals to make investments, when they are unable to borrow from the capital market (Galor & Zeira, 1993). This will be elaborated below, but simply, this result depends on whether resources are used more productively by the poor than the rich. This may also be expressed as a question of whether the rate of return on investments is higher when investments are relatively more dispersed, which is a reasonable assumption to make especially for investments in human capital (i.e. education), or more concentrated, which is a reasonable assumption to make for investments with high sunk costs (e.g. large manufacturing ventures).

Second, in Keynesian theory too, there is a positive relationship between redistribution and growth. In Keynesian understanding, rising effective demand is the main driver of investments and economic growth, and downward redistribution is an effective channel to boost effective demand because workers and/or low-income classes on average have a higher propensity to consume than capitalists and/or high-income earners (Keynes, 1936/1978). In Kalecki's words, "the workers spend what they get, and capitalists get what they spend"

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fairer but also superior in terms of promoting individual initiative and work. Nevertheless, in terms of the association between the profits' share and growth, he was a Classical to the core.

[48] Mill (1848/1909), for instance, famously claims that laws of production and distribution are independent in the sense that the laws of production are like physical laws whereas the laws of distribution are determined by human institutions (p. 199).

(Robinson, 1966, p. 341)[49]; that is to say, workers' share in national income almost one-to-one translates into consumption and thus effective demand, whereas capitalists' share supports effective demand only as much as it is spent on consumption or investments, which depends on business cycles and is unstable over time. Following this reasoning, there is not a trade-off between equality and efficiency as redistribution can improve both.

Keynesian approach to income distribution is formalised in the literature by post-Keynesian economists, such as Kaldor (1956) and Pasinetti (1962), which is why the positive relationship between rising inequality and the rising savings rate is usually referred to as the *Kaldorian Link*. In Kaldor (1956), similar to the Classical theory, workers are assumed to consume everything they earn (i.e. their propensity to save is zero) while all savings come from profits in the capitalist sector. In Pasinetti (1962), more realistically, workers also save and own a share of the capital stock, but their marginal propensity to save is assumed to be lower than the capitalists, which does change the policy implications of Kaldor (1956).

It should be noted that the idea that savings rate systematically differs (i.e. non-homothetic preferences) between classes or at different segments of the income distribution is common to both Classical and Keynesian approaches. This explains why both Classical and Keynesian economists are interested in the functional rather than interpersonal distribution of income. Kaldor (1956) notes that in both Classical and Keynesian approaches, the theory of distribution amounts to a macroeconomic model, which is why distribution is central to understanding economic growth, whereas for the neoclassical approach, this is not the case because distribution is simply an aspect of the pricing process[50]. Nevertheless, the two approaches arrive at opposite conclusions regarding the growth effect of redistribution, because in Classical theory, the savings rate determines the investment rate whereas in Keynesian theory, it is the opposite.

There are also some neoclassical models which integrate the idea of non-homothetic preferences into neoclassical growth theory[51]. Stiglitz (1969), for instance, shows that if,

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[49] This is quoted by Joan Robinson (1966) though cannot be found in the writings of Kalecki.

[50] Kaldor (1956) also notes that Marxian approach to distribution is an adaptation of the Classical/Ricardian theory.

[51] Some earlier studies which use the assumption of non-linear savings behaviour include Strotz (1955), Koopmans (1960), and Uzawa (1968).

contrary to the standard Solow model, there is a non-linear relationship between individual savings and income, then income distribution and the aggregate savings rate are interrelated. In particular, with a linear or concave individual savings function (i.e. marginal propensity to save is constant or declining with wealth and/or income), the standard neoclassical growth model necessarily leads to a more equal distribution of income between wealth-owners and workers in the steady-state; this is because wealth accumulation reduces the return on wealth (thus savings by wealth-owners) due to diminishing returns, while it raises the return on labour due to its increasing relative scarcity. Stiglitz shows, however, that a model with a convex savings function (i.e. marginal propensity to save is increasing with income and/or wealth) can potentially lead to a divergence of income levels between the two classes in the long run. Bourguignon (1981) claims that a convex savings function is indeed more realistic and in line with the empirical facts.

Most recently, echoing the insights of the Keynesian approach, Mian et al. (2020a; 2020b) conclude that an unequal distribution of income and wealth depresses aggregate demand and thus production, so redistribution should be supportive of economic growth. There are others, including De Nardi (2004), Straub (2019), and Benhabib et al. (2019), who made the case that changing saving behaviours at different income levels are important for understanding the observed patterns in wealth or income inequality. Also, heterogenous-agent models, which have become popular especially since the 1990s, move beyond the standard neoclassical models with a single representative agent and incorporate heterogeneities across agents, for instance, on the basis of their initial endowments (Kaplan et al., 2014), access to financial services (Huggett, 1993; Aiyagari, 1994; Krusell & Smith, 1998), or age (Gertler, 1999; Eggertsson et al., 2019). So, both Classical and Keynesian thinkings have been represented in more recent neoclassical models, though the idea that savings rate differs with wealth and/or income is still marginal in the mainstream literature.

In fact, in a way, Classicals, especially Ricardo and Mill, can also be regarded as being in favour of a positive relationship between redistribution and growth, as long as redistribution take resources away from unproductive rentiers, who are also rich. In the classical theory, profits accruing to the capitalists are considered to be the source of savings and thus investments while wages are spent on labours' reproduction; however, as landed aristocrats are associated with luxury consumption, rents that accrue to them are assumed to be wasteful. So, redistribution of resources away from rents is considered beneficial for growth. The criticism

of the rentier class is present in the Keynesian literature as well, though in this context, the rentier is not the landlord but the financier. In both approaches, rentiers are the ones who take advantage of the scarcity value of whatever they own (e.g. land or money) and siphon out the resources from the productive economy.

Lastly, there are arguments in the political economy literature for a negative relationship between an unequal distribution of income and economic growth. It is argued, for instance, that very high levels of inequality may cause social polarisation, political unrest, or rising crime. Such events are economically disruptive because they threaten private property, increase uncertainty, and thus lower the propensity to invest (Alesina & Perotti, 1996). Therefore, redistribution can support growth by limiting social and political instability and their harmful economic consequences. It is also argued that higher inequality may lead to the adoption of populist policies by governments, such as aggressive redistribution, that are damaging for economic growth, or empower the rich to block institutional and policy reforms (e.g. widespread education) which benefit growth at the expense of the rich class (Galor et al., 2009). So, redistribution can prevent populist regimes and policies which may prove bad for growth and clear the way for policy and institutional reforms that are beneficial for growth.

To sum up, it is possible to broadly categorise approaches to redistribution-growth nexus in four groups. First, at the individual level, there are neoclassical models, some of which argue for a negative relationship because redistribution distorts incentives whereas others claim for a positive relationship because redistribution alleviates negative growth effects of market failures. At the functional level, the classical approach argues for a negative relationship because redistribution reduces the savings rate, and the Keynesian approach argues for a positive relationship because redistribution increases effective demand. In line with the main thesis of this study, the overall balance between these forces can change at different stages of development. There should be more tension between fiscal redistribution and growth in developing economies, where the capital-labour ratio is very low and capital accumulation is the main driver of growth, than in developed countries, where capital saturation is achieved and effective demand drives growth. Accordingly, governments in developing countries should formulate more creative policies to limit inequality without curtailing capital accumulation.

11 The Case for Trickle-Down Growth in Developing Countries

11.1 Introduction

This chapter discusses the growth impacts of redistributive fiscal policies in developing countries. Specifically, it analyses how (re)distribution of income and wealth can affect growth through its influence on an economies' capacity to save and invest. It arrives at the conclusion that, in line with the predictions of the Classical theory, aggressive downward redistribution can reduce the rate of investments and thus growth in the context of a developing economy, especially if it amounts to taking resources away from the capitalist class. This conclusion is supported with evidence from the so-called East Asian miracle economies as well as the recent experiences of the Latin American economies. Section 11.5 also discusses the possibilities of limiting inequality in a developing country, without curtailing capitalist expansion.

11.2 The Classical Approach to Redistribution

As it is discussed at length in Part I and II, the Classical theory is based on the understanding that economic growth is caused, first and foremost, by investments in physical capital and productivity improvements that come with them. Also, in this understanding, squeezing more savings out of the national income (or, equivalently, suppressing consumption) is critical for increasing the investment rate. This is in direct contrast with the Keynesian theory, which asserts that it is rather effective demand that is driving the investment rate. Furthermore, in the Classical theory, different to the standard Neoclassical models, individuals are not aggregated to a representative agent but into various social groups (i.e. classes) with differing economic preferences, which also reflect on their propensity to save (or consume). Therefore, in Classical theory, there is an indirect causal link between income distribution and growth; by changing the distribution of income, redistributive policies can affect the aggregate savings rate, which, in turn, affects the rate of investments and thus economic growth.

In particular, the Classical approach posits that there is a positive association between economic growth and concentration of income and wealth in the hands of the capitalist class. This idea is based on the hypothesis that the savings rate is an increasing function of wealth. If rising inequality is due to the channelling of resources towards the capitalist class, whose marginal propensity to save is higher than that of the poor, then higher inequality must lead to an increase in aggregate savings and thus accelerate capital accumulation. In fact, in classical

theory, the savings rate is taken to be an entirely distributional issue. Namely, of three classes (capitalists, workers, and landowners), only capitalists save and invest, so as capitalists' share of national income (i.e. profits) rises, so does the rate of savings and thus investments[52]. Needless to say, this is an exaggeration in the contemporary context, nevertheless, it is still plausible to argue that the propensity to save out of profits is greater than the propensity to save out of wages and that savings rate usually rises with the concentration of income and wealth by the capitalist class.

There are reasons to believe that the Classical approach to (re)distribution of income is plausible in developing economies today. Capital accumulation is still the main source of productivity and income growth in developing economies, where labour is in oversupply, but capital is lacking for further investments in high-value-added, capital-intensive industries. There are profitable investment opportunities that are critical for achieving sustainable growth, but the capitalist class is often too weak and has less than enough funds to undertake such investments. In such an environment, a rising profit rate provides both the incentive and the resources for the capitalist class to realise investments, which suggests a strong link between profits, savings, and investments. Following this reasoning, redistribution, while improving the current welfare levels for most of society, dampens economic growth by reducing investable funds in the hands of the capitalist class.

Following the Classical approach, Lewis (1954), for instance, claims that the key to an "industrial revolution" in developing countries is a sharp and steady increase in capital's share in national income. According to Lewis (1954), raising investable funds in such economies is not about increasing the per capita income levels but rather the emergence and growth of a capitalist class with the capacity to save a lot. To put it differently, savings and investment rates are low in developing countries not because their citizens are poor on average, but because their capitalist class is weak and small. So, according to Lewis (1954), the critical variable for the distribution-growth nexus is the profit rate:

> …the major source of savings is profits, and if we find that savings are increasing as a proportion of the national income, we may take it for granted that this is because the share of profits in the national income is increasing (p. 157).

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[52] At this point, it should be realised that Classicals are making a distinction between capitalist, who are real investors, and landowners, who are the rentier class. This will be discussed later in more detail.

Lewis further notes that what really matters is actually "profits net of taxes upon profits, whether personal income or corporate taxes", with clear suggestions for redistributive fiscal policy. Indeed, he claims that "the central fact of economic development is that the distribution of incomes is altered in favour of the saving class" (p. 157).

Making a clear distinction between productive and unproductive spending, all Classical economists firmly defended policies that increase the profit's share, because, according to them, this raises the savings rate and hence support productive spending (investments) (Ekelund & Walker, 1996). Mill (1861/1967), for instance, makes the same point as Lewis in the early discussions of taxation in 19th-century Britain. In his testimony before the British Parliament, defending consumption taxes against income taxes, Mill was asked if a change towards consumption taxes would be "in favour of the richer classes of society as against the poorer", to which he responded, "in one sense, it would" (p. 570). So, he was aware of the redistributive implications of his proposal. In fact, that was the whole point. This is not to say that Classicals were unconcerned about the well-being of the working class, which they were (especially Mill), but in an economy where capital accumulation was, by far, the single most powerful transformative force, the Classicals realised that any policy which redistributes resources away from the investor class would ultimately hurt social welfare. They took it as evident that investments by the capitalists lead to improvements in the lives of everyone by generating employment and increasing income growth.

The Classical approach, therefore, can be interpreted as an older version of the trickle-down theory; a larger and increasing capital share in national income, though it may imply increasing inequality, translates into higher income for non-capitalists as well, because greater investments by the capitalist class lead to a higher rate of economic growth. In other words, labour's share may be declining, as it usually does in any fast-growing economy in the early stages of economic development, but the absolute value of aggregate labour income still rises (often dramatically). However, as Lewis (1954) elaborates, this does not necessarily mean that workers' wages rise much. Workers may continue to be employed at stagnant wages for a long time, but as capital accumulates, more and more workers are employed in modern industrial sectors, where incomes are higher than in the traditional sectors. Availability of an almost unlimited labour supply at stagnant wages explains how profits, along with national income, can monotonically increase until surplus labour in traditional sectors is absorbed entirely.

Lewis's assertation about how income distribution changes with rapid industrialisation is supported by empirical data on 19th-century Britain. Allen (2005), for instance, using available macroeconomic data for Britain, shows that during the industrial revolution between 1800 and 1840, inequality rose "dramatically" as "GDP per worker rose 37%, real wages stagnated, and the profit rate doubled. The share of profits in national income expanded at the expense of labour and land" (p. 1) (figure 11-1, -2). Furthermore, the distribution of population between different classes changed exactly as Lewis describes; the working class expanded while the agrarian class shrank[53] (figure 11-3). Surely, these cannot be expected to be exactly repeated in developing countries of the 20th or 21st century, but the main dynamics are quite similar.[54]

Figure 11-1: Factor Shares, England & Wales, 1688–1867
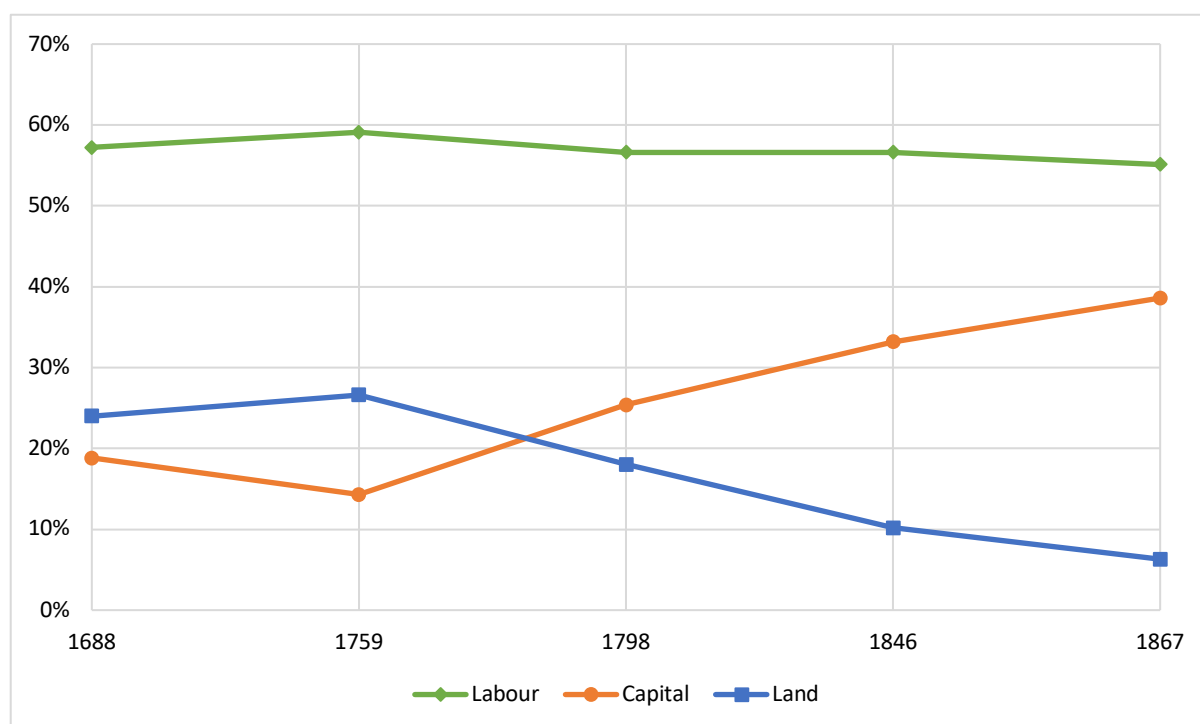
Source: Allen (2019, p. 108, table 6); compilation of social tables from King (1688), Massie (1759), Colquhoun (1801), Smee (1846) and Baxter (1867).

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[53] One exception is that farmers' income per capita earnings are higher than workers.

[54] It should be noted that the classical reasoning is also in agreement with the empirical observations of Simon Kuznets in his seminal study on inequality (1954); inequality rises in early stages of economic development as more individuals are included in the modern economy. However, Kuznets focuses on income disparities between workers in the modern urban economy and those who are left in rural employment, rather than the income disparity between capitalists and workers.

Figure 11-2: Annual Income per capita (Multiples of Subsistence Income), England & Wales, 1688-1867

Source: Allen (2019, p. 108, table 5); compilation of social tables by King (1688), Massie (1759), Colquhoun (1801), Smee (1846) and Baxter (1867).

Note: In 1688, *Cottagers and paupers* earn subsistence level whereas *workers* earn 3 times that amount.

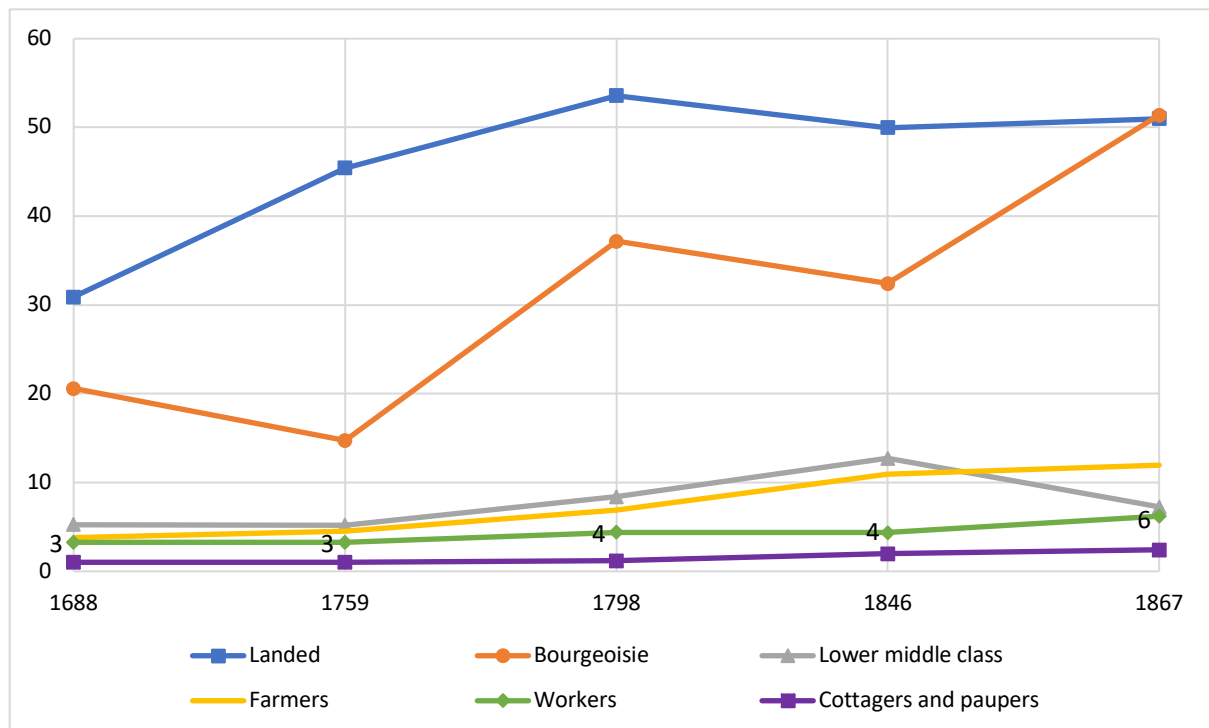*Figure 11-3: Distribution of Families Across Classes, England & Wales, 1688-1867*
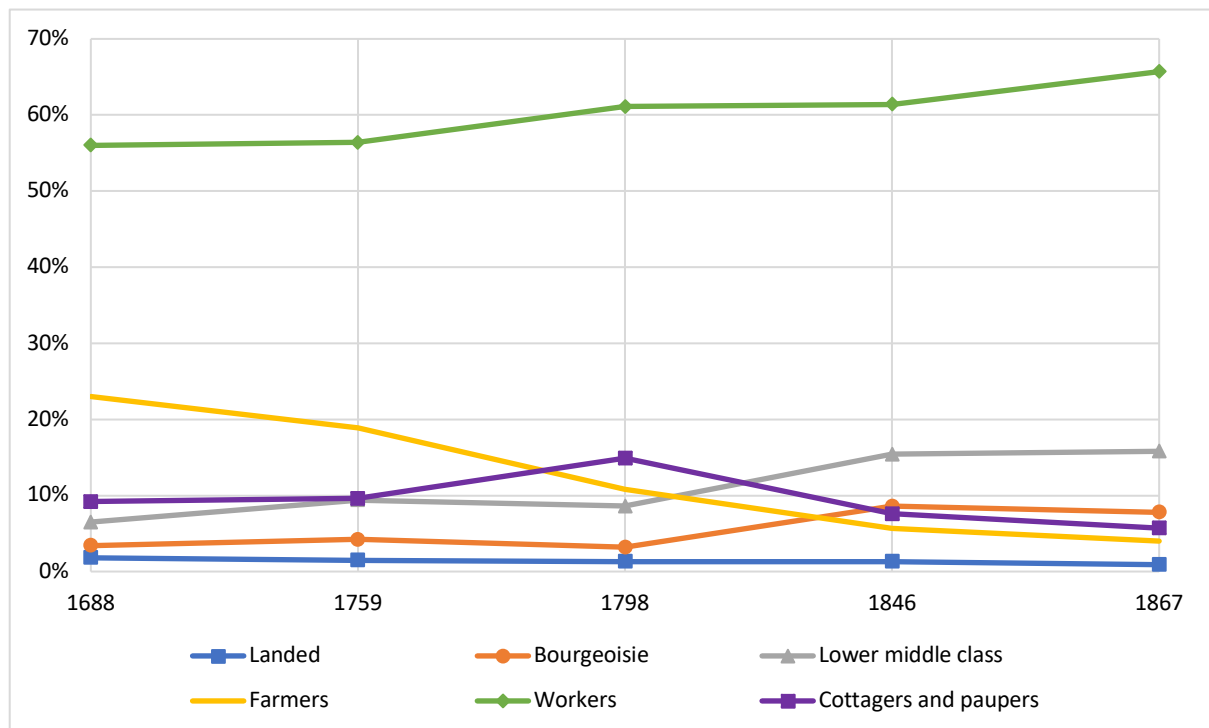
Source: Allen (2019, p. 108, table 3b); compilation of social tables by King (1688), Massie (1759), Colquhoun (1801), Smee (1846) and Baxter (1867).

So, according to the Classical approach, straightforward redistributive policies, such as high taxes on capital income or capital stock, is damaging for growth because they amount to fewer resources being channelled towards the investing class and thus less employment and income growth. I would make the case that the Classical approach is tenable in developing countries, and that in such countries, an aggressive redistribution of profits and capital may bring about welfare gains in the short run but that it would also shrink investable funds and suppress capital accumulation, where employment creation and permanent poverty reduction come from in early stages of economic development.

To be precise, this does not necessarily mean that economic growth always increases at the expense of rising inequality. Governments can reduce inequality or improve the welfare of the poor through other policies which do not retard capital accumulation. Although a complete discussion of what such policies may involve is beyond the scope of this study, some policy proposals, including land reform, higher taxes on luxury consumption, or citizens' wealth funds are discussed at the end of this chapter below. The key issue, however, is that these policies redistribute resources away from the rich who spend their income on either luxury consumption or accumulating unproductive assets, instead of productive investments. As already discussed in Part I (section 3.4), when there are other, unproductive sources of income that earn even higher returns, such as real estate or financial speculation, natural resource extraction, agricultural rents, etc., then tax concessions should be more carefully designed and be complemented by auxiliary industrial policies to differentiate the rich who actually invest and those who do not. This will further be elaborated below.

To prove the validity of the Classical approach, one should show that income accruing to the capitalist class in the form of profits indeed translate into further investments. The chain of causation depends, first, on the assumption that higher savings lead to higher investment, which, as already discussed, is questionable from a Keynesian point of view. To repeat, Keynesians assert that a rising savings rate will not translate into a higher investment rate, unless there is profit expectation, which, in turn, depends on effective demand. Arguably, the Keynesian reasoning is more relevant to developed economies, where effective demand is volatile and often falls below the aggregate supply levels. In such economies, capital intensity is very high, population growth is low, and scale economies have been mostly exhausted, so profitable investment opportunities, compared to the savings capacity, are limited. As even many Keynesian economists agree, in developing countries, this is hardly the case (Kaldor,

1957)[55]. As already discusses in Part I, Classical assumptions (e.g. the Say's law), which rule out the possibility of oversavings, fit better with the realities of developing countries under normal circumstances (i.e. when there is no economic turmoil).

The other presupposition of the Classical approach is that different segments of the income distribution (or different classes) have different economic propensities. Distribution and hence redistribution of income can alter the aggregate savings rate only if agents with different income or wealth levels have different marginal propensities to consume (and save). Keynesian and Classical theories, though they disagree on how the changes in aggregate savings rate affect the aggregate investments rate, do agree that the marginal propensity to save out of an extra unit of income is higher among capitalists or higher-income earners than the poor. This relation between the distribution of income and the aggregate savings rate is known as the *Kaldorian Link* and obviously not a new idea. However, standard neoclassical models have long assumed *homothetic preferences*, in which underlying income levels make no difference for individual preferences over savings-consumption decisions. So, the Kaldorian link is not an undisputed idea.

Actually, it is a fact that marginal propensity to save at a certain point in time is higher among the rich than the poor, which supports the Kaldorian Link. However, according to Milton Friedman (1957)'s well-known permanent income hypothesis, this is taken to be an illusion. Friedman argues that in any specific year, high-income individuals disproportionately include people who are having an especially good year, which is why on average they save more. Namely, individuals who experience a temporary boost to their income level (i.e. a positive idiosyncratic shock) in a specific year, act rationally and save a lot in order to smooth their level of consumption over the following years, instead of consuming whatever they earn each year. So, according to Friedman, though the savings rate is higher among the rich at a specific point in time, savings behaviour normally does not change with permanent changes in

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[55] Kaldor (1957), for instance, says, "…in a growing economy the general level of output at any one time is limited by available resources, and not by effective demand" and "excepting for periods in which the process of growth through capital accumulation (…) is altogether interrupted, the system cannot long operate in a state of (Keynesian) under-employment equilibrium, because at any level of output short of 'full employment' the aggregate demand associated with that particular level of output will exceed the aggregate supply price of that output, and thus lead to an expansion in output until a state of full employment is reached." (p. 593).

one's income level, which suggests that there should be no change in the aggregate savings (or consumption) rate in response to redistribution either.

It is fair to say that the consensus around Friedman's view has been weakening in recent decades as new evidence proves otherwise. Some of the studies which argue for non-homothetic preferences for saving are already discussed in the literature review above. In essence, all these models capture the idea that, contrary to Friedman's hypothesis, shifts in the distribution of income, which may be caused by redistributive fiscal policies, do affect macroeconomic variables, including the aggregate savings rate. In particular, Mankiw (2000) discusses how the standard models with homogeneous agents fail to explain differing saving behaviours of individuals who are permanently rich or poor over their life horizons. Mankiw notes that in the US, top-income-earners save a lot and leave large bequests to their children, which means that they smooth their consumption levels even between generations, whereas low-income-earners' consumption almost perfectly correlates with their periodic income, which means that they save almost nothing and do not smooth consumption over time. Then, these differing consumption behaviours also translate into wealth ownership (i.e. accumulated savings): top-income-earners' share in wealth is much higher than their share in national income, whereas low-income-earners hold almost no wealth (Mankiw, 2000).

In a more recent study, using the US household survey data, Straub (2019) shows that there is evidence for a non-linear savings function and therefore that inequality and redistribution indeed have macroeconomic implications. According to Straub, the savings rate indeed increases with permanent income (i.e. permanently rich people save more as a proportion of their income), so higher income inequality leads to faster wealth accumulation at the aggregate level (a higher wealth-GDP ratio) as well as increasing wealth inequality. Similarly, Mian et al. (2020a) discuss how non-homothetic preferences for saving at different income levels provide a more realistic explanation for the observed macroeconomic patterns in the US economy. Specifically, they show that, with rising income inequality, savings by the top 1% of the income distribution have been steadily rising in the US since the 1980s, which suppresses interest rates due to the *savings glut of the rich*.

In short, there is clear evidence that the saving behaviours of the rich and the poor are different: rich individuals' marginal propensity to save out of their permanent income is higher. So, it is safe to assume that, with a more egalitarian distribution of income, the savings rate decline. If there is a strong link between savings, especially those of the capitalist class, and

investments, as the Classical approach suggests, straightforward redistribution of income and wealth should lead to less economic growth because it reduces the investable funds in the hands of the capitalist class. This is arguably the case in developing countries, especially when an efficiently functioning financial system lacks. Nevertheless, governments can still find creative ways of reducing inequality without resorting to aggressive redistributive policies that retard capital accumulation, some of which are discussed later.

11.3 Investment Indivisibilities and Capital Market Imperfection

Another key argument about the relationship between redistribution and growth is that under the assumptions of imperfect capital markets, a certain level of wealth concentration might be necessary for the construction of new businesses with high and indivisible set-up costs. Then, straightforward redistribution of income or wealth can lead to slower growth even without affecting the aggregate savings rate or the level of total wealth. Especially high-value-added, capital-intensive industries usually involve high fixed costs to set up and a long gestation period to pay off. Factories have to be built, expensive machinery has to be installed, and long learning processes have to be financed before companies in such industries can start making profits. In developing countries, these investments often must be realised by a handful of firms or individuals (often conglomerates), who have the necessary equity capital, because it is not feasible to divide these investments into shares or scale them down in a profitable way, and there is no efficient capital market to finance them. Therefore, a strong capitalist class with adequate resources may be critical for maintaining capital accumulation.

It is possible to trace this idea back to the classical period as well. In the context of early industrial expansion, Classical economists, including Smith and Marx, underlined the importance of capital concentration to set in motion the capital accumulation process. In the following quote, Marx (1867/1990) makes the point about the necessity of an initial capital accumulation, preceding modern industrial expansion (i.e. industrial revolution):

> …the accumulation of capital presupposes surplus-value; surplus-value presupposes capitalistic production; capitalistic production presupposes the pre-existence of considerable masses of capital and of labour power in the hands of producers of commodities. The whole movement, therefore, seems to turn in a vicious circle, out of which we can only get by supposing a primitive accumulation (previous accumulation of Adam Smith) preceding capitalistic accumulation; an accumulation not the result of the capitalistic mode of production, but its starting point. (p. 873)

Both Marxist theories of *primitive accumulation* and Smith's more innocent version of *previous accumulation* still seem relevant to the experience of developing countries. To start or accelerate industrial expansion, developing economies require a capitalist class that is capable of investing in expensive industrial ventures. Otherwise, indivisible investments with large sunk costs cannot be realised even if they promise large surpluses in the long run.

The indivisibility problem can come from many sources. First, capital goods, such as machines and factory buildings, have large set-up costs, and it is usually not economically feasible to use these below a certain threshold capacity. This is why most small-scale firms are much less mechanised and thus less efficient than large firms. Similarly, implementation of new technologies (or knowledge transfers when there is patent protection) can involve large indivisible costs, which is why small firms are usually far from the technological frontier in their respective industries. Banerjee and Duflo (2000) also argue that new firms suffer from harsh contractual terms, because they are considered risky to work with, and high marketing expenses, because they have to spend a lot before they secure their supply chains and a market share. In any case, indivisibilities create a threshold effect; investments are inefficient and often not realised unless a certain level of initial spending is undertaken, which requires adequate wealth on the investors' part. In developed countries with high capital stock and a strong capitalist class, this usually does not pose as much of a challenge, but in developing countries with limited capital stock, indivisibilities can be a serious barrier to economic growth.

The problem of investment indivisibilities can be at least partially resolved with more developed capital markets. Presumably, if there are profitable investment opportunities, even when potential investors do not have sufficient funds, stock markets or banking services should be available to finance large set-up costs. However, capital markets are often imperfect. Asymmetric information between debtors and creditors, for instance, imply that banks may refrain from giving credit if they are unable to properly monitor the investment process. Also, if there are problems relating to contract enforcement due to the limitations of legal institutions, banks may not give credit (especially) to non-rich individuals without collateral, because they see a risk in collecting defaulted loans (Barro, 2000). Capital market imperfections are arguably even more salient in capital-intensive industries because, as already mentioned, such investments involve high fixed-costs and break even only in the long run. Even when banks do finance such investments, they charge much higher rates for those industries, because the risks are higher.

Needless to say, capital markets are not perfect anywhere. However, they are a lot more accessible in developed countries, where banking functions more efficiently thanks to better monitoring, better availability of data, smaller informal sectors, and more effective rule of law. Moreover, developed economies have deep and advanced stock markets and long-term securities. Consequently, financial intermediation channels provide developed economies with a much greater capacity to mobilise funds for investors in need of finance[56]. In developing countries, however, financial intermediation is weak and capital markets are usually inefficient. Banerjee (2003), for instance, shows that most of the borrowing in developing countries take place at very high costs due to the problems discussed above. In the lack of the credit channel, in developing countries, critical investments with high fixed costs are usually realised only by a small group of rich individuals who have adequate wealth (accumulated savings).[57]

Moreover, the implications of capital market imperfections are more significant for developing countries. In developed economies, there is already a strong capitalist class and a large capital stock, but, precisely for that reason, there are limited profitable investment opportunities in capital-intensive industries. In contrast, in developing countries, there is a weak and small capitalist class, and limited capital stock. Then, critical investments in capital-intensive industries go unrealised even though these investments not only are required for the long-term structural transformation of the economy towards higher-productivity sectors but also usually promise high returns (due to the law of diminishing returns). So, given the importance and potential of capital-intensive investments, the existence of wealthy investors who are able and willing to make these investments becomes a whole lot more important issue in developing countries, where well-functioning capital markets are absent.

Banerjee and Duflo (2005) provide an extensive discussion of how capital market imperfections prevent high return investments from taking place in developing countries. They first show how there are indeed higher rates of return on physical capital in developing countries than in developed countries, at least in some businesses. They calculate, for instance, that the average marginal product of capital is 22% and 27% in India and Uganda, respectively,

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[56] It is difficult to argue that the financial system functions optimally even in developed countries, where resources are increasingly channelled to speculation instead of productive investments. Still, when there are profitable opportunities, investors can access credit more easily or at a comparatively cheaper price.

[57] This is arguably why national development banks, which provide credit to such investments on favourable terms, have played a critical role in such economies (Gerschenkron, 1962; Di John, 2020).

compared to only 9% in the US. Furthermore, according to their calculations, the marginal return on capital is not uniform even within a national economy, for instance in India, and reaches levels as high as 100% in some large firms. This is very interesting because, according to the standard neoclassical model, capital should flow wherever the marginal product is the highest, and so marginal products should eventually be equalised in all sectors, whereas, in reality, we see drastically different rates of return on investments not only between countries but even within an economy, hence the term 'average' marginal return.

Banerjee and Duflo (2005) explain the within-country variation in marginal rates of return to capital with a model which assumes high and indivisible costs for setting up businesses and capital market imperfections. According to them, to realise the investments that have very high rates of return, companies initially need to invest huge amounts of capital; however, capital markets imperfections in such economies are pervasive, so access to finance is limited. Then, only very wealthy investors can take advantage of the high-return investment opportunities, while other investors are constrained to businesses with lower rates of return. Therefore, they conclude, in the presence of credit market imperfections and high fixed costs, it is normal to have heterogeneity in rates of return across firms and sectors within an economy. This explains why capital concentration may indeed be related to higher growth in developing countries. In an economy with high and indivisible fixed costs and an imperfect credit market, only the rich have funds for sizable investments in businesses with higher rates of return.

Following this reasoning, it is clear why aggressive downward redistribution may be detrimental to growth. A growing economy needs a strong capitalist class who are capable of investing in sophisticated and capital-intensive industries. Straightforward redistribution may improve social welfare in the short run but also limits the creation and expansion of businesses, which reduces growth and welfare in the long run. In other words, in earlier stages of development, redistribution involves a transfer of spending power not only from the rich to the poor but also from investment to consumption. Surely, dispersing of wealth and income via redistribution can also improve growth through other channels (for instance, by increasing human capital investments by the poor), but arguably, in earlier stages of economic development, these other effects are dominated by the effects of capital accumulation on growth and productivity, though they may be more important in later stages, where capital saturation is achieved, and human capital becomes more important than physical capital for growth (Galor & Maov, 2004). This is discussed in the next chapter in more detail.

11.4 East Asian Growth Miracles versus the Latin American Pink Tide

11.4.a East Asian Miracle Economies

The case has already been made in Part I that fiscal favouritisms for the investor class was a central element of government policy in the so-called East Asian growth miracles. At the course of transitioning to the advanced stage of economic development, governments in successful East Asian economies, by purposefully creating tax advantages, rents, and incentives for the capitalist class, raised profits (capital income) over and above those that could have been attained under free-market policies while taxing them lightly and overlooking some degree of tax evasion (Chang, 1993; Singh, 1998). This fiscal favouritism was arguably essential for accelerating economic growth via higher savings and investment rates. The distributional dynamics of these fast-growing economies also very much resemble the 19th-century industrialisation stories and are quite compatible with the Classical understanding. The evidence from some of the East Asian miracle economies as well as the more recent example of China, presented below, demonstrates this clearly.

In East Asian economies, urban wages had been more or less stagnant while profits' share rose steadily during their respective high-growth episode before the Lewis turning point has arrived. Just like Lewis (1954) claimed, until the surplus labour in the traditional sector was entirely absorbed by the modern industrial economy, all that workers got from industrial expansion was more employment in the modern sector, which was not unimportant given that workers were paid higher than subsistence wages and had high job security. This is how grand-scale poverty reduction was achieved in these economies. Still, because wages were stagnant or increasing more slowly than productivity, creating non-diminishing returns to capital investments in the industrial sector, profit's share in national income has monotonically increased, thereby increasing income and wealth inequalities within the urban economy. This is not to say that overall inequality had been comparatively high in these economies; on the contrary, except for China, inequality in fast-growing Asian economies had been lower than in many other emerging economies. The reason for this appears to be a more equal distribution of land ownership in the rural economy despite rapidly rising inequality in the urban economy.

It seems to be true for both 19th-century Britain during the industrial revolution as well as the 20th-century growth miracles that, although rapid industrialisation is the major force affecting the dynamics of income distribution, land ownership and rents continue to dominate

overall wealth and income inequalities in early stages of development. So, elimination of land concentration seems to have been critical for keeping rural and thus overall inequality low in East Asia, which is atypical for developing economies (table 11-1). Indeed, Japan, Korea, and Taiwan had progressive land reform prior to their high growth episodes. Korea, for instance, distributed land to 1.6 million households between 1946 and 1950, which reduced the share of land with tenants from 65% to 8% (Jang, 2004). In Japan, between 1947 and 1949, 38% of the entire arable land was purchased by the government from the landlords and sold to around 3 million tenants who cultivated them, for a much lower real price due to inflation (Flores, 1970). Similarly, in Taiwan, 37% of the entire arable land was redistributed by the government, so 80% of the arable land was cultivated by their owners by 1968 (Ishikawa, 1967, p. 312; cited in Wade, 1990/2004, p. 76). Consequently, rural inequality had been much lower in these economies compared to other developing economies[58].

Table 11-1: Distributional Indicators, East-Asian and Selected Countries, around 1960

	Gini Coefficient for Income	Gini Coefficient for Land Ownership	GDP per capita (constant 2011 $)
Japan	0.35	0.43	6 400
Korea	0.32	0.34	1 537
Taiwan	0.45	0.39	2 070
Singapore	0.50	0.29	4 368
Malaysia	0.50	0.64	2 639
Thailand	0.43	0.43	1 162
Unweighted Average	**0.42**	**0.42**	**3 029**
Argentina	0.48	0.86	9 283
Brazil	0.58	0.84	3 995
Turkey	0.56	0.59	5 269
Mexico	0.58	0.61	6 633
India	0.31	0.61	1 048
Egypt	0.42	0.55	1 750
Unweighted Average	**0.49**	**0.68**	**4 663**

Source: Deininger and Olinto (2000). Income Gini's of Argentina, Egypt, Taiwan, and Singapore are from Altimir (1986), Hansen and Radwan (1982), Jain (1975), and Rao (1989), respectively; retrieved from Deininger and Squire (1996). Land Gini's of Taiwan and Singapore are from Frankema (2006). GDP per capita is from Penn World Tables (Feenstra et al., 2015).

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[58] Obviously, in Singapore and Hong Kong, which are city states, rural land reforms do not apply.

While they redistributed land, governments allowed, even supported, capital concentration in the urban economy. In Korea, for instance, the so-called *chaebols* (giant private conglomerates) have dominated the economy during the fast growth years. The Korean government perceived *chaebols* as the "main vehicles for Korean catch-up" (Singh, 1998, p. 126) and favoured them through tax concessions and public subsidies as well as protecting their monopoly status via directing entry and exit of firms, despite "undesirable distribution consequences" of this practice (Chang, 1993, p. 147). The government was very much aware of the requirements of scale economies discussed above, and not only supported and enabled chaebols to get larger but also created them, when necessary, by promoting mergers and acquisitions in many critical sectors. In an economy with underdeveloped financial markets, indivisible investments in highly capital-intensive, technological sectors were realised almost entirely by large conglomerations. At the same time, wages in the urban economy were largely suppressed, keeping profits and the investment drive high (figure 11-4).

Consequently, beginning from the 1970s, capital concentration combined with the suppression of wages increased inequality substantially in Korea (figure 11-5). This trend of rising inequality was reversed only after watershed labour protests in 1987. Singh (1998) notes, by 1990, Korea had "one of the highest levels of market concentration anywhere - whether among the developing or the developed economies" so much so that the largest 50 chaebols alone accounted for 15% of the Korean GDP, and there were 11 Korean firms among the largest 500 industrial companies globally, although the Korean economy accounted for only 1% of the world's GDP (pp. 125-126). According to UN (1993), "such a structure is the deliberate creation of the government, which utilised a highly interventionist strategy to push industry into larger-scale, complex technologically demanding activities…" (cited in Singh, 1998, p. 126). In short, throughout its fast growth years, capital concentration, as well as income inequality, have increased in Korea. Nevertheless, Korea lifted millions of people out of poverty in the process via employment creation in the urban economy.
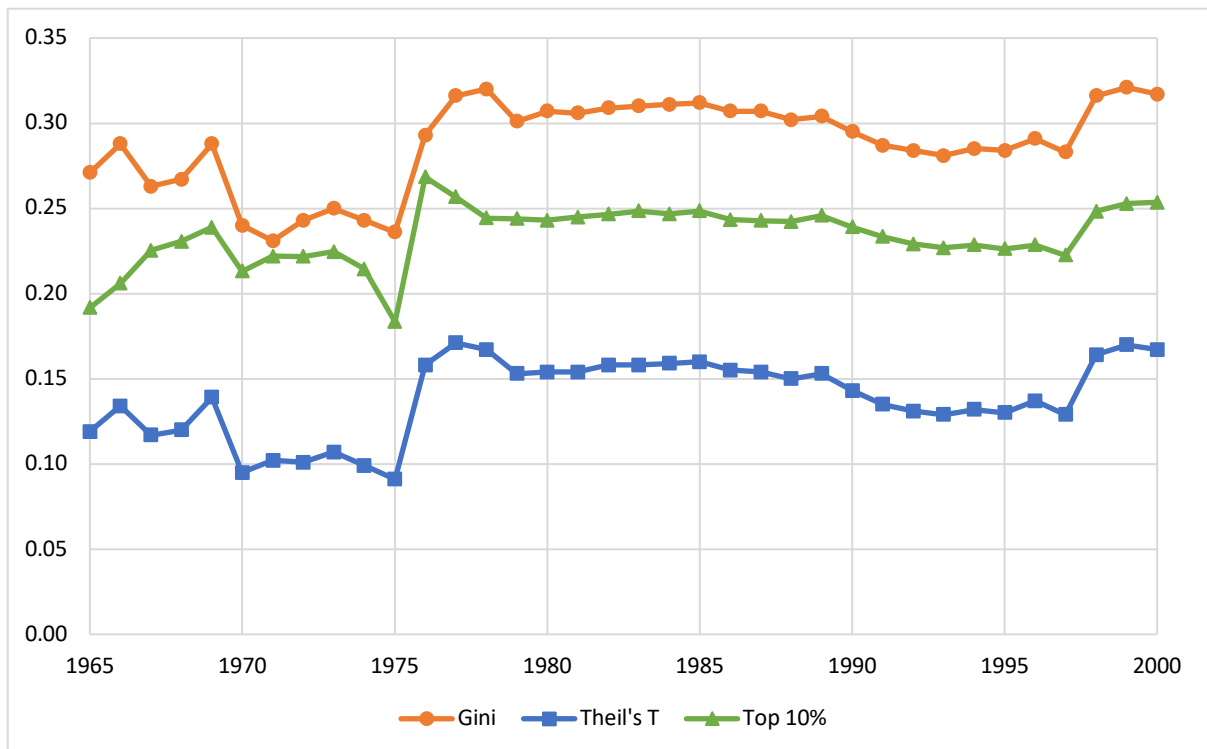
Figure 11-4: Manufacturing Wages, Agricultural Employment, and GDP per capita, Korea, 1960-1994
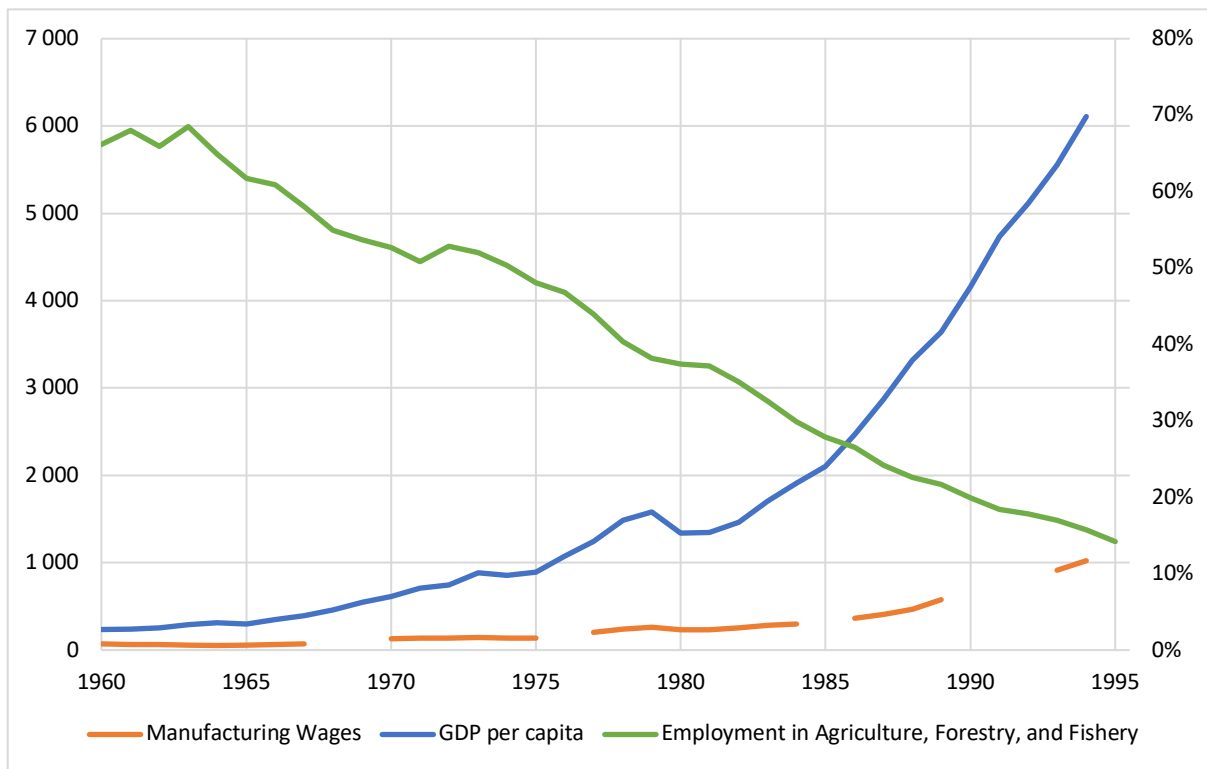
Source: Chung (2007, table 2.4, 7.2)
Note: Relative to Producers Price Index, 1994 Prices (in 1 000 Won)

Figure 11-5: Income Inequality, Korea, 1965-2000

Source: Kwack and Lee (2007, p. 27, 31, Appendix B). *Top 10%* is calculated.

The Japanese *Keiretsu* had a similar role as the Chaebol during Japan's miracle growth years in the 1950s-60s. To increase the competitiveness of Japanese firms in the international market, the Ministry of International Trade and Industry (MITI) assured a high level of market concentration. The nurturing of large-scale enterprises was seen as instrumental for enhancing technological progress and industrialisation through scale economies. The government mostly disregarded the competition laws (imposed by the Americans) and tolerated, even supported, monopolies and cartels, as well as coordinating strategic behaviour between oligopolies. Singh (1998) notes: "Too much competition, it felt, could lead to price wars and reduced profits and ultimately lower the inducement to invest" (p. 117)[59]. In other words, the tilting of the income distribution towards the investors via targeted fiscal incentives was seen as a way of increasing the rate of savings and thus investments. So, the main beneficiaries of Japanese industrial policy were big firms, though industrialisation had also created employment for millions of workers, who were provided with lifetime employment in Japan's peculiar business culture.

In fact, Japanese industrialisation in its true sense started much earlier. At the onset of World War II, Japan was already a semi-industrial economy. In 1940, the proportion of employment in agriculture was 42%, having steadily declined from 78% in 1876 (see table 11-2). So, Japan's rapid post-war growth, which also included recovery from the war and further dropped the share of agricultural employment from 44% in 1950 to 16% in 1973, can be seen as the completion of Japan's structural transformation, which actually started in the late 19th century (Moriguchi & Saez, 2008, p. 718). Japan's pre-war growth, which saw the establishment of the country's first large-scale industries (railroads, textile etc.), emergence of a capitalist class, and mass absorption of people into the urban economy, fits better to the definition of an *industrial revolution* and thus is a better candidate for testing the accuracy of the Classical approach. Indeed, during Japan's structural transformation between the 1880s and 1940, the trends in income and wealth distribution were very compatible with other episodes of rapid industrialisation and the Classical approach (Minami, 1994)[60], as discussed below.

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[59] The governments in both Japan and Korea were aware of the benefits of competition and indeed promoted fierce competition between large firms. However, they also created mechanisms to limit the number of firms and refrained from breaking up large ones. This can be thought of as finding a middle ground.

[60] Historians of Japanese economy regard 1886 as the starting point of industrial revolution in Japan (Minami, 1994; Miyamoto & Abe, 1995; cited in Moriguchi & Saez (2008))

Table 11-2: Share of Agriculture in Total Employment, Japan, 1876-1995

1876	1900	1920	1940	1950	1973	1995
78%	65%	51%	42%	44%	16%	7.3%

Source: Moriguchi and Saez (2008, p. 718)

In the pre-war period, industrialisation went hand in hand with rising inequality in Japan. Between the 1890s and 1940, the Gini coefficient steadily increased (table 11-3). The cause of rising inequality was a combination of factors, all related to rapid industrialisation. First, productivity growth was much higher than wage growth, deepening inequality between capitalists and workers. Consequently, the labour share of income declined from 62.2% in 1910 to 49.7% in 1937 (Minami, 1994). Second, the wage gap between skilled and unskilled workers sharply widened as the ratio of wages of unskilled and skilled workers declined from 93% in 1920 to 56% in 1937 (Okawa et al. 1967, 245; cited in Minami, 2008, p. 12). Third, the wage gap between rural and urban areas also widened, as wages in rural areas did not rise due to the stagnant nature of the rural economy (figure 11-6). Moreover, while urban inequality rose dramatically, rural inequality was largely stable (table 11-3). Minami (2008) claims that the pre-war trends in inequality (declining labour share and widening wage gap between different classes of labour) were entirely caused by the existence of surplus labour, which "continued to supply low-wage unskilled labor to urban industry, inhibiting wage growth in urban industry and leading to a decline (or preventing an increase) in its share" (p. 12).

The government's role in this process was arguably its acceleration. Japan's industrial strategy was based on the expansion of *Zaibatsu* holding companies (which were later dissolved by American authorities although *Keiretsu*'s, looser alliances of the former Zaibatsu members, soon replaced them) often at the expense of small- and medium-sized enterprises and workers' wages (Johnson, 1982). Especially after the 1927 financial crisis, the Ministry of Commerce and Industry (MCI, predecessor of MITI) took radical steps towards capital concentration by Zaibatsu's. MCI purposefully created cartels and supported them through tax relief and targeted spending, to achieve a high investment rate and scale economies in strategic sectors. In the late 1930s, the government's endeavour to squeeze imports crushed small enterprises, which overwhelmingly depended on cheap imports. So, the transition to heavy industries involved a transformation in the average size and concentration of Japanese businesses (Johnson, 1982).

Table 11-3: Income Distribution and Industrialisation by Region, Japan, 1923-1937

Region	Variable	1923	1930	1937	Change
Urban	Gini Coefficient	0.58	0.60	0.64	10.4%
	Income Share of Top 10%	47.5%	48.3%	52.9%	11.4%
	Non-Primary Sector Employment	70.7%	72.3%	75.2%	6.4%
Rural	Gini Coefficient	0.58	0.60	0.59	1.4%
	Income Share of Top 10%	41.9%	43.0%	41.6%	-0.8%
	Non-Primary Sector Employment	31.9%	30.6%	31.4%	-1.6%
Overall	Gini Coefficient	0.59	0.61	0.62	6.7%
	Income Share of Top 10%	43.5%	44.5%	44.8%	2.9%
	Non-Primary Sector Employment	49.9%	51.9%	54.4%	9.0%

Source: Income shares of the top deciles are from Minami (1998, p. 45, table 1). Gini Coefficient and Non-Primary Sector Employment are from Minami (2008, p. 9, table 1). Change is calculated.

Figure 11-6: Wages in Agriculture and Industry (Yen), Japan, 1910-1935
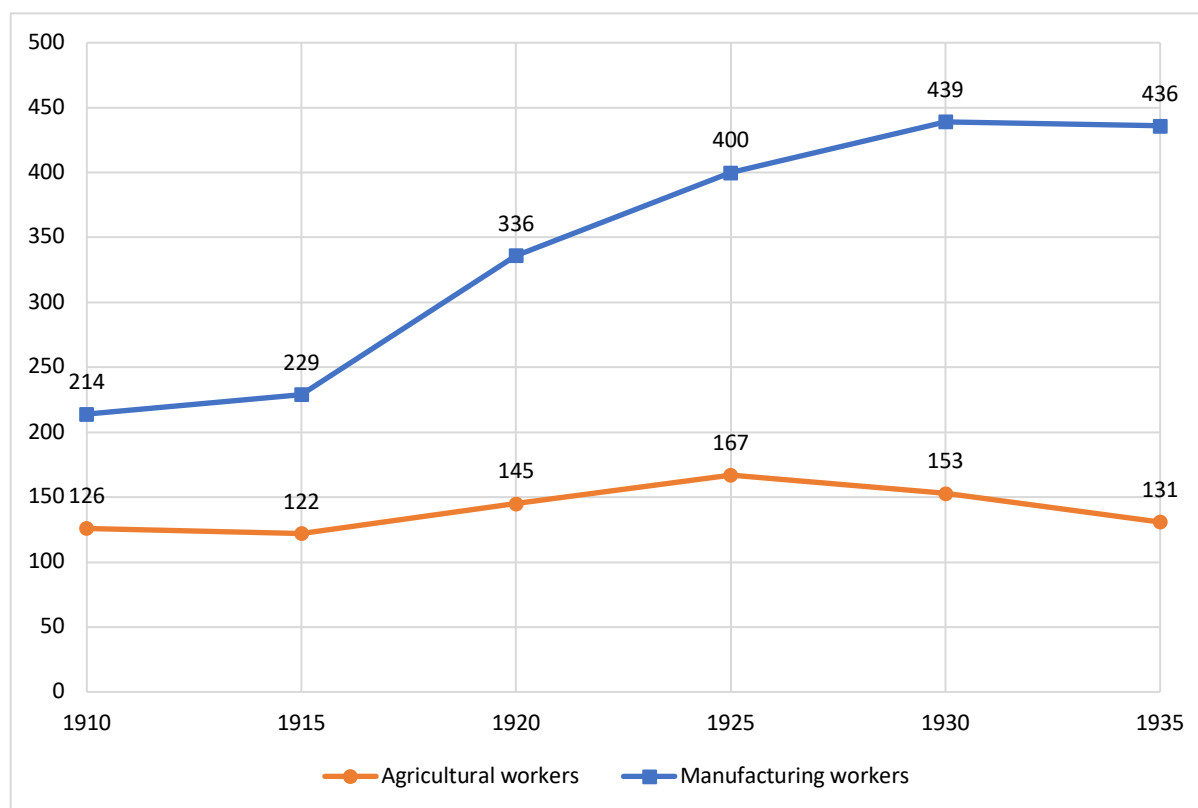

Source: Minami (2007, p. 36, table 2); cited in Minami (2008, p. 11, table 2).
Note: Adjusted for changes in the consumer price index (1934-36 = 100).

In the post-war period, this approach was loosened to some extent. According to one estimate, when the World War II started, "Lewis-type surplus labour" was still accounting for 60% of the agricultural labour force in Japan (Minami & Ono, 1977; cited in Minami, 2008, p. 10). According to Minami (2008), it was entirely absorbed by 1960[61]. It appears that, as high post-war growth absorbed the surplus labour, wages for unskilled urban workers as well as agricultural workers started to increase, reducing the wage gap between the urban and the rural workers and between skilled and unskilled workers in the urban economy (figure 11-7). This is also when capital's share fell (and, thus labour's share rose) and stabilised in the industrial sector (figure 11-8). According to Johnson (1982), even though Japan's pro-monopoly industrial policies continued, the government also realised that there needs to be more domestic demand to absorb increasing output, so they encouraged rising wages.

Figure 11-7: Net Migration to 3 Major Urban Areas and Urban-Rural Income Gap, Japan, 1955-2005
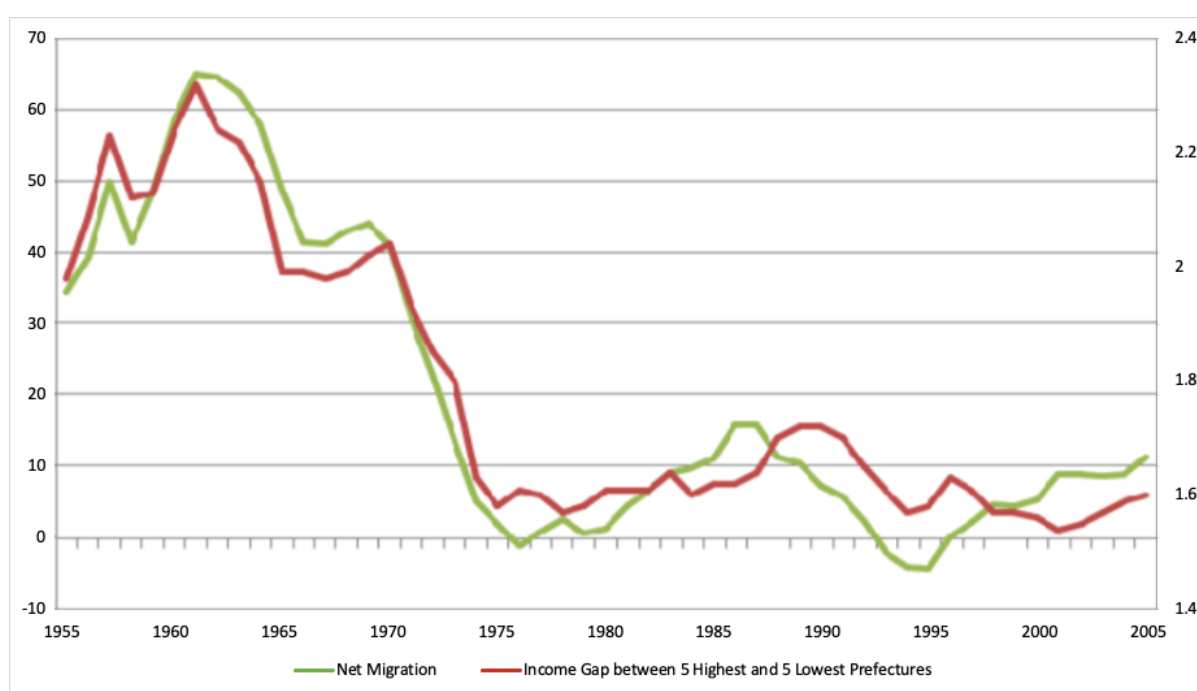
Source: Nawata (2008, p. 20, figure 5); taken from Yoshioka and Kawasaki (2016, p. 19, figure 4-3).

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[61] Elsewhere, Minami and others claim that Japan, Taiwan and South Korea have reached their respective Lewisian-turning-point in 1960, 1967 and 1973 (Minami et al., 2014).

Figure 11-8: Labour Share in National Income, Japan, 1955-2000
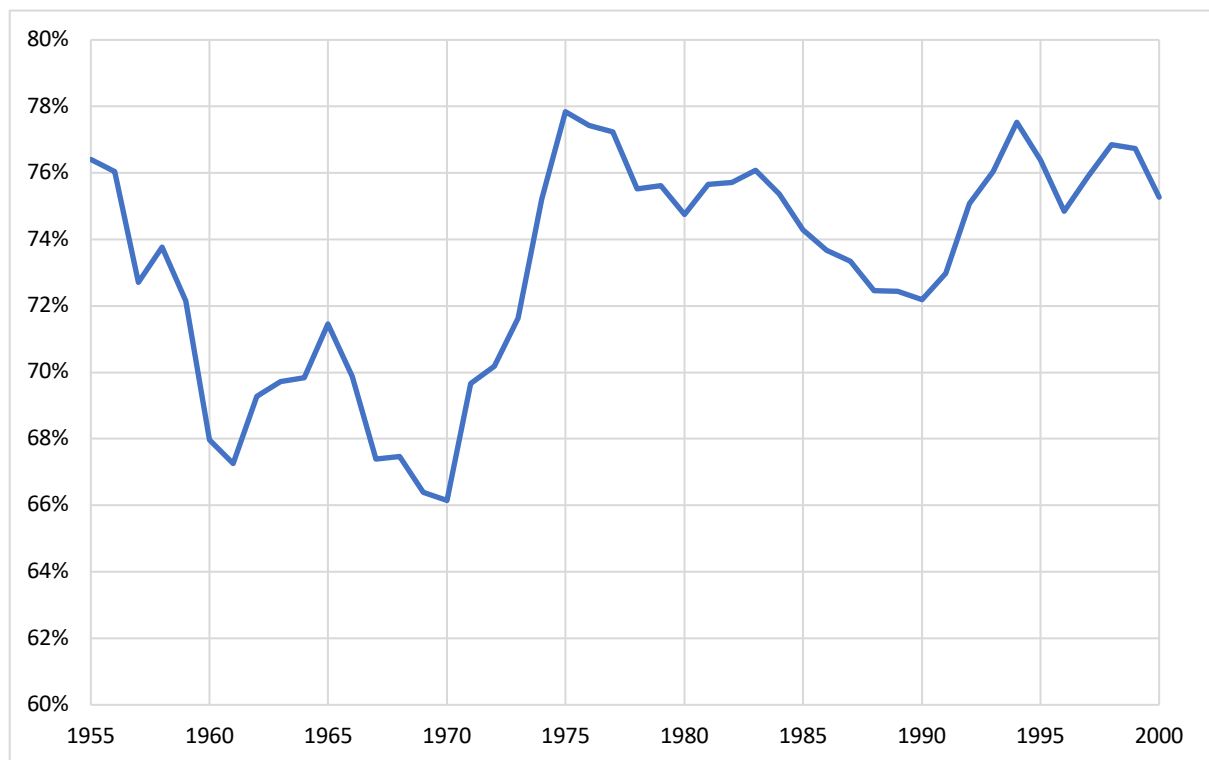
Source: World Inequality Database (2020).

11.4.b China

Similar macroeconomic dynamics regarding the distribution of income can also be observed in China more recently. Since 1978, China has been through a major transformation from a communist economy to a mixed model, which gave more space to private enterprise and foreign investments. In the process, China has had tremendous capital accumulation, become a manufacturing powerhouse, and lifted more than 850 million people out of poverty mostly by incorporating them into the urban industrial economy (Weiping, 2018). Piketty et al. (2019), combining data from tax records, surveys, and national accounting calculations, report the main trends in income and wealth distribution in the country since the beginning of the market reform:

1. Both income and wealth inequalities have risen dramatically since 1978, before stabilising around 2006 and 2011, respectively (figure 11-9, 11-10). China was much more equal than developed countries before its high-growth period began. It is now more unequal than Europe but less than the US.

2. 50-60 % of the wealth expansion has come from savings, whereas the rest has come from the increase in relative asset prices. Also, the expansion of wealth has

dominantly come from physical capital rather than expansion in housing and agricultural land.

3. The income gap between urban and rural areas was already large (2:1) in 1978 but it has largen ever further (3.5:1) since 1978. The urban share of the population has also risen from 20% to 55%, so the urban share of the economy has increased from 30% to 80%.

4. Inequality has always been and still is larger within the rural economy than within the urban economy. However, since 1978, it has increased much more within the urban economy.

Figure 11-9: Income Inequality, China, 1978-2019
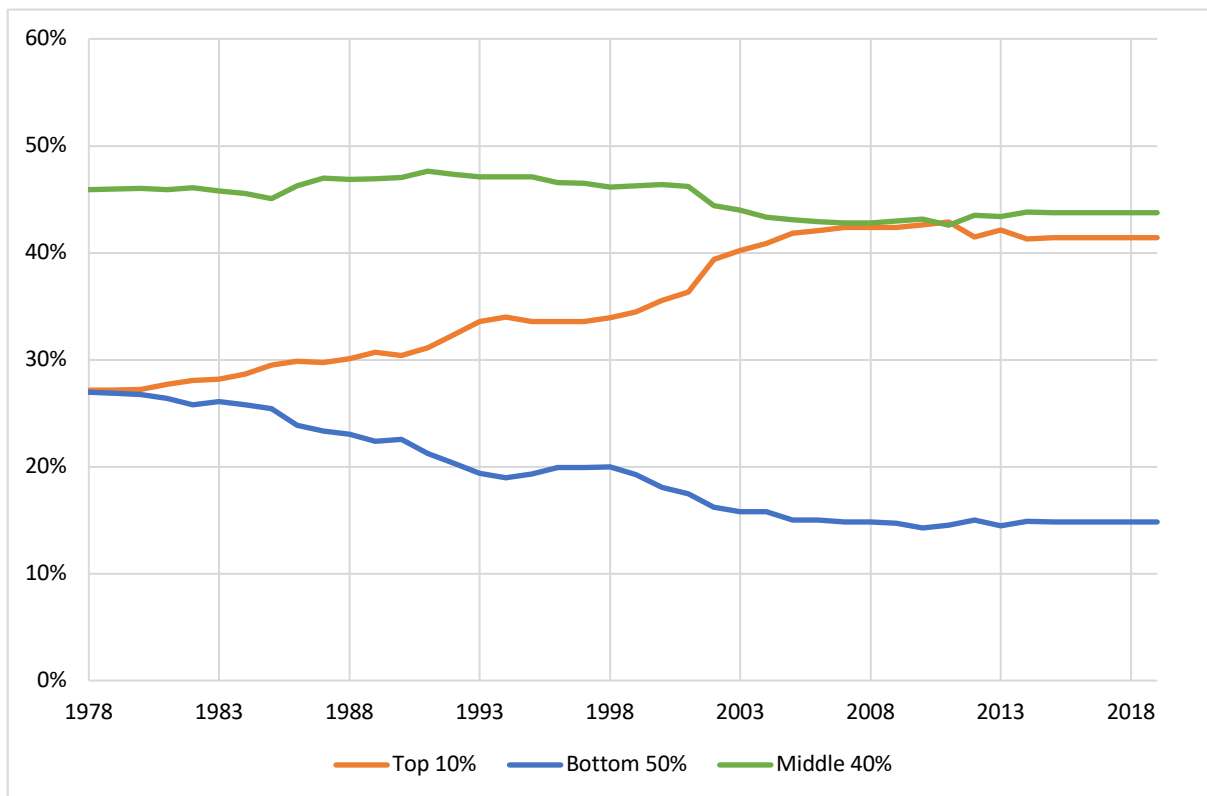
Source: Piketty et al. (2019); retrieved from World Inequality Database (2020).

Figure 11-10: Wealth Inequality, China, 1995-2015
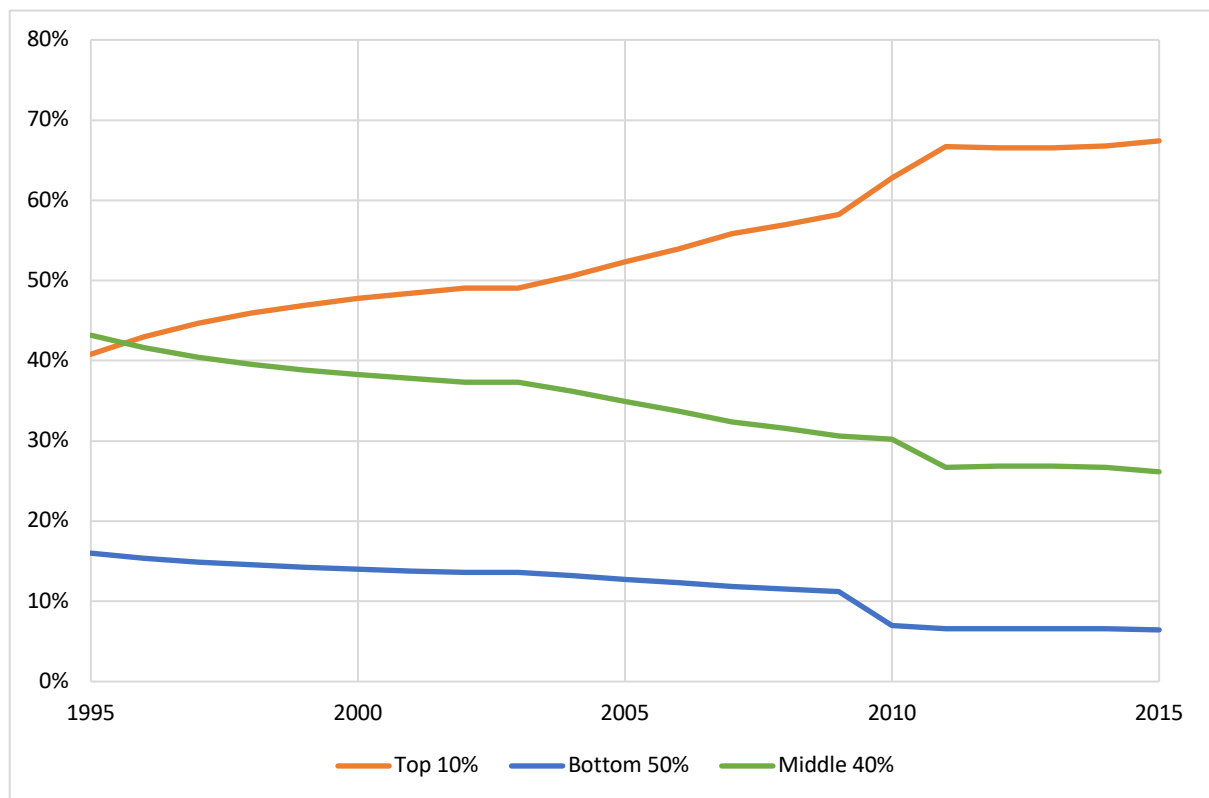
Source: Piketty et al. (2019); retrieved from World Inequality Database (2020).

It should be noted that trends in China are very similar to the dynamics of 19th-century industrial revolutions as well as the periods of rapid growth in other East Asian countries discussed above. Very rapid capital accumulation led to China's miracle growth and created employment for hundreds of millions of people, while simultaneously raising income and wealth inequalities both between urban and rural areas and between capitalists and workers. In other words, we again see in China a combination of the trends described by Kuznets (1954) and Lewis (1955); inequality rises via migration due to the gap between rural and urban incomes and also within the urban economy between capitalists and workers due to rising capital incomes and stagnant wages (figure 11-11). Also, we again see the importance of rural inequality; although the trends in Chinese inequality have been caused mostly by the changes in the urban economy, rural inequality remained the dominant factor in the level of overall inequality. This is similar to 19th-century Britain and pre-war Japan, where landowners' share remained a stagnant but dominant factor in income distribution, and explains the contrast with Korea and post-war Japan, where equal distribution of land ownership and agricultural income kept overall inequality low during their respective growth periods.

Following the Classical reasoning, the more recent stabilisation in inequality in China can be explained by the Lewis turning point. According to Zhang et al. (2011), this is exactly the case; the slowdown in structural transformation has arrived by the early 2000s, which is reflected in inequality trends. Just like Lewis (1954) explained, the excess labour in rural China has now fully been absorbed by the modern economy so real wages have started to increase (figure 11-11). What this means is that there is much less room for profit increase through capital accumulation alone (without exogenous technological advancements). This can explain the increasing commitment among Chinese companies to move beyond capital accumulation and technical progress that is embodied in new capital, and start investing in more cutting-edge R&D (e.g. 5G, renewables). Kanbur et al. (2020) agree that the Lewis turning point has arrived but also points at parallel policy changes. First, a more effective minimum wage policy along with increased compliance helped the increase in wages (Li et al., 2018). Second, public investments in rural areas have increased, which reduced inequality between rural and urban areas (Fan et al., 2011).

Figure 11-11: Real Annual Wages of Urban Workers (Yuan), China, 1978-2010
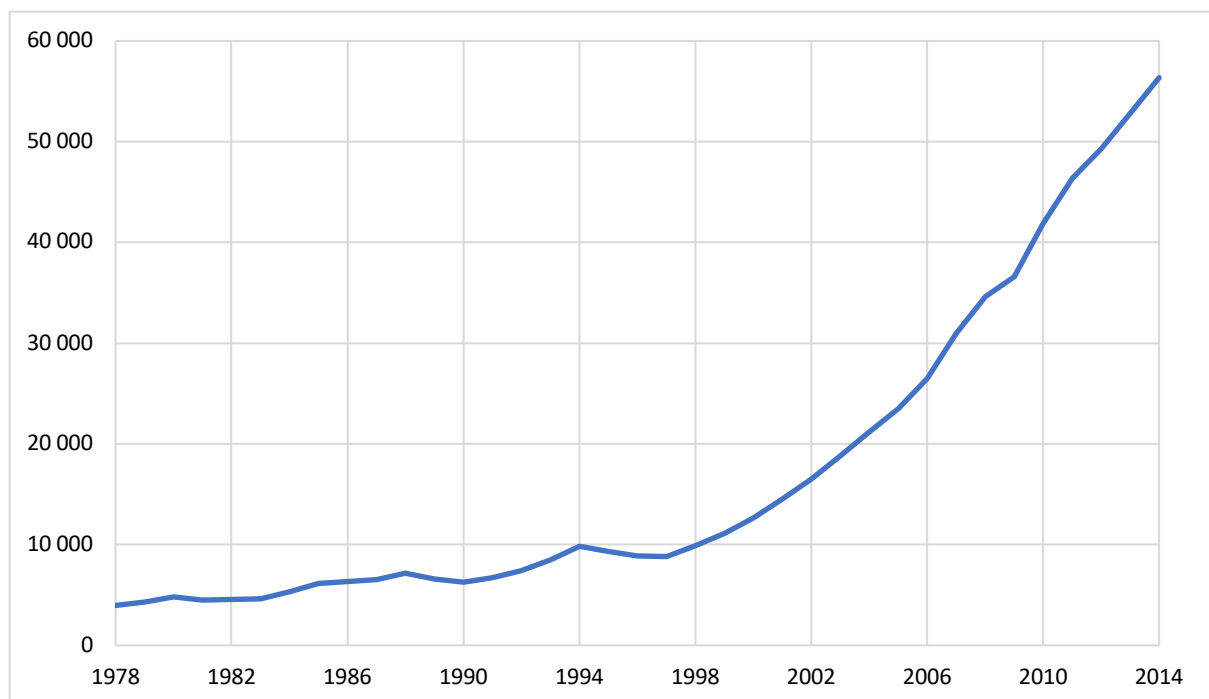
Source: China Statistical Yearbooks
Note: Relative to Consumer Price Index, 2014 Prices.

11.4.c Latin America and Growth from the Bottom up

An important counterfactual to East Asian growth episodes has emerged from Latin America in the early 2000s, where left-wing governments came to power in the continent's largest economies, including Venezuela, Argentina, Brazil, Bolivia, and, to a lesser extent, Chile and Uruguay. This surge of left-wing politics, known as the *Pink Tide*, provided an interesting policy experiment for how redistribution relates to growth in developing countries. As part of their reformist agenda, the Pink Tide governments implemented extensive redistributive policies, including higher minimum wages, conditional cash transfers, and greater (often non-contributory) pension coverage, financed through the taxation of rising commodity exports thanks to favourable international conditions. Redistribution led to a sharp improvement in the distribution of income and a reduction in poverty. The immediate impact on growth and unemployment was also quite positive as redistribution led to a demand boom via higher consumption at the bottom of the income distribution (figure 11-12, 11-13). So, by giving more spending capacity to the poor, redistributive policies in Latin America led to both less inequality and more growth (Loureiro, 2019).

Figure 11-12: Real GDP Growth (3-year Moving Averages), Latin America, 1990-2019
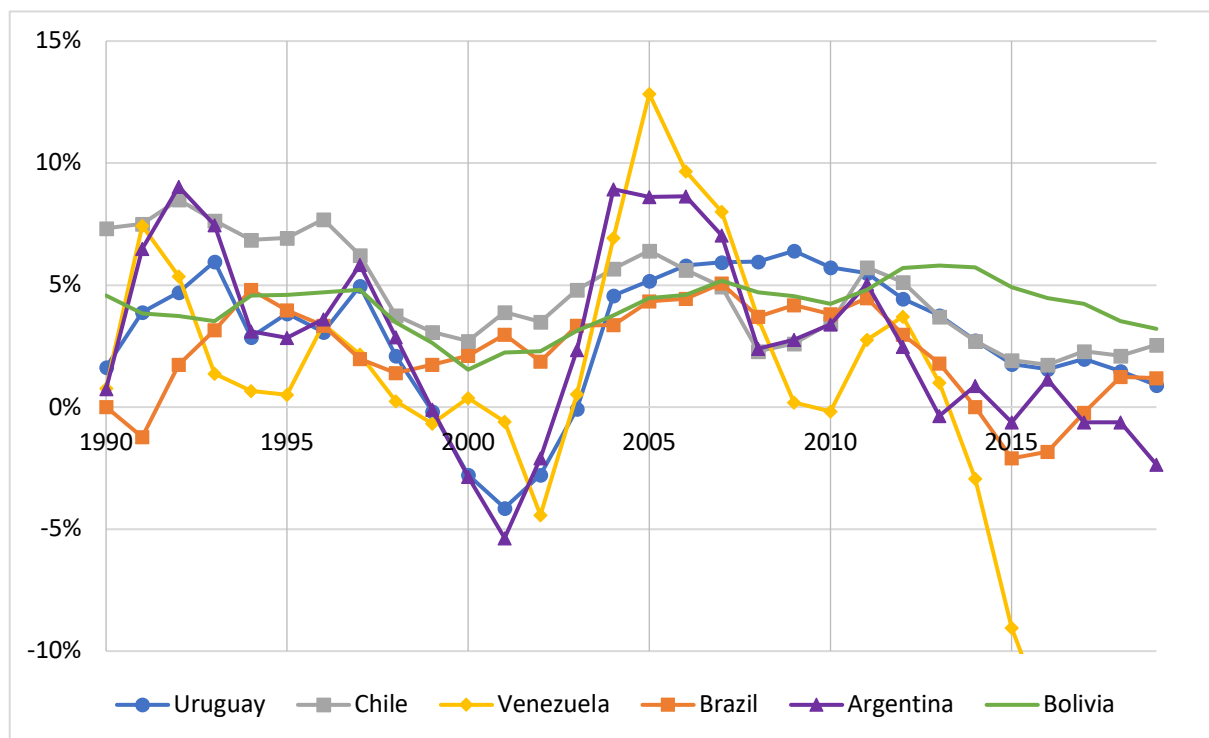
Source: IMF (2021)
Note: The growth rate for Venezuela steadily declined and reached -27% in 2019.

Figure 11-13: Unemployment Rate, Latin America, 1991-2020
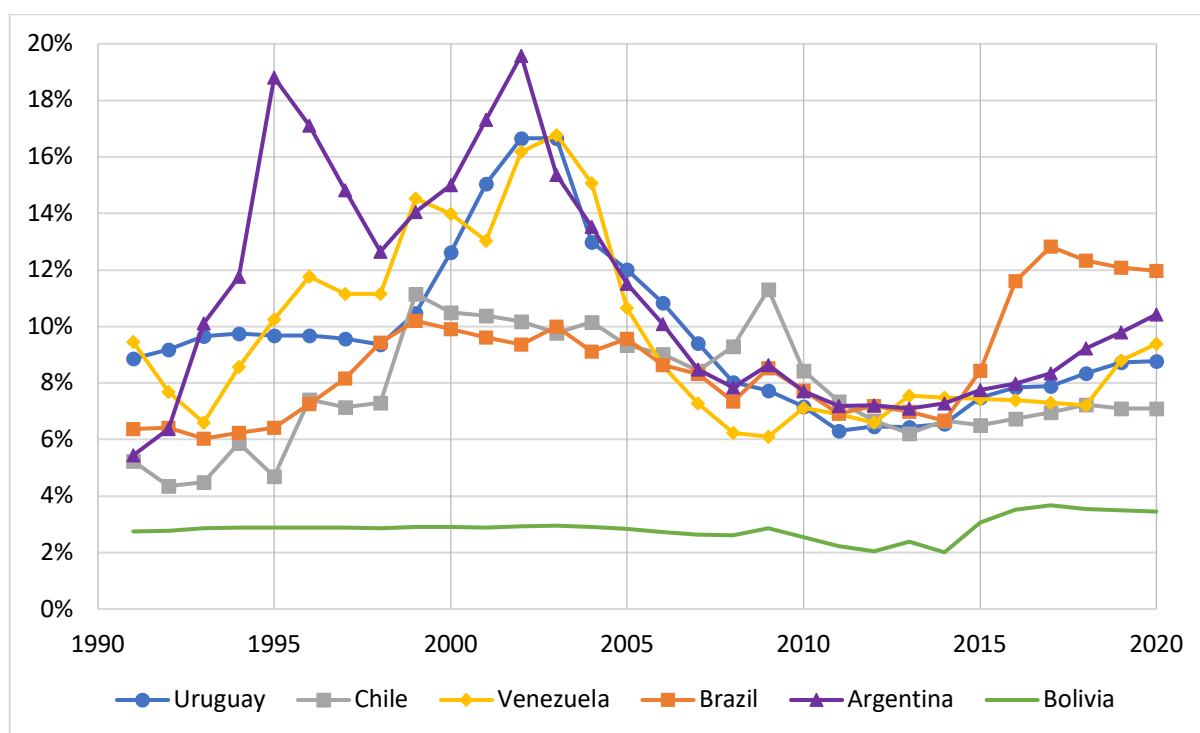
Source: World Bank (2020)

However, it soon became clear that, without favourable external conditions, the demand-driven growth was not sustainable. As international commodity prices declined and global liquidity conditions deteriorated around 2012, economic growth collapsed, and redistributive spending was no more feasible. Most Pink Tide economies faced fiscal and balance of payment deterioration. Unemployment soared, pushing a lot of people back to uncertainty and poverty. So, in the end, growth was proven to be inorganic and thus unsustainable. The reason for this turn of events can be found in the supply-side (production) of these economies. Arguably, growth was not sustainable because it was not caused by improvements in the productive capacity of the economy, but by a boom in consumption. Rather than building capacity in high-productivity industries, which create more durable employment and income growth, the Pink Tide's growth was based on increased spending on consumption, financed by excessive foreign borrowing and/or revenues from the transitory commodity boom.

Furthermore, redistribution led to a regressive structural change in the sectoral composition towards low-value-added consumption goods and services. Because demand in low-income levels usually concentrates on consumption goods (i.e. wage-goods) and low productivity services, by giving a higher purchasing power to the bottom of the income

distribution, redistribution skewed the sectoral composition of domestic production towards low-productivity sectors. Throughout this period, labour was transferred from agriculture and manufacturing industries to low value-added sectors, such as construction, trade, mining, and services including finance. This trade-off which emerges between redistribution and growth is analysed in depth in the context of Argentina and Brazil by Loureiro (2019), who concludes that "the very process behind growth and redistribution endogenously tightened these economies' constraints, requiring countervailing measures in order to sustain accumulation and redistribution over a longer period of time" (p. 23).

Figure 11-14: Labour Share in National Income, Brazil, 1995-2017
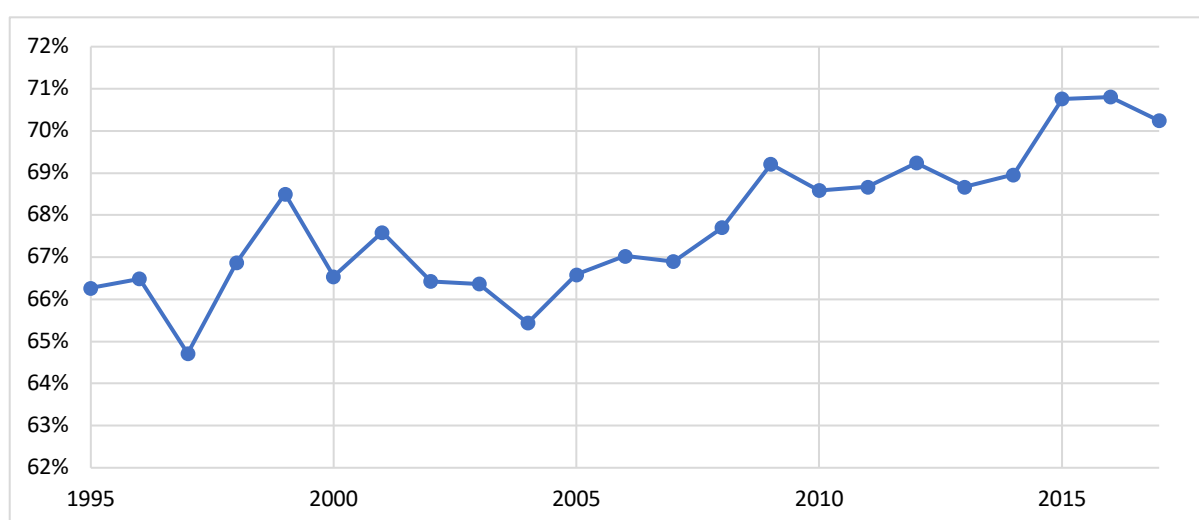
Source: World Inequality Database (2020)

Table 11-4: Changes in Employment by Sectors (% Points), Latin America

Employment	Bolivia 1999-2013	Brazil 2002-2014	Chile 2000-2013	Uruguay 2007-2014	Venezuela 1999-2013
Agriculture	-7.6	-5.6	-3.8	-2.9	-2.8
Mining	0.7	0.0	1.2	0.0	0.6
Manufacturing	-1.4	-1.4	-2.6	-2.4	-2.5
Public Utilities	0.1	0.1	-0.3	0.4	-0.3
Construction	0.5	2.0	1.3	1.3	0.7
Trade	0.1	1.9	4.2	0.2	-1.4
Transportation	1.6	0.8	0.4	1.4	2.4
Finance	2.5	1.9	0.7	1.8	0.4
Other Services	3.1	0.3	-1.3	0.0	2.6
Unspecified	0.5	-0.2	-0.3	0.0	0.1

Source: Loureiro (2019) based on ECLAC.
Note: *Public utilities* include electricity, gas, and water.

Table 11-5: Changes in Value Added by Sectors (% Points), Latin America

Value Added	Argentina 1999-2012	Bolivia 1999-2014	Brazil 1999-2014	Chile 2003-2010	Uruguay 2005-2014	Venezuela 1999-2010
Agriculture	4.3	-2.1	-0.4	-1.9	-2.4	1.1
Mining	2.0	11.5	2.1	11.7	0.2	14.2
Manufacturing	1.3	-2.5	-3.4	-5.8	-3.3	-5.3
Public Utilities	-1.3	-0.8	-1.3	0.4	-1.0	-2.1
Construction	0.1	0.0	0.5	1.0	4.7	-0.2
Trade	-1.5	-1.0	3.6	-0.7	0.6	4.9
Transportation	-1.0	-2.7	2.2	-2.1	-3.0	-1.7
Finance	-5.2	-4.8	-3.8	-1.0	1.6	-7.9
Public Admin.	0.5	0.5	0.6	-0.3	2.7	-4.1

Source: Loureiro (2019) based on data from ECLAC.
Note: *Public utilities* include electricity, gas, and water. *Public admin.* includes defence, compulsory social security, education, health and social work, and other community, social and personal service activities.

It can be argued that the reasons why redistribution alone fails to bring about sustainable growth have also been demonstrated by the failure of other *bottom-up* or *grassroots* policies in developing countries. Especially since the 1990s, grass-roots anti-poverty programmes, which aim for reducing poverty at the local level by improving nutrition, education, or healthcare, has become quite popular among international agencies. A lot of foreign aid has been directed at such programmes but with little success. Amsden (2012) argues that grass-roots anti-poverty programmes can improve welfare for a small group of people in the short run but cannot go much beyond, because permanent poverty reduction and welfare improvements always come through employment generation for the larger society. In other words, unless developing countries can move beyond "tiny, family firms" and start building large industrial enterprises, which create secure and well-paying employment opportunities, improving the employability of the poor will not amount to anything. Amsden (2010) says, "poverty alleviation has its policy ranges, too, but they are more confined, outside the capital accumulation process" (p. 64).

Another good example of policies following the grassroots approach in developing countries is microfinance schemes. Started as the brainchild of Muhammad Yunus in Bangladesh, microfinance has become a very popular policy instrument in recent decades as a supposed silver bullet for reducing poverty. The idea is to give poor people access to finance so that they can pull themselves out of poverty through individual investments, which, in a way, follows the same logic as poverty reduction via straightforward redistribution. However, in many countries, the microcredit model has failed to deliver what it promised; as randomised

control trials have consistently shown, the model had almost no effect on poverty (Banerjee et al., 2015). Moreover, beginning from the mid-2000s, a substantial share of microcredits started to fail and led to financial meltdown in many countries around the world, most famously in the Indian state of Andhra Pradesh (Arunachalam, 2011).

Bateman and Chang (2012), in their critique of micro-finance schemes, point to the fact that in many industries, there is a *minimum efficient scale*, below which investments fail to reap the benefits of scale economies and generate sustained productivity growth. So, the creation of many small-scale enterprises through micro-finance does not lead to sustainable growth, that can permanently lift people out of poverty. Instead, as it has been demonstrated in various countries, including India, Mexico, and many African economies, it poses the risk of creating poverty traps, where millions of small enterprises are stuck in already crowded, informal, and inefficient service industries or micro-scale farming. An Inter-American Development Bank (IDB) publication, for instance, concludes that microfinance has led to "adverse capital allocation and subsequent deindustrialisation" (Pagés, 2010; cited in Bateman & Chang, 2012, p. 20). Thus, though it can create some short-term positive outcomes or indeed enable a small group of individuals to get rich, giving low-income individuals the ability to spend/invest (be it through redistribution or provision of credit), as a development strategy, is not a substitute for investments in large-scale employment-generating production industries.

Following this logic, entrepreneur Sangu Delle promotes the idea of macrofinance, rather than microfinance or aid for the poor, in African countries. According to Delle (2014), microfinance and foreign aid schemes are based on the naïve idea that every poor person is a potential entrepreneur and thus giving these people the chance to invest will automatically lead to poverty reduction through self-betterment. Delle's alternative approach (macrofinance) is to enable at least a few members of the society to invest in modern manufacturing, which benefits from scale economies and creates employment for others, instead of spreading already limited resources across a high number of inefficient small-scale investments, which lack "the effective means of diffusion and knowledge sharing" and leads to little more than increasing short-term consumption. Delle notes, "perhaps we are not at a stage in Africa where many actors and small enterprises lead to growth through competition" (2014, para. 4). In technical terms, Africa and other developing nations need institutional arrangements for concentrating capital so as to overcome capital market imperfections and to realise indivisible investments.

In sum, the cross-country comparison above shows that in developing countries, trickle-down supply-side policies amount to more sustainable economic growth and permanent poverty reduction than bottom-up demand-side policies. Giving poor individuals a higher spending power through straightforward redistribution leads to short-term welfare gains but often does not lead to capital accumulation or productivity growth; instead, supporting a high rate of investments, especially in large-scale capital-intensive industries, which requires more capital concentration and a higher savings rate, is more effective for achieving sustained productivity and income growths. Surely, in developed countries, where there is already a strong capitalist class and a large capital stock, this relation may be reversed; namely, increasing human capital investments, entrepreneurial initiatives, and knowledge creation can be more beneficial for growth than capital investments, in which case straightforward redistribution is more growth-inducing. This will be discussed in the next chapter.

11.5 Can Trickle-Down be Egalitarian?

It is argued so far that in developing countries, standard redistributive policies, such as high taxes on capital income or wealth, on the one hand, and welfare spending on consumption, on the other hand, may reduce the rate of investments and retard capital accumulation. However, there are other pathways, which has been suggested or applied in different contexts, for reducing inequality without dampening capital accumulation. First of all, transferring resources away from the rich who do not invest can be one way of breaking the equality-efficiency trade-off. As argued above, marginal saving propensity of the rich is often higher than that of the poor. However, marginal propensities may change across different segments of the society, beyond and above different income layers. In other words, one may want to look at 'class' in a more nuanced way rather than focusing merely on income and wealth levels and formulate redistributive fiscal policies accordingly to tilt the income distribution towards those who are more inclined to save and invest.

Lewis (1954), for instance, is convinced that capital's share in national income should be increasing, even if this comes at the expense of increasing inequality. However, he also suggests that inequality per se does not guarantee a higher rate of investments, because not all rich have a higher savings rate or an inclination to invest productively. He notes that many developing countries have higher inequality levels than developed economies, but their investment rate is not high. According to Lewis, this is because in these countries, agricultural rents are very high. Rents are often overlooked in the contemporary growth literature where

production function with two factors (capital and labour) dominates, however rents can be key to understand the dynamics of the functional distribution of income and its relation to economic growth. Indeed, if one looks at 19th century Britain or China in the last few decades, the dominance of rents in the distribution of income appears quite obvious, which does not seem to change much even with fast industrialisation.

The Classical approach is actually also more nuanced than presented above in its approach to the distribution of income. In the 19th century, landed proprietors were also wealthy (usually richer than capitalists). However, while being critical of policies that redistribute resources away from the capitalists, Classicals were less tolerant of the concentration of income and wealth by the landed aristocracy. Classicals took that if the share of rents is rising in national income, this should lead to slower economic growth because unlike the capitalist class, landowners did not spend their income productively. Instead, they were mostly engaged with luxury consumption and hoarding, which do not generate income or employment for the rest of the society, except for only a small segment of the labour force in household services[62]. When looked at from this perspective, governments can be advised to transfer resources from wealthy rentiers to other segments of the society, which should not harm capital accumulation while reducing inequality.

One policy proposal in this direction is land reform. Redistribution of land ownership from wealthy landlords to the poor, small-scale farmers can reduce inequality and poverty without any adverse impact on industrialisation. In fact, eliminating the concentration of land ownership can even be supportive of industrial expansion if agricultural estates are excessively large[63], and a high proportion of them is used unproductively in the hands of a small landowning elite. Rising agricultural productivity releases more labour from rural agriculture for growing manufacturing industries as well as increasing the agricultural surplus to feed growing cities. A stable food supply is critical for avoiding high inflation in the course of

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[62] Interestingly, Ricardo (1817/2015) projected that with the exhaustion of profitable investment opportunities, profits would decline and rents rise along the development path of an economy, leading to a stationary economy with low industrial profits and high rents, which seems like an accurate description of most developed economies today.

[63] The optimal scale of agricultural estates is vastly debated and probably depends on context. Abhijit Sen, for instance, discusses this in the context of India (1981a, 1981b). Given the evidence, it is tenable to argue that productivity declines after the average farm size exceeds a certain threshold level, above which the redistribution of land becomes productivity-enhancing.

economic development, which reduces real manufacturing wages and increases profits[64] (Kalecki, 1955; Saith, 1990). Especially after the World War II, successful land reform has been exemplified in East Asia. After the governments in Japan, Korea, and Taiwan transferred land ownership from (often absentee) landed elites to perpetual tenants, agricultural productivity drastically rose and was proven to be key to the structural transformation agenda (Storm, 2015).

What land reform accomplishes in terms of redistribution can also be achieved through fiscal policy, though in a less dramatic way. Governments can tax rents at a higher rate than other forms of income (wages and profits), which would be effectively channelling resources towards industrial investments while reducing inequality of income. Korea provides a good example in this regard. During its fast growth episode, the Korean government squeezed surplus out of agriculture through taxation and used them to subsidise industrial expansion, especially in the so-called infant industries (Kay, 2002; Storm, 2015, p. 685). So, the government has used redistribution (from agriculture to manufacturing) as part of its industrial policy. Although Korea did this after implementing its land reform, in a society where wealth and income are concentrated in agriculture in the form of high rents and land ownership, this amounts to a fiscal policy scheme that is both progressive and efficiency-improving.

One can generalise what has so far been discussed around agricultural rents to income from other sectors with limited productivity growth as well. According to Lewis (1954), income is always spent on unproductive consumption (often of consumer durables) when investments do not go hand in hand with productivity improvements. In technical terms, in sectors with decreasing returns to scale, there is little motivation to invest, whereas in sectors with non-decreasing returns to scale, capitalists are motivated to continue investing (accumulating) in productive capital. The former group of industries are static and do not contribute to growth whereas in the latter group of industries, productivity growth is embodied in capital investments, so they are critical for sustained growth. Alfred Marshall (1890/1920) applies this reasoning to an industrial policy proposal of fiscal nature:

> One simple plan would be the levying of a tax by the community on their own incomes, or on the production of those goods which obey the Law of Diminishing

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[64] In fact, this was the main reason for Ricardo's famous opposition to Corn law; restricting corn imports would raise food prices and thus subsistence wages while reducing the profits' share in national income.

> Returns, and devoting the tax to a bounty on the production of those goods with regard to which the Law of Increasing Returns acts sharply. (p. 472-473)

So, Marshall suggests a redistribution of income from economic activities with decreasing returns to scale (not only agriculture) to those with increasing returns to scale (most often exemplified in manufacturing industries with better prospects in terms of productivity growth). If the former group of businesses happen to be owned by the rich (e.g. large agricultural estates), then such redistribution can support both a more equal distribution of income and steady capital accumulation in growing economies.

Another fiscal policy scheme that can be progressive without dampening capital accumulation is the taxation of luxury consumption. Different components of consumption can be taxed at differential rates in a way that would benefit the poor. This is simply applying the above-stated reasoning to a consumption tax (demand-side), instead of an income or wealth tax (supply-side); governments can change the resource allocation via taxation, but unlike taxation of rents (income) or land ownership (wealth), taxation of luxury consumption accomplishes this at the point of spending, not earning. In particular, higher tax rates on luxury goods and services, on which wealthier people spend a larger proportion of their income, and lower rates on basic food items or other necessities, can achieve the equity effects of a progressive income tax without harming capital accumulation. Given that developing countries tend to rely relatively more on consumption taxes, such a scheme can have extensive implications. Designing consumption taxes in a selective way can promote growth not only by incentivising the rich to save more but also by transferring resources from those who spend their income on luxury consumption to those who do not.

Note that such a consumption tax, when well-designed, does not necessarily punish all high-income earners but only those who spend their income in a way that is undesirable from an industrial policy perspective. In other words, instead of taking away spending power upfront, it punishes only unproductive spending (or promotes productive spending). Thus, it does not harm growth by reducing the savings rate or exacerbating the problem of investment indivisibilities, while also partially addressing concerns that flat consumption taxes impose a relatively heavier tax burden on lower-income taxpayers. Relatedly, it should also be noted that when a substantial share of profits is reinvested, even though the income inequality may still be high, consumption inequality is low. Namely, capitalists consume only a small part of income accruing to them and spend the rest on employment-generating productive investments

benefiting the entire society. So, in a way, the rich pay a social price for high income. Using taxation to restrain luxury consumption (especially of imported products) is known to be used quite extensively in East Asian countries as a part of their industrial policy (Chang, 1997).

Last but not least, capital-sharing schemes can be offered as another solution to the efficiency-equality conundrum. Neither Classical economists nor Lewis is convinced that households can contribute to savings in a meaningful way. Lewis (1954) asserts, for instance, that 90% of the society never manage to save a significant share of their income; working- and middle-classes may save a little for buying a house or their children's education, or, most commonly, as insurance against adverse events, but, according to him, these savings are not very relevant for productive investments (p. 156). It is indeed very difficult to bridge the gap between household savings and businesses in developing countries because the financial sector usually lacks the organisational capacity for mobilising these funds for investments. However, when necessary institutional arrangements are in place, households can be represented in capital ownership, which would imply that there does not need to be a positive relationship between growing capital's share and rising income or wealth inequality.

In this regard, cooperatives are often referred to as an instrument to allow capital ownership by households (Lawrence & Mason, 2017). However, such organisations are not expected to reach a scale that would include all or even the majority of citizens in a country so as to compensate for the effect of declining labour's share on income inequality. A more general solution would be government acting as an intermediary between household savings and capital investments. In a way, a government is the biggest cooperative. This may not necessarily involve direct ownership (e.g. SOEs) either, but citizens' (or sovereign) wealth funds can hold shares in large industrial ventures, especially those subsidised within an industrial policy scheme, providing a solution to the problem of capital market imperfections discussed above while achieving a more even distribution of capital income. This would allow all citizens to get a share from increasing returns to capital and help limit the growing income gap between capitalists and workers in the course of rapid industrialisation.

Singapore's Central Provident Fund (CPF) is perhaps the best example of a capital-sharing scheme (Young, 1992). As already discussed in Part I, CPF accumulated the obligatory savings of workers (5-20% of their wages), which was augmented by employers with a matching amount. Workers had only limited access to their own accumulated savings even after retirement and are allowed to use them only to buy houses (usually built by the

Singaporean government's Housing Development Board) or government securities. As of 1980, the fund was collecting more than 30% of the country's gross national savings, 95% of which was invested in government securities. Young (1992) notes that this mechanism was critical for financing Singapore's very high investments rate throughout its high growth period between 1965 and the 1980s. In this way, households were able to accumulate their savings at an accelerated rate and earn a return without impeding the capital accumulation process. In other words, the CPF successfully combined a redistributive scheme with a mechanism to raise domestic funds for industrialisation.

Other examples include Norway, Australia, and Alaska, where governments have successfully created large socially-owned funds using resources from the privatisation of natural resource extraction (Lansley et al., 2019). As already discussed in Part I, even though they were not strictly capital-sharing schemes, other East Asian governments also managed to connect household savings and investors during their high-growth episodes, at least, to some extent, even without an efficiently functioning banking system or stock market. For example, Japan used post offices for banking, which pooled small savings of ordinary people and directed them to investments by the Fiscal Investment and Loan Program (FILP) (Yoshioka & Kawasaki, 2016). In Korea, state banks played a similar role.

11.6 Conclusion

In the early stage of economic development, straightforward redistribution of resources away from the capitalists, who are the main agents of industrial expansion, retards capital accumulation and leads to the slowing of economic growth, which is the single most powerful social force in a developing country. While such a policy may improve social welfare in the short term, this amount to less employment generation and poverty reduction in the long term. The policy implication of this observation is that governments in developing countries may want to have a cautious approach to redistribution and refrain from retarding capital accumulation via high capital income and wealth taxes. This may imply more tolerance for inequality, especially between capitalists and non-capitalists, for the sake of a higher rate of investments but does not necessarily mean that a government cannot limit or even reduce overall inequality through more unconventional measures, such as the ones discussed in section 11.5.

12 When Redistribution is Growth-inducing: Developed Countries

12.1 Introduction

This chapter discusses the growth effects of redistributive fiscal policies in developed economies. Specifically, based on the recent empirical evidence, it discusses the policy implications of rising inequality in mature industrialised economies. It concludes that in developed economies, with high capital accumulation and advanced financial markets, downward redistribution of income and wealth would not hurt economic growth, but, on the contrary, it would stimulate investments via its positive impact on effective demand. The chapter utilises the Keynesian framework, specifically models advanced by Kaldor (1956) and Pasinetti (1962), to ground this claim in theory and discuss the current macroeconomic trends in advanced economies to substantiate it.

## 12.2 From Kuznets (1955) to Piketty (2014)

A pioneer of inequality literature is Simon Kuznets who published his seminal study in 1955. Kuznets observed that the relationship between the level of economic development and inequality is of an inverted-U type; the most and the least developed countries have lower levels of income inequality whereas the countries in the middle are the most unequal ones. Based on this cross-country observation, Kuznets put forth his hypothesis about how inequality relates to the long-run dynamics of economic development. According to Kuznets, inequality rises in the early stages of development and starts to decrease after a certain turning point, reaching low levels in advanced economies. Kuznets explained this pattern mainly as an outcome of structural transformation; using a dual economy model, similar to the one of Lewis (1954), he claimed that inequality rises as rural population is gradually integrated into the urban industrial economy and it decreases as the process of industrialisation proceeds and includes everyone.

Kuznets' curve has been criticised by many for being simplistic. Piketty (2014), for instance, claims that Kuznets was extrapolating from limited data that was available to him at the time, which led him to the overly optimistic conclusion that structural transformation unidirectionally determines and would automatically eliminate inequality. In fact, Kuznets did not suggest that economic growth per se would automatically reduce inequality, but that democratisation, widespread education, and the rise of the welfare state, which are supposedly

supported by income growth, would also play a role. Nonetheless, Kuznets' approach was still quite deterministic, which provided justification for a disregarding of inequality as an issue in economics and policymaking. Kuznets's stylised facts remained to be true for the most part of the 20th century, but newly emerging trends contradict the inverted-U hypothesis. Most developed countries, notably the US and the UK, have experienced a significant deterioration of income and wealth equality in the post-1970 period (Aghion & Williamson, 1998).

Contrary to Kuznets, Piketty (2014) asserts that a capitalist economy has an inherent tendency towards concentration of wealth at the top, not its dispersion to the bottom, unless it is counteracted by progressive taxation. Piketty's argument is based on extensive empirical analysis and most importantly the trends in the ratio of capital to national income (K/Y) in developed economies. It should be said right away that with capital (K), Piketty usually means wealth (i.e. current market value of all assets minus liabilities) and uses them interchangeably. Piketty observes that except for the period between 1910 and 1950, when developed economies were affected by two world wars and the Great Depression between them, the wealth-income ratio has never decreased since the early 19th-century (figure 12-1). Piketty claims that Kuznets' reading of the data was corrupted by this exceptional trend between the two wars, which Kuznets attributed to structural features of capitalist expansion rather than peculiarities of the period, such as destruction of capital due to wars and high taxation to finance them.

Figure 12-1: Private Wealth / National Income, 1870-2010
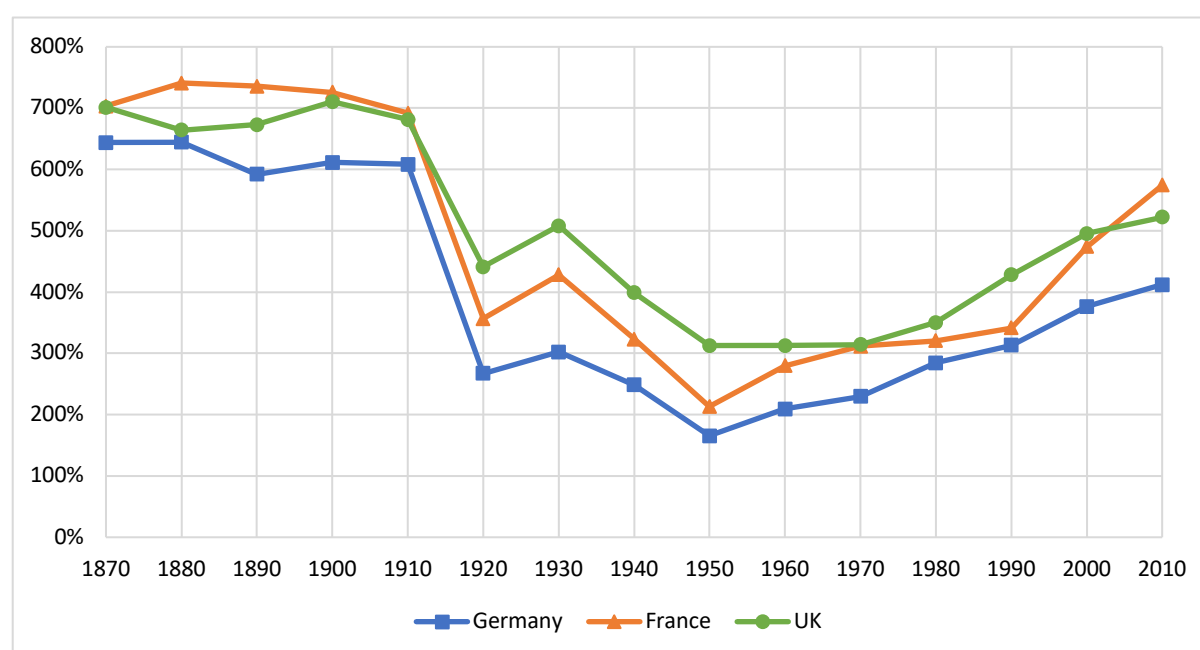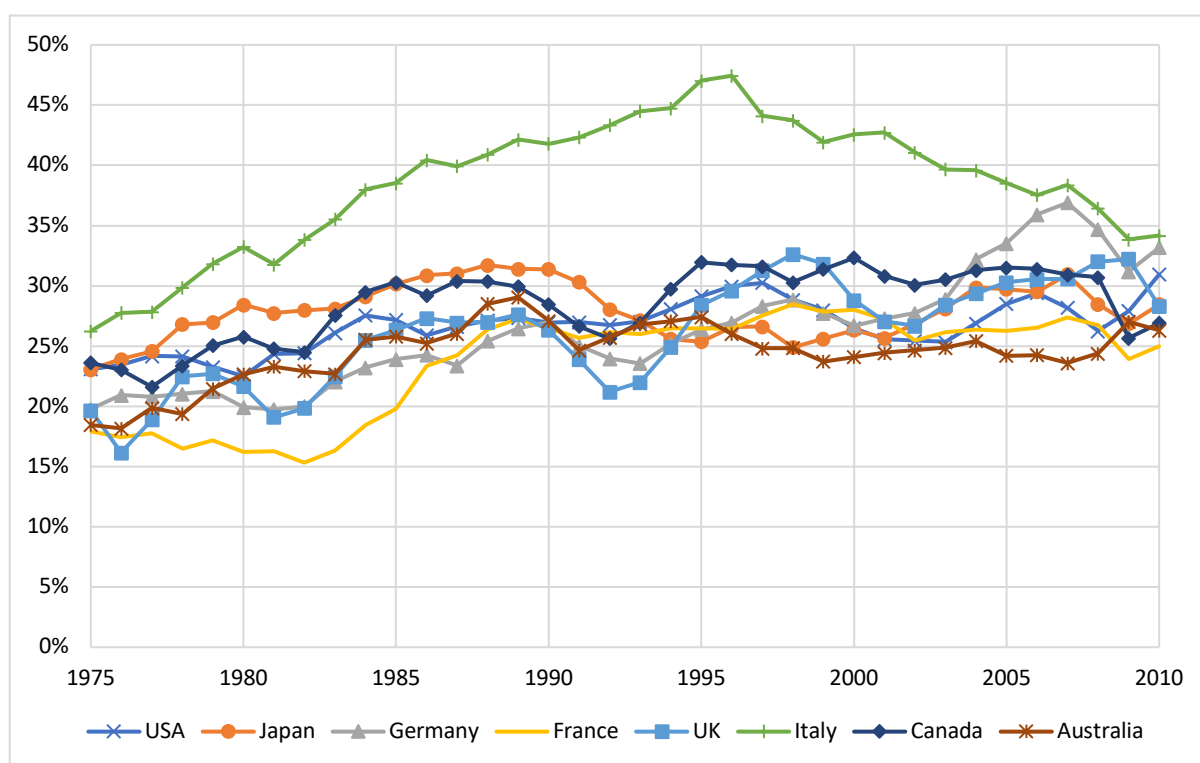

Source: Piketty and Zucman (2014)
Note: Decennial averages. 1910 refers to the average of 1910-1913. 2010 is only 2010.

According to Piketty, the concentration of wealth in a capitalist economy is caused by the fact that the net-of-tax return on capital is usually higher than the growth rate of the national income (r-T>g). Piketty notes that the rate of return on capital can be assumed to equal savings rate (r-T=s) because capital-owners are rich and they consume only a negligible share of their income (i.e. save almost everything they earn); so, capital grows faster than the national income (r-T=s>g) and the capital-income (K/Y) ratio keeps increasing. Piketty further claims that in the recent decades, the growth rates have been decreasing and are likely to continue decreasing in developed countries, because population growth is low and productivity growth is not as high as it used to be in the early post-war period. In other words, the steady-state growth rates of mature economies are declining. This implies that in developed economies, wealth concentration will accelerate even more because the long-run dynamics of the capital-income (K/Y) ratio is ultimately decided by the savings rate-growth rate ratio (s/g)[65]. Countries with low growth and high savings will naturally have a high capital-income (K/Y) ratio.

However, for the capital-income ratio to keep increasing, as Piketty claims, one needs to assume that the rate of return on capital (r) will not substantially decrease, and also that growth rate (g) will not rise. This is interesting because the standard neoclassical model suggests that, if the quantity of a factor of production is increasing relative to the others, the return on that factor should be decreasing. In other words, r should be diminishing in response to the rise in K/Y, because as capital gets concentrated, it should become more difficult to find a use for it. The standard model further assumes that this reduction in r should fully offset the rise in K/Y, so the capital's share in national income ((r-T).K/Y) stays constant. However, according to Piketty, this is not happening. Instead, r is largely stable, so there is no natural force against capital's expansion and its share in national income. In technical terms, Piketty claims that the elasticity of substitution between capital and labour, which should be equal to 1 according to the standard neoclassical model, is actually greater than 1, which leads to growing income inequality along with unbounded wealth concentration (see figure 12-2, 3).

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[65] For instance, if s/g ratio is equal to some constant x, then K/Y ratio will stabilise only when it is equal to x, which means in the long run, K/Y should approach to s/g=x.
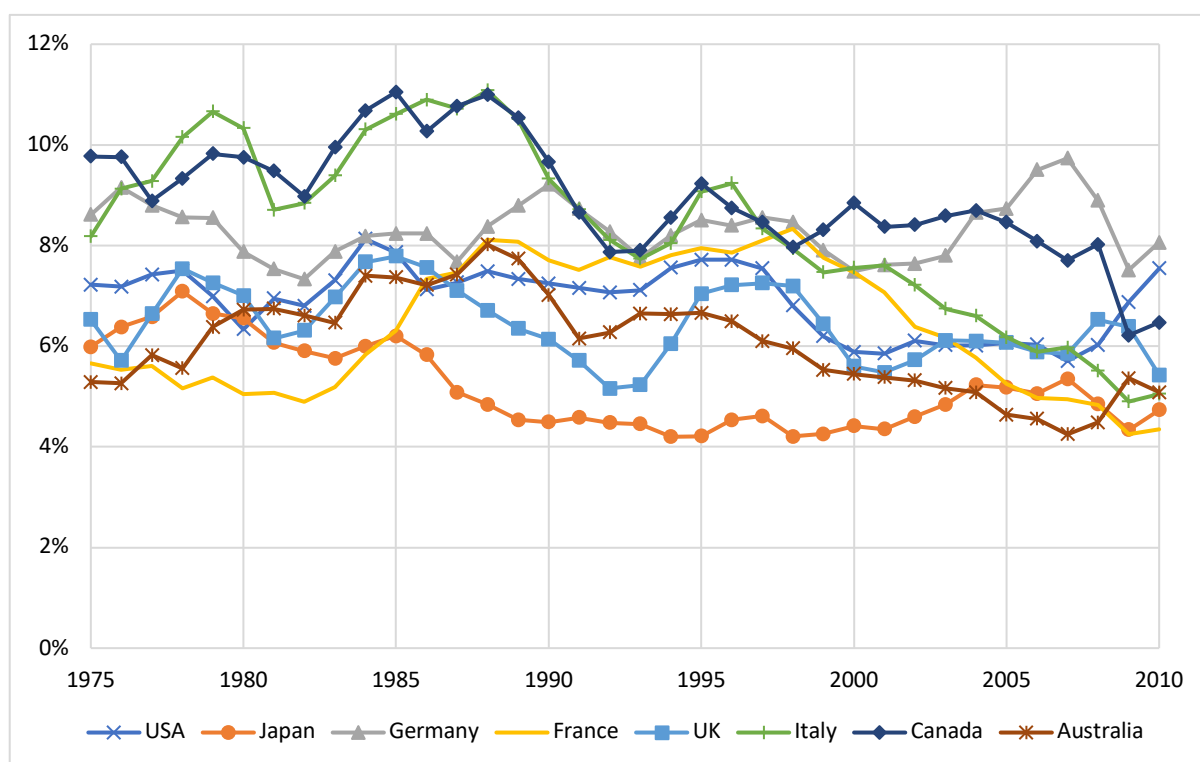
Figure 12-2: Capital Share in Factor-Price National Income, 1975-2010

Source: Piketty and Zucman (2014)
Note: Includes government interest

Figure 12-3: Average Return on Private Wealth, 1975-2010

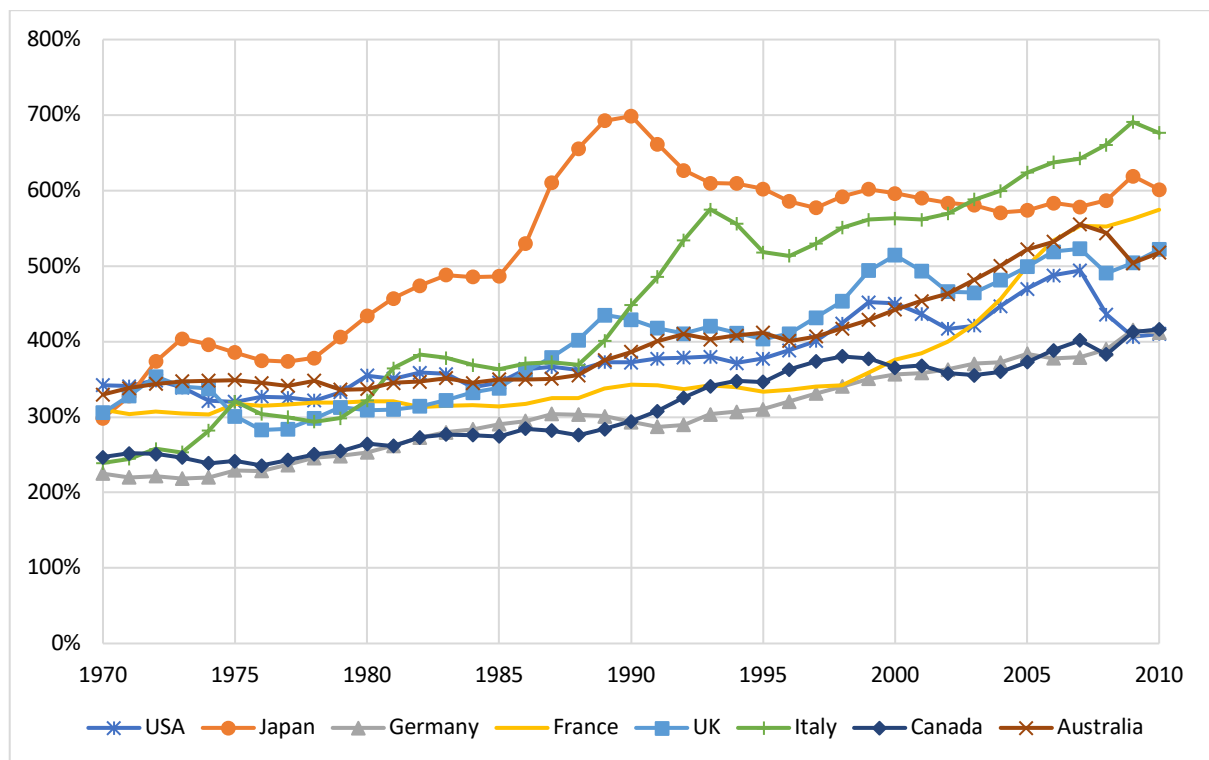Source: Piketty and Zucman (2014)
Note: Includes government interest

Given that the purpose of this study is to investigate the causal effect of policy on economic growth, Piketty's hypothesis about the trends of inequality is not directly related to the analysis provided here. However, Piketty's empirical observations have important policy implications for growth too. To summarise, Piketty claims that capital-owners are becoming richer both in income and wealth, and that contrary to the standard neoclassical model, there is no intrinsic mechanism, such as diminishing returns, which can arrest this process. Instead, more capital leads to higher income, which allows capital-owners to accumulate even more capital, and so on. Indeed, the data Piketty and his colleagues gathered show that after 1950, and especially since the 1970s, in almost all the developed economies, the wealth-income ratio has been steeply rising and approaching its 19th-century levels (Piketty & Zucman, 2014; figure 12-4). Having observed that inequality in developed countries is rising without any inherent limitation, Piketty proposes radical ways of tempering wealth concentration through redistribution, including a global wealth tax.

Interestingly, however, Piketty does not discuss possibilities of increasing growth rates, which would also reduce the wealth-income ratio[66]. In fact, as I would claim in this section, when looked at from a Keynesian perspective, the two objectives, reducing inequality and boosting economic growth, run in parallel. As discussed in previous chapters, in developed economies, where savings capacity is very high but profitable investment opportunities are relatively scarce, creating an imbalance between savings and inducement to invest, the main driver of economic growth is effective demand. Then, redistribution of wealth and income to poorer segments of a society would boost economic growth, along with reducing inequality, by transferring resources from wealth-owners, who save (and hoard) a larger share of their income, to the poor, who spend more on consumption and investments. But, to arrive at this conclusion, one first needs to disintegrate Piketty's *capital* into capital in the conventional sense and other assets.

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[66] Piketty assumes that the growth rates of mature economies with high income levels are determined exogenously by population and technological growth.

Figure 12-4: Private Wealth / Nation Income, 1970-2010

Source: Piketty and Zucman (2014)

12.3 Capital versus Wealth

As pointed out by many, Piketty's notion of capital does not correspond to the usual meaning attached to it in growth theory (Garbellini, 2018). When economists talk about capital, they normally mean a factor of production (i.e. accumulated and installed items used, or ready to be used, for the creation of goods and services), whereas Piketty takes private wealth, inclusive of real estate and financial assets, to be equivalent to capital[67]. However, a considerable fraction of wealth is not productive (e.g. cash, jewellery, or art collections) or do not employ labour (e.g. real estate), so cannot be considered capital in the conventional sense. Moreover, Piketty measures both income and wealth in monetary terms, which is also not in line with the conventional practice. Therefore, a more accurate description of Piketty's key empirical finding seems to be that the wealth-income (not capital-output) ratio is increasing in developed countries, but that this does not lead to a reduction in either the rate of return on

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[67] Piketty says, "Capital in all its forms has always played a dual role, as both a store of value and a factor of production. I therefore decided that it was simpler not to impose a rigid distinction between wealth and capital" (2014, p. 48).

capital or capital's share in national income, meaning that income and wealth inequalities are persistent and rising. However, this does not necessarily mean that productive capital is also expanding.

According to other studies, in developed countries, the conventional measures of capital-output ratio (when non-capital wealth is subtracted, and price effects are accounted for) has either declined or been largely flat in recent decades. For instance, Klump et al. (2007) estimate that the capital-output ratio in the US has declined considerably and almost steadily since the 1970s, whereas in the Euro area, it has first increased in the 1970s and the early 1980s and has been largely stable since then. Similarly, Thwaites (2015) estimates the average capital-output ratio for 11 developed economies[68] and shows that it has only slightly increased in the 1970s and has been mostly stable since 1980. Then, Piketty's theoretical explanation for increasing wealth concentration, relating to the elasticity of substitution, is not valid either, because there is no reason to expect the rate of return on capital to fall in response to an expansion of wealth. Indeed, many studies have documented that the elasticity of substitution between capital and labour is actually less than 1 in developed economies[69]. Therefore, real capital accumulation cannot be an explanation for rising income inequality. On the contrary, if there were more investments in capital, the return on capital (and hence wealth) would most probably decline and capital income suppressed.

Then, one still needs to explain why, if not through capital accumulation, wealth is expanding perpetually. Several studies pointed at the *valuation effect* (Rowthorn, 2014; Rognlie, 2014; Garbellini, 2018). Piketty measures both wealth and national income in current prices in his calculations of wealth-income ratios, based on the assumption that the latter operates as a numeraire, giving comparable measures across time and countries. However, prices of certain assets can increase more than proportionally to the general price level, which will lead to the expansion of wealth (measured in current prices), expressed in rising wealth-income ratio, without necessarily needing an expansion of real capital at constant prices. In that regard, Rowthorn (2014) points at housing, where prices have increased dramatically in developed countries in recent decades due to rising land values. According to Rowthorn (2014),

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[68] Australia, Austria, Denmark, Finland, Germany, Italy, Japan, Netherlands, Sweden, the UK and the US.
[69] See Klump et al. (2007) for a tabulation of these studies.

there has been no strong investment in real capital, and this strong valuation effect can explain the increasing wealth-income ratio better.

Importantly, the inclusion of housing in calculations of elasticity of substitution is problematic in itself. Surely, housing is also capital as it creates housing services, and it is indeed included in national accounts as such. However, as Rowthorn (2014) notes, "housing is not combined with labour in a production process in the same way as other types of capital" (p. 1277). Similarly, according to Solow (2016), housing can be considered as a very capital-intensive form of production and treated as such for certain purposes, but it is better to eliminate real estate from estimations of elasticity of substitution. Indeed, even though housing may be important for understanding the dynamics of inequality, considering its store value, it does not say anything about returns on capital investments. As it does not employ labour, there is no reason to expect the return on capital investments to decline because of an expansion in housing capital. This is arguably a major reason why Piketty's assertation about the elasticity of substitution being greater than 1 is misleading.

Rognlie (2014, 2016) calculates the sources of increasing capital share and arrives at similar conclusions. According to Rognlie, the aggregate production function gives a more reasonable basis for calculations of elasticity of substitution when housing capital is subtracted. Following this logic, he calculates the elasticity of substitution to be less than 1. Even though capital's share in income has been trending upwards since the 1970s, when it is disaggregated, this increase overwhelmingly comes from housing, while there is little change in income from non-housing sectors. There is a parallel expansion in the quantity of aggregate capital, but this is also mostly due to housing. Rognlie (2016) explains this trend with what he calls the *scarcity view*, in contrast to Piketty's *accumulation view*. Namely, the real reason for increasing housing capital and its income share is not the abundance of capital due to high investments, but the opposite; some forms of capital (e.g. housing and residential land) are becoming scarcer compared to demand. Because consumer demand for housing (and thus land) is price-inelastic, with scarcity, both its aggregate value and its contribution to capital's share increase.

Another major category of wealth in Piketty's data, apart from housing, is finance. To account for the capital stock of companies, Piketty uses market values of equities and corporate bonds (possessed by households). The premise of this approach is that these financial assets should represent firms' installed capital stock. In technical terms, Piketty assumes the Tobin's Q ratio (the ratio of firms' market value to the replacement cost of their capital) to be equal to

1 exactly (Garbellini, 2018). However, this strong version of the efficient market hypothesis is quite unlikely to hold especially for the historical period Piketty is interested in. As it is very well documented, since the early 1980s, the financial sector is becoming more and more disconnected from real economic activities, and stock prices usually do not represent the productive capacity of firms but are instead driven by speculation. Then, Piketty's measure of capital captures long-term trends in asset prices rather than actual improvements in productive capacity (i.e. real capital that is capable of producing goods and services).

Lazonick (2014a), for instance, discusses how, beginning from the 1980s, a substantial share of business profits does not get reinvested into productive use but instead being channelled into financial instruments in order to artificially boost stock prices. According to Lazonick, the priority of companies is increasingly not to improve their long-run business prospects by adding to their productive capital but to maximise shareholder value through some perverse financial activities, such as buying back their own shares, which result in higher stock prices and earnings per share, or excessive dividend payouts. Just between 2008 and 2017, 466 of the S&P 500 companies in the US have bought $4 trillion worth of their own shares, which amounts to 53% of their profits, along with distributing $3.1 trillion as dividends (Lazonick & Jacobson, 2018). Lazonick claims that this obsession with stock prices and shareholder value accounts for the fact that business investments have gradually been decreasing since the 80s, in contrast to the period between 1950-1980, when companies' priority was to retain profits and reinvest.

It should be noted that Lazonick focuses on the historical period when, according to Piketty, the wealth-income ratio has increased considerably. Given that financial wealth accounts for around 50% of gross private wealth in Piketty's data, these two trends, ultra-financialisation and wealth concentration, are most likely interrelated (Piketty & Zucman, 2014). However, this is a very different mechanism from what Piketty provides. Capital does not expand but, on the contrary, stagnates. When companies funnel their profits to the owners, there are little resources left for real investments. For the same reason, wealth continues to expand through higher stock values. Trillions of dollars are spent on stock buybacks and dividends, which rewards a small group of shareholders, instead of getting invested in productive capabilities, which create jobs and lead to *sustainable prosperity* (Lazonick, 2014a). On top of that, American companies are known to hold much more cash in their accounts than they used to in the past. Dittmar and Duchin (2016) report that in 1980, American companies

held $234.6 billion of cash, accounting for 12% of all assets, whereas in 2011, the same figure stood at $1.5 trillion, 22% of assets. In other words, the wealthy are hoarding, not investing.

Moreover, the rise of financialisation is most likely also related to increasing income inequality, especially in the US and the UK. Atkinson et al. (2011) observe that labour income inequality is much more salient in English speaking countries than it is in Europe and that it has risen drastically since 1980, reaching levels that were last seen before the World War II (figure 12-5). Lazonick (2014b) makes the case that "there is mounting evidence that buybacks bear substantial blame for the extreme concentration of income at the very top and the disappearance of middle-class jobs in the United States over the past quarter century" (para. 3) because stock-based compensation makes between 60 to 80% of top executives' pay. Stock buybacks increase stock prices, which in turn award executives for hitting short-term targets as well as through rising stock values. Lazonick (2014a) notes that, during the four decades since 1980, top executives' compensation multiplied several times, whereas worker wages were mostly sluggish, rising by more than 2% for 3 consecutive years for only once between 1998 and 2000. So, rising executive compensation and stagnating worker wages are caused by the same reason: declining investments in real productive capital.

Figure 12-5: Share of Top Decile in National Income, the US, 1913-2010
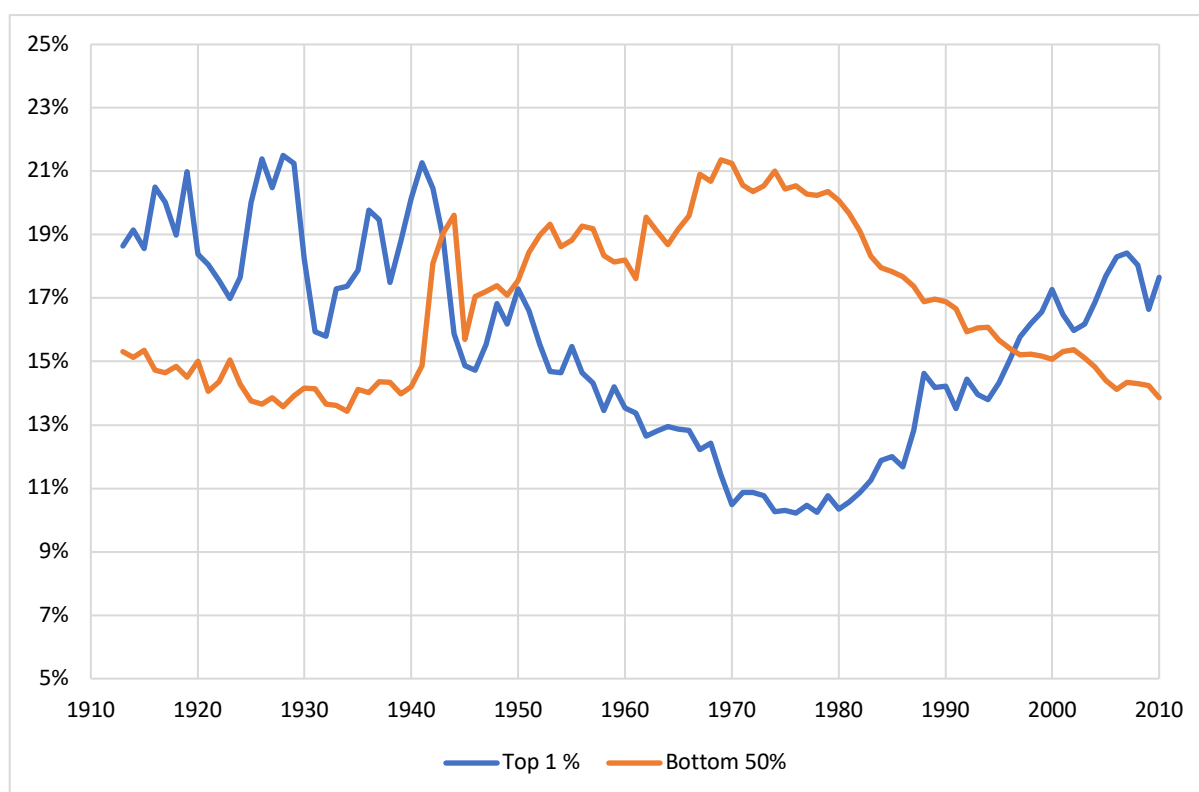
Source: World Inequality Database (2020)

The inclusion of the financial sector in national accounting, in itself, should also be questioned. The so-called *financial services* have only recently come to be seen as a value-creating sector itself rather than being an intermediary between savers and investors. In the 1970s, revenues generated through financial activities (e.g. banking and insurance) had risen so quickly that they came to be included in the GDP and started to be categorised as profits in national accounts (Mazzucato, 2018). Solow (2016) argues that, similar to real estate, financial services should be excluded from elasticity of substitution calculations because "it is so unclear what one means by output" in such activities (p. 60). He notes, of all corporate profits, finance accounted for around 15% in the 1960s and 70s, compared to around 40% on the eve of the 2008 global financial crisis. Solow (2016) says, "I cannot believe that this has anything to do with the marginal product of capital, as we understand that notion, or with the substitutability of capital for labor" (p. 61). Mazzucato (2018) also notes that most of the income generated through financial services are reinvested back into finance, insurance, and real estate instead of real productive activities, creating further momentum for the trend described above.

In fact, the most tangible support for the possible disconnectedness of capital and wealth also comes from Piketty and his colleagues. Piketty and Zucman (2014) simulate the wealth-income ratio in the absence of capital gains, which almost one-to-one maps Klump et al. (2007)'s estimations for the same period: capital-output has declined in the US and the UK and only slightly increased in Europe (figure 12-6). They further show that Tobin's Q ratio has considerably increased in recent decades. Piketty (2014) concludes:

> One can note a general tendency for Tobin's Q to increase in the rich countries since 1970. This is a consequence of the historic rebound of asset prices. All told, if we take account of both higher stock prices and higher real estate prices, we can say that the rebound in asset prices accounts for one-quarter to two-third of the increase in the ratio of national capital to national income in the rich countries between 1970 and 2010 (with large variations) between countries. (p. 238)

The "large variations" Piketty notes are in line with the financialisation argument. Tobin's Q ratio has risen much more in countries like the US and the UK, where financialisation is more advanced, compared to countries like Japan and Germany, where the real economy is more dominant and the financial sector has a more limited role (figure 12-7). Dore (2000), for instance, asserts that in the latter countries, stakeholders of a company are defined more broadly, and shareholders' rights are restricted by the interests of other stakeholders (e.g. business partners, customers, and foremost workers), limiting the financialisation phenomenon. While in the UK and the US, financialisation is dominating corporate

governance, in Japan and Germany, there is less pressure to maximise share value and more commitment to real investments.
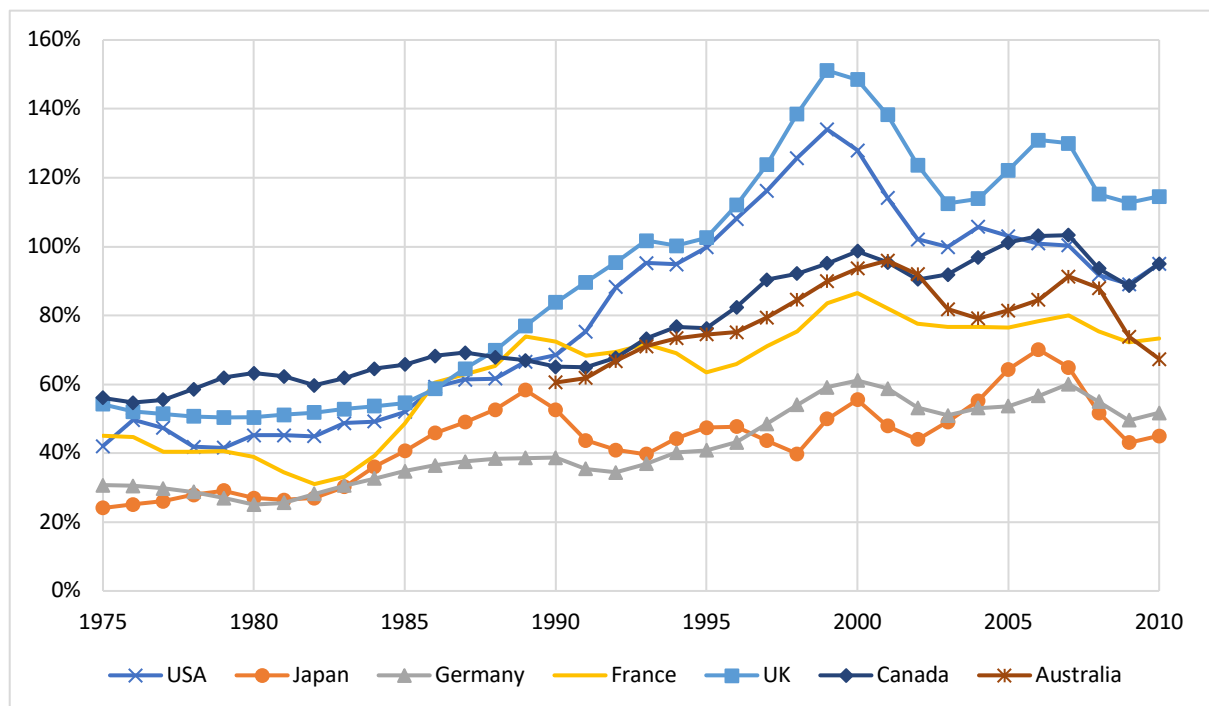
Figure 12-6: National Wealth / Nation Income (Excluding Capital Gains), 1975-2010
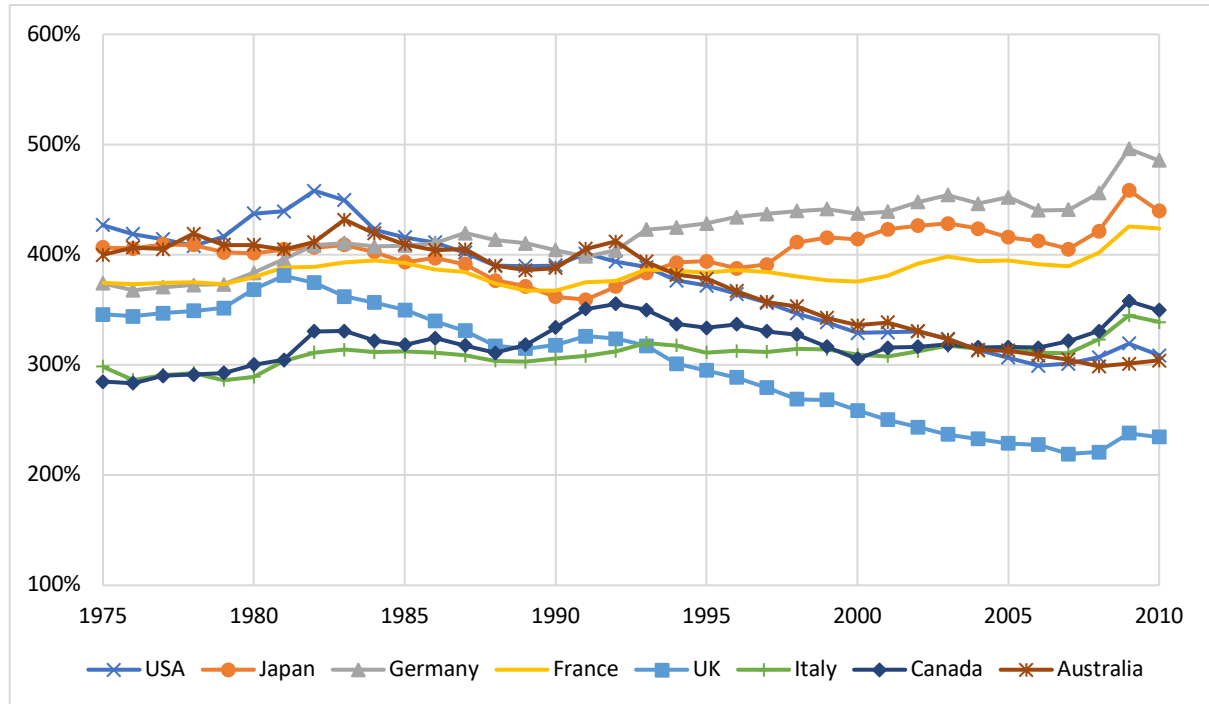
Source: Piketty and Zucman (2014)
Note: Simulation based on initial wealth/income ratios, national saving flows and real income growth.

Figure 12-7: Market Value / Book Value of Corporations (Tobin's Q), 1975-2010

Source: Piketty and Zucman (2014)

In short, the recent rise in wealth inequality in developed countries, that is expressed in the rising wealth-income ratio, has not been due to capital accumulation through real investments, but mostly due to the valuation effect (i.e. capital gains), caused by over-financialisation and increasing demand for real estate. The rich do not invest in productive activities but store their savings in other assets, such as land, houses, and financial papers. And that's why the rate of return on capital has largely been stable. Income accruing to wealth-owners has indeed risen but this is not due to increasing profits from employment-generating businesses, but due to rising rents, which keep getting reinvested into similar types of assets, if not outright hoarded. Because more and more resources are being channelled into these mostly scarce/speculative assets[70], their prices and aggregate values keep rising, leading to a spiral of income and wealth inequality. Simply put, Piketty (2014) talks about the rentiers, not entrepreneurs, as he himself is well aware: "The entrepreneur inevitably tends to become a rentier, more and more dominant over those who own nothing but labor" (p. 746).

12.4 Secular Stagnation and the Rentiers

It is not difficult to see that rising inequality, as well as the micro-level saving/investment behaviour of the rich, are directly linked to the macro-level dynamics of developed economies. Rising wealth inequality is a symptom as well as a cause of *secular stagnation*. Capital intensity in developed countries is already quite high, because demographic and technological growths are slowing, which reduces the return on new investments and thus investment demand. However, there is no parallel decline in the incentive to save. Because there are no adequate profitable investment opportunities, savings by the rich are being channelled towards non-productive assets (e.g. housing, land) or keep piling up in other forms (e.g. financial papers, corporate cash), which provides them with ways of earning rents and capital gains, but does not generate employment or income growth[71]. Thus, in the deflationary, stagnant environment of mature economies, capitalists turn into rentiers, who live off their

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[70] This is a contentious issue but here, by speculative assets, I refer to assets which have implausibly high prices, far exceeding their intrinsic values, often because there is high demand for them in expectation of increasing prices, which causes a vicious cycle in a self-fulling prophecy.

[71] As Lazonick (2014a) reports, indeed most companies say, "Our company is mature and has run out of profitable investment opportunities; therefore, we should return its unneeded cash to shareholders", however, this comes at the expense of long-term growth.

savings instead of entrepreneurial initiatives. This dynamic suppresses growth rates as well as leading to higher inequality.

Piketty's methodology is incapable of capturing this trend in an explicit manner, because his definition of capital includes all assets with store value, regardless of if they are used for producing value or not. Following Piketty's definition, all savings are necessarily investments, because all savings must be preserved in one form or another. In other words, if one does not make a distinction between wealth and capital, there is no distinction between savings and investments either[72]. This approach may make sense if one wants to analyse inequality or its implications for power and politics, but it leads to problematic conclusions in growth analysis, especially relating to elasticity of substitution between capital and labour. Relatedly, Piketty lacks the theoretical language to express the trends he is observing in the data, because he is reasoning in the neoclassical growth model, which does not have the necessary categories to accommodate Piketty's empirical observations (e.g. the divergence between capital and wealth or between savings and investment). This explains why he is redefining and reorienting the main concepts of the theoretical framework which he insists on using (e.g. elasticity of substitution, marginal return on capital, etc.). As already discussed, this attempt is criticised for misinterpreting the neoclassical language (Garbellini, 2018).

A more suitable theoretical framework for this analysis is arguably the Keynesian one. Some studies have pointed out the fact that Piketty's observations can be explained better within the post-Keynesian framework, making use of models developed prominently by Kaldor (1956) and Pasinetti (1962) (Taylor, 2014; López-Bernardo et al., 2014; Seccareccia & Lavoie, 2016). First, independence of savings and investment decisions is paramount, which, as already discussed, explains the divergence between capital and wealth. Second, the absence of effective demand in Piketty's analysis is another important problem; growth is not entirely exogenous (determined entirely by technology and demography) but affected by effective demand, which is endogenous and thus can be influenced by governments. This will be elaborated below. Third, when rentiers are differentiated from productive capitalists, it is easy to see the connection between rising income and wealth inequalities and secular stagnation. Keynes

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[72] Guyer (2015) notes, "Piketty seems committed to marginalist thinking, in a rather conventional capital-labor sense, which greatly limits his analysis of the qualitative shifts in the composition of capital that he himself shows the reader so clearly" (pp. 496-497)

famously called for "the euthanasia of the rentier", which he deemed "the functionless investor" as opposed to productive classes of capitalist entrepreneurs and workers (Keynes, 1936/1978, p. 376)[73] [74]. As Seccareccia and Lavoie (2016) put it, Piketty's research "does not carefully consider the Keynesian implications of these changes in income distribution, when studied from the strict angle of the rentier versus nonrentier sectors" (p. 207).

In fact, similarities between Alvin Hansen's description of secular stagnation and the recent decades are quite visible in corporate dynamics, inequality patterns, and macroeconomic indicators. Corporate buybacks or their propensity to hold more cash surely look like what Keynes called *hoarding* or *sinking funds*, or what Hansen problematised in the 1930s as excessive corporate savings. What Keynes said in the 1930s seems to hold true today, that "in existing conditions saving by institutions and through sinking funds is more than adequate" for the maintenance of a stable full-employment equilibrium (1936/1978, p. 373). Moreover, Keynes's conceptualisation of the rentier class and differentiation of it from the productive capitalist crystallises the observed pattern[75]. When looked at from this perspective, it is trivial to see that the rising inequality since the 1980s is not due to the rise of capitalists or the expansion of capital but rather the widening gap between rentier capital and productive capital (or wealth and capital), which is itself caused by the imbalance between inducement to save and investment demand in the context of secular stagnation.

Here, I also arrive at a policy conclusion. To avoid wealth concentration, countries need more real investments in capital, not less of it. When capital is measured properly, the elasticity of substitution is most likely less than 1 in developed economies. So, if the return on wealth gets reinvested in real capital rather than non-productive assets, this would increase labour income more than capital income, and thus lead to a reduction in capital's share. More importantly, not only increasing real investments would help reduce inequality, but redistribution would also help increase real investments. As Piketty (2014) notes, the rich save

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[73] Seccareccia and Lavoie (2016) note that Keynes originally planned to have a whole chapter in *General Theory* entitled "Influence of Changes in the Distribution of Income between the Rentiers and Earners."

[74] Here, it is also in place to quote Pareto: "…men's activity takes two different directions: it tends to be directed first to the production or transformation of economic goods, and second to the appropriation of goods produced by others" (1906/2014, p. 235).

[75] In fact, rentier class had already been conceptualised before Keynes by classical theorists. It was used in a pejorative sense to describe unproductive rich, mostly landlords, who live off their property without really producing anything.

almost their entire income so there is a direct relationship between their income share and overall savings rate. Redistribution of income should reduce the savings rate (increase the consumption rate) and boost effective demand, which incentivises real investments. This virtuous cycle would feed into higher growth rates as well as lower inequality levels, and equate ex-post savings and investments at higher levels of output and employment. To prove this argument, it suffices to show how increased inequality depresses aggregate demand and thus investments.

Mian et al. (2020a), for instance, document that, beginning from the 1980s, rising wealth and income inequalities in the US have generated what they call a *saving glut of the rich*: saving by top income- and wealth-owners has dramatically increased as a share of the national income, but this has not translated into a parallel rise in total investments. On the contrary, during the same period, domestic investments by the private sector and the government have significantly dropped. The additional savings of the rich have instead financed increasing household debt by the non-rich (table 12-1). Specifically, Mian et al. (2020a) report, removing the veil of financial intermediation reveals that the top 1% of the income distribution has accumulated their excessive savings in financial assets that are linked to debt obligations of the bottom 90% and the government. Moreover, according to them, this amplifies the income inequality via debt service payments flowing from the poor to the rich. Poor borrow from the rich to finance their dissavings and pay a part of their already stagnating income in interest, which creates a downward spiral between rising inequality and rising household debts.

Table 12-1: Savings Across Income Groups and Channels of Absorption (% of NI), the US, 1963-2016

	Top 1%	Next 9%	Bottom 90%	Total	Net Invest.	Current Acc.	Public Borrowing	Total
1963-1982	2.8	6.5	4.4	13.7	11.4	0.3	3	14.7
1983-1997	4.2	3.9	2.2	10.3	8.8	-2	5.1	11.9
1998-2007	7.1	3	-2.9	7.2	9.1	-5	2.6	6.7
2008-2016	6.4	4.2	-0.4	10.2	4.6	-3.3	8.6	9.9

Source: Mian et al. (2020a, pp. 17, 19, 21 table 1, 2, 3)
Note: Total savings (left-hand-side) equals total absorption (right-hand-side), with a statistical discrepancy.

It should be noted that Mian et al. (2020a)'s study constitutes a direct rebuttal to the trickle-down theory in the context of developed economies. Rich indeed save a bigger share of their income, but this does not automatically mean that they also invest more. In an

environment where the rate of return on capital is low, they channel their resources to other assets where they earn easy rents, further reducing the rate of investments and growth, due to lower effective demand. Then, the idea that redistribution may put off entrepreneurial ventures and thus reduce growth and employment is not true. As Keynes (1936/1978) put it, "one of the chief social justifications of great inequality of wealth is, therefore, removed" (p. 373). On the contrary, increasing income inequality depresses the level of investments, leading to a lower-than-full-employment equilibrium. This is the famous *paradox of thrift*, conceptualised by Keynes: rising savings rate, while may be benefitting the savers, harms the national economy.

Mian et al. (2020a; 2020b) takes the analysis to the next step and make the case that rising inequality is indeed responsible for weakening effective demand. Because the rich save more but do not invest, increasing inequality puts downward pressure on aggregate demand. To maintain the macroeconomic equilibrium, the savings of the rich are transferred to the rest of the society through borrowing. In other words, equilibrium between savings and investments (or aggregate supply and aggregate demand) at the macro-level is obtained via financial intermediation between the rich and the non-rich. However, because the borrower has to pay interests to the rich, effective demand is still reduced. In the process, interest rates (i.e. cost of borrowing) have to keep decreasing for the poor to be able to continue borrowing and macroeconomic equilibrium to be sustained. Borrowing by the non-rich keeps rising, and as interest rates approach the negative territory, we see a serious reduction in the level of output. This is again a manifestation of the paradox of thrift.

So far, this is an accurate description of what happened in developed economies from the early 1980s to the 2008 Financial Crisis and afterwards. Until the crisis, the levels of output could have been sustained *to some extent* by gradually declining interest rates and increasing household debt, which led to the expansion of the financial sector and the housing bubble. When the bubble burst, interest rates hit the zero lower bound and have remained there since (figure 12-8, 12-9). Now, because borrowing cannot get any cheaper, consumption cannot be sustained, and growth cannot be recovered even to its previous levels, which had already been suppressed. The lesson, according to Mian et al. (2020b), is that financial liberalisation or deficit spending by the government cannot solve the deficient aggregate demand problem, because financial intermediation between the rich and households or the government deepens the problem by transferring even more resources to the rich via debt servicing. Arguably, this conclusion is dependent on where the government actually spends. In any case, they prescribe

governments to aim for a more structural cure: redistribution, not the borrowing, of the saving glut of the rich.

Rachel and Summers (2019) make the case that declining interest rates across developed economies since the early 1980s are not caused by changing liquidity preferences or precautionary behaviour of economic agents, as in standard macroeconomic models, but rather *secular* changes in saving and investment tendencies. According to them, the so-called *Wicksellian natural rate of interest*, that is the rate of interest required for sustaining the savings-investment equilibrium at the full employment level, has been steadily declining due to secular stagnation. It should be noted that this approach is a serious deviation from the orthodox understanding of macroeconomics, that is a short-term analysis of self-correcting business cycle fluctuations around an exogenously determined long-term equilibrium, towards an analysis of the structural problems afflicting the long-term equilibrium itself.

Figure 12-8: 10-Year Government Bond Yields, 1960-2019
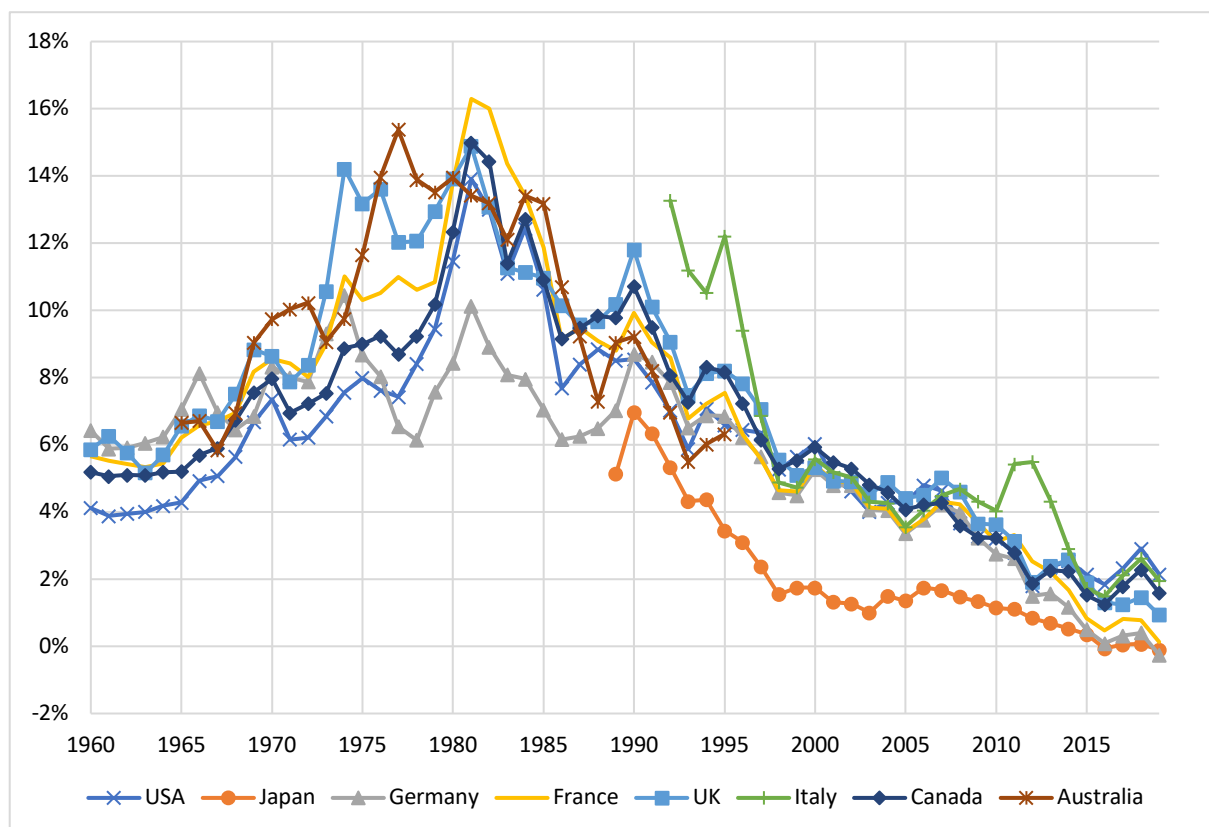
Source: OECD (2020b); retrieved from FRED, Federal Reserve Bank of St. Louis.

Figure 12-9: Household Debt / GDP, 1960-2016
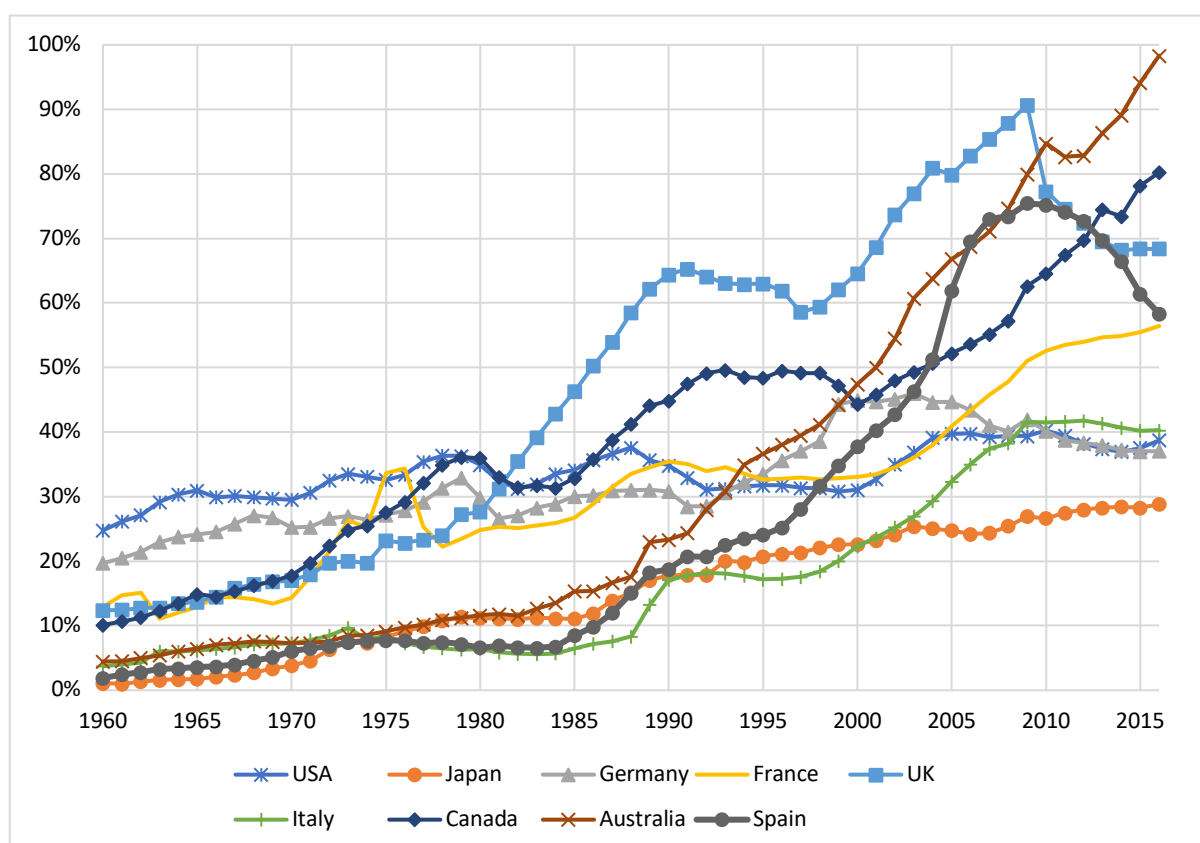
Source: Jordà et al. (2017); retrieved from Jordà-Schularick-Taylor Macrohistory Database.

At this point, it is obvious how redistribution can be a macroeconomic issue and that the Keynesian demand analysis is central to a discussion of inequality. Classical economists were easily convinced that all savings are reinvested back into capital, so according to them, when the rich get richer, the savings rate rise, and this dynamic leads to increased growth. However, what we have witnessed in developed economies in recent decades, and before when Alvin Hansen was writing about secular stagnation, is that a big part of income accruing to capitalists is siphoned out of the real economy and saved in non-productive assets instead of being reinvested. Anticipating lower return on their capital investments in the long run, the rich save their income in financial papers or real estate[76], which amounts to a vicious cycle between lower investment by the rich, lower consumption by the poor, lower profits, and so on. In other

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[76] In an article published in Washington Post, Ben Inker, co-head of asset allocation at GMO, an investment-management firm, says: "Corporate profits are very high, but corporations are not expecting a huge burst of growth. Given that they're not expecting a lot of growth, there isn't a lot of reason to invest. So they're finding ways of getting money back to shareholders" (Yang, 2013).

words, the rich are not the capitalists Classicals knew from the 19th century, but the rentiers who Keynes observed in the 1930s. Or, they are closer to the 19th-century landlords who Classicals associated with rents, rather than the capitalists, who earn profits.

Following the discussion above, Keynesian prescription for redistribution is quite straightforward: "measures for the redistribution of incomes in a way likely to raise the propensity to consume may prove positively favourable to the growth of capital" (Keynes, 1936/1978, p. 373). Two types of redistribution seem to be able to accomplish this task. First, governments can simply transfer resources from the rich, who have a higher propensity to save, to the poor, who save less. Turning back to Piketty's formulation above, if the savings rate is indeed a one-to-one function of after-tax return on capital (i.e. s is equal to r-T), then governments can reduce savings by the rich and boost effective demand simply by raising capital income taxation (T) and reducing wage taxation in a revenue-neutral way or increasing public spending with an equal amount to keep the budget balanced. This would lead to an increase in effective demand and thus growth rate. Moreover, if the dynamics of wealth concentration is decided by (s-T)/g, then such a tax reform would limit inequality as well.

It is also possible to see such a redistributive scheme as transferring the savings glut of the rich to the poor through not financial intermediation but through taxation, which eliminates debt servicing payments. Seccareccia and Lavoie (2016) supports this approach:

> A significant redistribution away from wealthy rentiers, whose propensity to consume may be low, may actually be beneficial to aggregate demand, since it would essentially be reducing the debt burden of low-income households, part of whose income would otherwise be going to transfer income to high-income rentier households. (p. 204)

This is indeed true, as is shown by Mian et al. (2020a; 2020b) in their empirical investigation. In this way, effective demand would be increased and the income accruing to the wealth-owners (creditors) would be reduced as much as the servicing payments between two sectors of the economy (debtors and creditors).

Second, governments can redistribute from the rentier to the productive capitalist. It should be remembered that in the Keynesian framework, the central problem is to boost effective demand, which kick-starts the multiplier mechanism and helps boost the inducement to invest, income levels and consumption rates. In other words, as long as the capitalists invest

all their savings, a high savings rate should not be a problem. Keynes (1936/1978) implies this in the following quote:

> The transfer from wage-earners to other factors is likely to diminish the propensity to consume. The effect of the transfer from entrepreneurs to rentiers is more open to doubt. But if rentiers represent on the whole the richer section of the community and those whose standard of life is least flexible, then the effect of this also will be unfavourable. (p. 262)

So, a fiscal policy that tilts the economic structure towards the interest of productive capitalists, with a higher propensity to invest, and against the rentiers can also contribute to economic growth. Note that, if the elasticity of substation is less than 1, this would also reduce income inequality by improving employment and labour share of national income. In this regard, raising taxes on inheritance, interests, dividends, and capital gains can be punishing for the so-called coupon-clippers and large estates-owners, whereas tax breaks for reinvested profits, or profits from employment-generating investments as well as public spending on infrastructure, which increases the productivity of the private sector, can benefit the productive capitalist. Taxation of wealth (at market value) is also very important especially because in most developed countries, capital gains (i.e. valuation effects) are not taxed until they are realised, which allows the wealth-owners to save their earnings from capital gains without having to pay taxes.

As discussed in Part I in passing, Güvenen et al. (2019), for instance, shows that switching the burden of taxation from capital income to wealth, even without changing the wage tax, can realise this objective. Wealth taxation punishes unproductive or low productivity assets (or idleness) as well as productive capital equally but spares capital income. Then, a revenue-neutral tax switch from capital income taxation to wealth taxation should benefit capitalist entrepreneurs who earn a high rate of return on their productive capital and punish unproductive wealth-owners whose assets do not produce value (i.e. income). In other words, a wealth tax reallocates wealth from those who do not use it to those who do, which Güvenen et al. (2019) call the use-it-or-lost-it effect. They argue that this improves welfare and productivity and thus benefits most of society. This mechanism is overlooked in the literature because wealth-owners are assumed to be homogenous (i.e. the rate of return on wealth is the same across individuals), in which case there is not much difference between the taxation of capital income and wealth.

12.5 Redistribution and Productivity

In a setting such as described above, growth implications of redistribution go beyond its impact on effective demand. Redistribution can improve growth not only by increasing investments and the capacity utilisation rate of physical capital but also by increasing productivity through its encouragement and enabling of poor individuals to contribute to the economy. In their seminal study, Galor and Zeira (1993), for instance, introduce a model where, unlike in standard representative agent models in the neoclassical literature, the distribution of wealth has macroeconomic implications in the presence of credit market imperfections. Specifically, they argue that, when borrowing is not possible or very expensive, poor individuals are unable to invest in education even though it may promise high returns, which reduces the rate of growth by leading to a lower aggregate human capital stock. Then, wealth redistribution towards the poor raises overall productivity and economic growth by enabling poor individuals to invest in human capital.

Benabou (1996) develops Galor and Zeira (1993)'s model by incorporating knowledge spillovers in micro-level production (of both physical and human capital). According to Benabou, because individual firms learn while producing (i.e. learning-by-doing) and because there are knowledge spillovers across firms, micro-level production functions are different from macro-level production function; namely, the same level of aggregate capital can create more output if it is distributed to more people because this would increase positive externalities from micro-level knowledge acquisition and diffusion between firms. Therefore, redistribution, by enabling more people to invest, is expected to increase the growth rates of aggregate productivity and income. Obviously, this reasoning may not apply to some sectors where scale matters more than the number of firms for increasing productivity.

Aghion et al. (1999) introduce a model where the marginal return on investments decreases at the individual level, rather than at the aggregate level. What this implies is that, when there are borrowing constraints, the rate of return on investments by the poor is higher than on those by the rich, because poor individuals' investments are constrained by their initial wealth and thus cannot reach their profit-maximising levels. Then, a redistribution of wealth from the haves to the have-nots should increase the aggregate rate of return by resolving this misallocation of resources. Galor and Moav (2004) argue that assuming diminishing returns at the individual level is a more valid approach for human capital rather than physical capital investments. This is because human capital, unlike physical capital, is necessarily embodied in

humans, and there are physiological limits to learning, so extra units of investments in education are expected to bring less and less return for an individual. In simpler terms, the return on human capital investments should be higher for those who have less of it.

It should be noted that this line of thinking in the literature directly relates to the discussion above. If, in the presence of capital market imperfections, a more egalitarian distribution of wealth and income indeed leads to a higher aggregate productivity level for any of the reasons discussed above, then redistribution can be proposed in developed countries as a solution to the problems of both secular stagnation and increasing wealth concentration. Namely, redistribution can improve the average rate of return on physical and human capital investments by giving resources to those who have less of them and thus use them more productively, and thus break the vicious cycle between declining returns on investments, due to capital saturation, and rising wealth concentration in the hands of the rentiers. Note that apart from its positive impact on effective demand, this is a distinct and further reason why redistribution can increase economic growth as well as effectively reducing inequality in developed economies.

However, according to Galor and Zeira (1993), this reasoning applies to only sufficiently wealthy countries, where redistribution pulls more people above a certain threshold-level of wealth that is enough to enable a person to invest, whereas in a poor country with limited per-capita wealth, a more equal distribution may actually imply that even fewer people are above that threshold and thus capable of investing in education. Following this logic, a distinction can be made between rich and poor countries in terms of the conclusions of Benabou (1996)'s study as well. That is, if there are investment indivisibilities, then dispersion of already limited resources may not be a good idea in a poor country, whereas it can enable more people to invest in rich countries. In short, redistribution can harm growth in a context where capital stock is limited and needs to be concentrated for indivisible investments to be realised, whereas it can induce higher growth where capital stock is vast but concentrated in a small group of individuals or firms that operate beyond the optimal-productive scale[77].

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[77] Indeed, many argued that the reason for low productivity growth in many developed economies in recent decades is the concentration of capital by a few giant companies which face little competition.

Moreover, productivity growths in developing and developed countries are different in nature and often achieved via different channels. As already discussed, in developing countries, technical progress is achieved mostly as a by-product of physical capital accumulation, rather than via exogenous technological advancements; namely, new techniques and novel practices are usually embodied in imported capital goods (e.g. machinery and equipment) and thus transferred from developed countries, rather than being true innovations from "a global point of view" (Chang, 1993, p. 145). Then, it can be argued that the concentration of resources in the hands of the capitalist class, which is more supportive of physical capital accumulation, can increase productivity growth in developing countries. In developed countries, however, human capital accumulation and knowledge creation (e.g. innovations, discoveries etc.) are often more important than physical capital accumulation for productivity growth. Then, in developed countries, a wider distribution of capital and easier access to education can be more effective in increasing growth by getting more people engaged in such creative processes and human capital investments.

Galor and Moav (2004), for instance, claim that the positive effect of inequality on growth was more prevalent in the early stages of the industrial revolution, when physical capital accumulation was the main engine of economic growth, because it increases savings and thus the investment rate, whereas its negative effect is more prevalent in contemporary economies, where human capital investments have become the main engine of growth. So, they formally combine the Classical approach and the above-discussed models with imperfect credit markets, claiming that the former applies to early stages of development better whereas the latter applies to later stages of development. As Galor and Maov (2004) put it, "Inequality is beneficial for economic growth in economies in which the return to human capital relative to the return to physical capital is low, whereas equality is beneficial for economic growth in economies in which the relative return to human capital is high" (p. 1004). Arguably, this reasoning is not only a historical interpretation but applies to countries currently at different stages of development as well.

Brueckner and Lederman (2018) estimate the growth effects of inequality in countries with different income levels and arrive at conclusive evidence in favour of this argument. Utilising panel data between 1960 and 2015, they show that the effect of a rise in income inequality (measured with Gini coefficient) on GDP per capita growth is positive in low-income countries with less than $3,000 initial average income (2015 purchasing power parity)

whereas it is positive in higher-income countries above that threshold. In particular, in response to a 1%-point increase in the Gini coefficient, the long-run level of GDP per capita increases by 4% in a country with a $1,000 initial GDP per capita, below which countries are considered low income by the World Bank, whereas it decreases by 6% in a country with $12,000 initial GDP per capita, above which countries are considered high-income by the World bank. Moreover, they also show that, in rich countries, there is a negative relationship between attendance to tertiary education and inequality, whereas there is a positive relationship between the two in poor countries.

Lastly, two studies provide support for asymmetric or opposite growth effects of inequality at different stages of development. First, Castellò and Domenéch (2002) find a negative relationship between income inequality and economic growth, when income inequality is considered alone. However, when income and human capital inequalities are considered simultaneously, income inequality has a positive coefficient, whereas human capital inequality has a negative coefficient. This result can be interpreted as a confirmation of the argument that inequality has a negative growth effect via human capital investments, whereas it has a positive growth effect via physical capital investments. Second, Forbes (2000) finds an overall positive relationship between inequality and growth but also provides evidence for the asymmetric growth effects of inequality in poor and rich countries; the positive growth effect of inequality in poor countries is almost twice as high as it is in rich countries.

In short, redistribution can have substantial growth effects in developed economies via its effect on productivity growth. While, in developing countries, productivity growth is facilitated more by the concentration of wealth in the hands of the capitalist class, which accelerates the accumulation of physical capital, in developed countries, it is facilitated more by the dispersion of capital, which enables more individuals to engage in productive processes, invest in human capital, and thus accelerates knowledge creation. Therefore, the impact of redistribution on growth can be expected to change, and even reverse, along the development path. Under the assumption of capital market imperfections, aggressive redistribution, especially between capitalists and non-capitalists, can harm growth in developing economies, where the capital-labour ratio is low and the engine of growth is capital accumulation, while it can support growth in developed economies, where, due to capital saturation, the real engine of growth is human capital accumulation and innovations (aside from rising effective demand).

12.6 Conclusion

In developed economies, there is a direct and a two-way relationship between the observed tendency towards higher income and wealth inequalities and secular stagnation. Namely, where the capital-labour ratio is high, return on investments is low, so savings capacity exceeds inducement to invest. Then, the rich are more and more inclined to accumulate their savings in unproductive assets rather than productive capital, turning them into rentiers from productive entrepreneurs as well as reducing the growth rate. In such an environment, the main driver of growth is effective demand, because it raises profitability and incentivises real investments. Therefore, redistribution is expected to create a virtuous cycle between declining inequality and rising economic growth via its positive impact on effective demand; by transferring resources from the rich towards the poor, it increases effective demand, which in turn drive investments. Moreover, assuming that the elasticity of substitution is less than 1, a higher investment rate would also reduce inequality by increasing the labour's share in national income.

13 Political and Social Considerations Regarding Redistribution

The discussion above investigates how redistribution connects to economic growth at the macroeconomic level; it focuses on how redistributive policies affect growth via their influence on aggregate demand and supply or aggregate productivity levels. However, redistributive policies do not emerge in a vacuum but are determined by social and political preferences and limited by administrative constraints. It is plausible to argue that these factors are also affected by the levels of economic development or inequality. Therefore, it is necessary to discuss, even briefly, how, depending on the stage of economic development, social and political preferences may relate to the nexus between redistribution and economic growth.

Redistribution is always a politically contentious issue. Obviously, those who have more wealth and income will challenge reforms in favour of redistribution. Although the rich, by definition, constitute a small fragment of the society, they enjoy much greater power and thus the ability to influence policymaking through lobbying, control over media, or funding of political campaigns. Then, those who want to reform fiscal policies in favour of more redistribution have to deal with the pressure coming from the wealthier and usually more powerful segments of the society. It should be noted that rising inequality means even further power imbalance, which can make it even more difficult to realise such reforms. Persistent economic inequalities can translate into political disparities and be institutionalised, in which case they are more difficult to dismantle and long-lasting, though high and rising inequality may sometimes also increase the pressure for redistribution if it leads to a greater backlash and political activism. Especially in an economy where inequality is crippling income growth, the vicious cycle between more inequality and less growth has significant implications.

In democratic countries, it may also be difficult to oppose populist demand for redistribution, which may come at the expense of economic growth. If the rich use the resources they command in productive ways, providing employment and improving income growth, then aggressive redistribution can be harmful to economic performance. Especially in the context of a developing country, as discussed above, growth usually goes hand in hand with capital accumulation, often concentrated in the hands of a small capitalist class, which can cause social and political backlash. Then governments face the dilemma of choosing between distributing resources to the less fortunate members of their societies and concentrating them in the hands of those who put them to best use. There seem to be no easy answers to this dilemma, which

can also be expressed as a choice between higher current welfare versus more growth and thus higher future welfare, but governments can come up with smart formulations, such as redistribution of rents from unproductive assets, cooperative organisations, or sovereign wealth funds, etc., which give workers a share from increasing returns to growing capital stock (see chapter 11.4).

Another important issue for redistribution is capital mobility. As already discussed, rich people can move to tax havens when they feel threatened by progressive taxation, which is a major obstacle to the implementation of redistributive policies. Many have claimed that one of the reasons why income and wealth inequalities have risen dramatically in most economies around the world since the 1980s was the rise of neoliberalism. Since the neoliberal transformation, governments implemented largely pro-rich policies, which involved lower barriers for international capital movements as well as lower taxes on capital income and wealth. This allowed the rich to transfer their wealth freely to wherever taxes are lower and led to tax competition between governments, forcing them to reduce the tax burden on capital in order to attract investments. Not to mention, for the same reasons, there has been a wave of labour market deregulations across the globe, in favour of capital and at the expense of workers.

However, with rising inequality and long-term stagnation in wages, there has also been a backlash against the neoliberal policy paradigm especially since the 2008 financial crisis. This explains the increased interest in redistributive reforms in developed countries in recent years. Specifically, wealth taxation has become popular in policy circles in the US. Of course, the challenge of capital flight remains, so there is a discussion on how to prevent it. Saez and Zucman (2019), two academics at the forefront of wealth tax discussion, argue that taxing wealth only above a very high threshold (e.g. $50 million in the context of the US) would limit the risks of capital flight and also reduce the unwanted disadvantage imposed on illiquid small business owners. Also, a coordinated international effort by governments to simultaneously raise taxes on wealth would also increase the chance of success for the implementation of higher wealth taxation. Developing countries would most likely follow suit, without risking capital flight, which would reverse the trend that has taken place since the 1980s. It is also possible that at least some major developed economies (e.g. G7 or G20) can enact coordinated policies for closing tax loopholes or refusing to enforce contracts involving individuals and entities based in tax havens.

Social preferences regarding redistribution can be affected by other factors as well. Alesina and Giuliano (2011) provide a brief survey of studies in the literature which investigates the causes of different preferences for redistribution. Interestingly, most studies focus on micro-level characteristics such as individual history (Piketty, 1995), parental education (Benabou & Tirole, 2006) or cultural tendencies, such as belief in equality versus individualism (Alesina & Glaeser, 2004), etc.. However, there does not seem to be empirical studies connecting social preferences for redistribution to the level of economic development. It is argued above that there does not always need to be a trade-off between more downward redistribution and higher growth, especially in contexts where effective demand is the main driver of economic growth, but when there is a trade-off, social preferences between a higher income level and more egalitarianism can change as the average income level rises, which may also justify different policy priorities at different stages of development.

It is plausible to argue that, when income levels are low, people are less concerned with inequality than economic growth. Some developing nations, especially the so-called emerging economies, perform substantially better than developed countries in terms of average growth rates because they are at an earlier stage of economic development, but growth rates in these countries are largely volatile over the years and very sensitive to policymaking. Furthermore, due to low average income levels, even the slightest changes in income levels bring about important welfare effects in these countries. Then, as long as economic growth is high and it benefits all layers of the society at least to some extent, addressing inequality may not come forward as a social priority. In his influential paper entitled *The Changing Tolerance for Income Inequality in the Course of Economic Development*, Albert Hirschman, for instance, famously argued that individuals may tolerate rising income inequality more in a fast-growing economy if they expect their income to improve as well. Using a traffic metaphor, Hirschman calls this *the tunnel effect*: when stuck in a two-lane tunnel, a person may actually prefer a situation where drivers in the other lane begin to move if she takes this as a sign that she will also start moving soon (Hirschman & Rothschild, 1973).

In later stages of economic development, growth slows down to a few percentage points a year and is mostly stable, so it does not make drastic changes in the living standards of individuals. Then, it is likely that in this latter group of countries, inequality is more of an issue, because it affects individual living standards more. In other words, how the economic surplus is divided may be a lesser issue in developing countries, where the surplus is smaller but grows

faster than in developed countries. Also, with economic development, at higher income levels and with increasing education, individuals may become more sensitive to and less accepting of inequality that they see as coming from 'unfair' sources. In short, if there is a threshold level of inequality above which it leads to socio-political instability, it is plausible to argue that the threshold level is probably going down as average income levels rise because people are more responsive to high inequality levels. Therefore, we can argue for different redistributive policies to come forward in social and hence political preferences at different stages of development.

Lastly, just as changing social preferences may affect redistributive policies, the opposite may also happen. Namely, high and rising inequality (or less redistribution) may affect social preferences for redistribution, which can, in turn, affect economic growth. For instance, growing inequalities of wealth and income can create discontent among citizens and thus strain the social fabric, which usually manifests itself in the form of rising crime, social unrest, or at the least populist governments in democratic countries, which in turn impose higher unpredictability and risks for investment decisions (Alesina & Perotti, 1996; Perotti, 1996; Benabou, 1996). As already mentioned, these phenomena have been observed in recent events such as the Yellow Vest (*Gilet Joules*) Protests in France, Occupy Wall Street movement in the US, or the rise of populist or right-wing politics across European countries, which can be interpreted as reactions to rising inequalities since the 1980s, even though they can sometimes be hijacked and mobilised by the rich for other purposes.

Therefore, redistribution can diminish the tendency for social and political instabilities and support growth by preventing events that are damaging for economic growth. This conjecture is supported by Jayadev and Bowles (2006), who show that income inequality is significantly associated with *guard labour* devoted to the protection of private property and enforcement of distributional advantages in a society. They argue that the securing of economic systems in unequal societies requires costly instruments of government coercion and enforcement, instead of the not-very-costly instruments of informal rules, internalisation of norms, and voluntary compliance. In other words, inequality leads to higher expenditure on crime prevention and law enforcement, which creates waste and reduces growth, while redistribution can actually be a less costly way of dealing with these problems by preventing large segments of a society from economically disruptive activities. They note, for instance, that guard labour share of employment in Sweden is half of what it is in the US.

Relevant to this study, John Roemer (2004) proposes an eclectic approach to the normative discussion around inequality and redistribution. According to Roemer, distributional ethics is contextual, and one cannot produce general arguments which universally apply to all social conditions. Instead, depending on the underlying conditions, different ethical approaches to distribution (*Rawlsian*, *utilitarian*, *prioritarian*), that are seemingly contradictory to each other, can become more plausible. For instance, Roemer claims, a social state where all members of the society are above a sufficiency threshold is preferable to a state where some are below it (*avoidance of penury*), even though the latter may maximise total welfare (rejecting utilitarianism). However, as long as all members of the society are above the sufficiency threshold, utilitarianism (disregarding equality for maximising total welfare, or total income as a proxy) may be justifiable[78]. And, at high levels of welfare, keeping all members of the society above a decency threshold (that is higher than the sufficiency threshold) may be preferred (*universal decency*).

Also, according to Roemer (2004), a state where at least some members of the society live above the sufficiency threshold is better than one where no one does, even though the latter may be more egalitarian (rejecting the Rawlsian approach). Note that this argument is consistent with the assertation that redistribution is not a feasible approach in poor countries. Overall, Roemer argues that assuming a trade-off between welfare and equality, different distributional preferences may be ethically more justifiable depending on the underlying conditions, which may be interpreted as the stage of economic development, and there is no logical inconsistency in an "ethical observer" (which may be the policymaker) following different distributional approaches at different stages of development. In Roemer (2004)'s words, "If one agrees that there are thresholds of welfare levels that are of critical importance, then different formulations of the social trade-offs around these thresholds will generally produce the kind of eclecticism that I have deduced here" (p. 281).

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[78] Roemer (2004) assumes welfare to be a cardinally measurable and interpersonally comparable concept, associated with "the standard of living"; so, it not *preference satisfaction* or *utility* as it is understood in the standard microeconomics (p. 268).

14 Conclusion and Summary

However trivial it may sound, most of the received literature on fiscal policy does not differentiate countries with regard to their underlying structural characteristics. Instead, most studies tend to pool all countries together and arrive at some unconditional relationship between a policy parameter and economic growth. Conclusions derived from such studies usually include some universal policy recommendations which can supposedly be applied to any economy without any regard for their structural characteristics. This study departs from previous studies by analysing how a country's stage of economic development can be relevant for understanding the potentially decisive impact of fiscal policy design on economic growth.

In particular, the present study argues that an economy's structural characteristics, including its capital stock, technological sophistication, state of its capital markets, etc., have significant macroeconomic implications, which can also alter the growth effects of fiscal policies. Then, similar fiscal policies can lead to asymmetric, sometimes even opposite, growth effects in different countries. However, as most of these structural characteristics can reasonably be captured by a country's stage of economic development, it is possible to arrive at some general policy conclusions for countries at different stages of development. Based on this understanding, this study identifies and elaborates on how different fiscal policy compositions with respect to tax structure (taxes on income versus consumption), public spending (public investments versus public consumption/services), or redistribution can be more supportive of economic growth in either developing or developed economies.

14.1 An Eclectic Theoretical Approach

The arguments of the study are presented through an extensive theoretical discussion, which involves claims about how different theoretical frameworks may guide us better in the analyses of fiscal policy at different stages of development. It is only natural that macroeconomic conditions in fundamentally different contexts should have their own peculiarities. Therefore, policy analyses at different stages of economic development may also require different theoretical approaches with differing assumptions. Indeed, major theoretical frameworks in economics, including the Classical, Keynesian, or Neoclassical, were originally developed for and are still better representing the conditions of either developing or mature industrialised economies. In this study, it is argued that the Classical approach provides a better theoretical framework for policy analysis in the context of developing countries whereas the

demand-side Keynesian approach is more relevant to the conditions of developed countries. The study also engages with the neoclassical theory, which provides a benchmark model, representing the current dominant paradigm, to contrast policy implications of alternative theoretical frameworks.

In developing countries, where the capital-labour ratio is very low, capital accumulation is the main engine of growth. Where labour is in oversupply compared to the capital stock, wages are mostly unresponsive to demand and almost stagnant. Then, contrary to the standard neoclassical models, marginal return on further capital investments does not decline at least until the labour surplus is fully exhausted. Moreover, in such economies, productivity growth is mostly embodied in new capital, imported from developed countries, rather than coming from exogenous technological advancements. Under these conditions, capital expansion promises high and increasing returns. However, in these capital-poor economies, investments are constrained by the availability of investible funds. Therefore, policies that accelerate capital accumulation by raising the savings rates (or, equivalently suppressing consumption) are more supportive of investments and growth. The Classical approach, reinterpreted in the contemporary context by Lewis (1954), is a useful framework to ground this claim in theory.

In developed economies, where the capital-labour ratio is high and demographic and technical progress is slowing, capital ceases to be a limitation for new investments. In such economies, while investible funds are in abundance, profitable investment opportunities are increasingly scarce due to capital saturation. In other words, savings capacity exceeds investment demand (or equivalently, potential supply exceeds aggregate demand), causing deflationary tendencies. This is the phenomenon of *secular stagnation*, first termed by Alvin Hansen in the 1930s, as a permanent state of anaemic growth afflicting capital-rich, mature, industrialised economies (Hansen, 1934). In recent decades, especially since the neoliberal transformation of the 1980s, the same trends have been increasingly observed in developed economies (Summers, 2015). In such an environment, fiscal policy can play a critical role in maintaining effective demand at full employment levels. More specifically, there is a case for Keynesian demand-side policies, as a channel through which governments can revive growth and recover output to full-employment levels in developed economies.

Relatedly, the standard growth model of neoclassical economics, with the assumptions of full employment and exogenous technical progress, can be understood as a special case of developed economies. Usually, the conditions in mature developed economies fit better with

the description of Keynesian theory where effective demand is the main driver of economic growth. However, when full employment is reached, the neo-classical model, where growth comes from exogenous technical progress and demographic change, becomes relevant again. Indeed, that is what Keynes suggested as well: "…if our central controls succeed in establishing an aggregate volume of output corresponding to full employment as nearly as is practicable, the classical theory comes into its own again from this point onwards" (Keynes, 1936, p. 378). In other words, Keynesian theory is a special case of the neo-classical approach, as suggested in the neo-Keynesian models, as much as the neoclassical approach is a special case of the Keynesian theory.

There is a complementarity between Classical theory, on the one hand, and Keynesian and Neoclassical theories, on the other hand, as well. Namely, the Classical approach applies exclusively to developing countries, where a considerable surplus labour force exists in traditional sectors, and loses its relevance when this surplus labour is entirely absorbed by the modern urban economy. So, in the language of neoclassical theory, the Classical approach is concerned only with transitory growth, rather than steady-state growth. However, for a developing country, transitory dynamics describe the normal state of matters as they dominate these economies for decades. In fact, the case can be made that this is why we have development economics as a separate field in economics in the first place, as the founding fathers of the field explicitly stated (Rosenstein-Rodan, 1943; Nurkse, 1953/2009; Lewis, 1954; Kuznets, 1955).

This eclectic approach is central to the analysis provided in this thesis. This is important because while there is a renewed interest in the fiscal policy instruments in many countries and more research is focusing on fiscal issues in recent years, macroeconomic implications of fiscal policy are still analysed exclusively from the perspective of standard neoclassical models, which arguably lacks the tools and terminology to fully explain and propose solutions for the current problems of both developed and developing countries. In developed economies, especially since the 2008 global financial crisis and now in the wake of the Covid-19 crisis, the post-Keynesian theory seems to have gained more ground in policy discussions, but this is still limited in scope and influence, and real business cycle models continue to dominate policy discussions. There is less interest in developing countries in general, and most attempts to study their problems are still using the methodological tools and the terminology that were originally created for developed economies and thus lack the capacity to represent their conditions.

14.2 The Hypotheses about Policy

Policy implications of this dissertation can be summarised around the following points:

1. In developing economies, modes of taxation which suppress consumption are more supportive of growth. Consumption taxes punish current consumption and incentivise savings, which contribute to investible funds, as well as channelling production to export markets from domestic markets, which critically support foreign exchange earnings in developing countries. Likewise, wage taxes are expected to be more beneficial for growth than capital income taxes because they also suppress consumption by giving less purchasing power to those who consume more of their income, whereas lower taxes on capital income increases net-of-tax-return on investments, which provides both the incentive and the resources for further investments. Therefore, preference of consumption taxes over income taxes, and wage taxes over capital income taxes leads to increased rates of savings, which contributes to capital accumulation in developing countries.

2. In developed economies, taxes on capital income and wealth are more supportive of economic growth. In mature economies with large capital stocks and advanced financial markets, investments are not constrained by a lack of available funds but profitable investment opportunities. Where investment demand is low due to capital saturation and associated low profitability, increasing effective demand is the main driver of growth. Capital income and wealth taxes punish unconsumed income (i.e. savings) through the double taxation of savings while supporting consumption and thus effective demand. Therefore, for supporting economic growth, income taxes are better than consumption taxes, and capital income taxes and wealth taxes are better than wage taxes.

3. In developing countries, public investments in capital accumulation facilitate economic growth. In the early stages of economic development, where a strong capitalist class lacks and financial markets are underdeveloped, government investments play a vital role in the emergence of key industries with substantial positive externalities and scale economies, which crowd in private sector investments by creating the necessary physical conditions and know-how for their emergence and expansion. The social benefits of these investments are often so vast that governments' involvement in these projects is growth-inducing even when they are not profitable from an accounting perspective.

4. In developed countries, high levels of autonomous government spending in general are supportive of economic growth, but there is also a case for a smaller share of investments (and a larger share of consumption) in government spending. In developed economies, where demographic and technical growths are declining, public spending's role as an instrument of demand management, rather than investment management, is more important. Increased government spending can revive growth and maintain full-employment levels, but as investments in sheer capital accumulation can lead to crowding-out of the private sector, spending on public consumption is preferable. Moreover, higher aggregate demand is expected to boost productivity growth as well, as full employment conditions and associated supply bottlenecks force companies to renew capital and innovate.

5. In developing countries, public investments in R&D or extensive higher education do not have significant contributions to productivity growth. Developing economies often have limited industrial base and low productive sophistication, so the latest technologies and scientific advancements or a workforce that is concentrated at the top of the educational pyramid usually do not have much use on the ground. Not to mention, they lack the fiscal space to invest in highly costly R&D investments and tertiary education institutions anyway. These economies should instead focus on transferring already available technologies and knowledge from developed economies, which goes hand in hand with capital investments, as well as the basic education of the society at large and vocational or on-the-job training of workers.

6. In developed countries, public investments in R&D and widespread access to higher education leads to significant productivity and thus income growth. Productive processes in advanced industrialised economies often closely follow the latest technologies and operate on the global frontier of technological progress, so they benefit from the expansion of this frontier, which translates into productivity growth for these economies. Then, in developed economies, government investments in R&D or higher education for the majority of the society can indeed contribute to productivity growth by accelerating scientific and technological advancements which have direct application in these economies.

7. Infrastructure investments contribute to productivity growth both in developing or developed economies. In developing countries, where serious infrastructure gaps exist, public spending on communication, telecommunication, public utilities, energy, etc. increase firm productivity substantially by lowering logistics and inventory costs and rendering technological upgrading possible. In developed countries, unlike most other forms of capital

investments, infrastructure investments do not crowd out private investments due to their public good nature but instead crowd them in due to their positive externalities.

8. In developing countries, aggressive downward redistribution, when it takes resources away from the capitalist class, slows economic growth due to its negative impact on capital accumulation. A rising capital's share is associated with higher rates of savings and investment (i.e. Kaldorian Link). Furthermore, in the presence of credit market imperfections, a strong capitalist class is a prerequisite for the realisation of indivisible investments with high set-up costs. Therefore, high taxes on capital income and wealth, while this may raise welfare in the short term, imply less growth in the long term. Importantly, governments can still limit, even reduce, inequality through some unconventional policies.

9. In developed countries, downward redistribution increases economic growth by increasing effective demand. Where capital is abundant, the rate of return on capital is low, so the rich are inclined to accumulate their savings in unproductive assets, instead of employment-generating real investments. Then, downward redistribution through higher taxes on capital income and wealth actually supports economic growth through its positive impact on effective demand, by reallocating resources from the rich who save a lot without investing to the poor whose marginal propensity to consume is higher. Furthermore, growth, in turn, is expected to reduce income inequality by creating employment and wage growth for non-capitalists. In technical terms, labour's share is expected to rise through investments.

14.3 Limitations and Future Research

To the best of my knowledge, this study is the first attempt to combine major theoretical approaches into an eclectic understanding of how government policy works at different stages of development. Based on this understanding, it arrives at a flexible and pragmatic policy conclusion, which is not very common in the literature. However, it has *at least* a few limitations which also suggests avenues for further research.

First, maximising growth is not the only policy objective. Fiscal policy can be designed to pursue a variety of goals, including a more egalitarian distribution of resources, a larger fiscal budget, or ideologically determined political goals, sometimes even at the expense of growth. The analysis provided in this study, however, is not complicated with these diverse objectives and focuses on economic growth as the prime target. A more comprehensive study

of fiscal policy can involve a discussion of the trade-offs involved in fiscal policy decisions between these different objectives.

Second, even though experiences of fast-growing economies in the 19th and 20th centuries, which are discussed as part of this study, provide strong support for the hypotheses of this study, a deeper and wider empirical analysis of each of these cases can be more revealing. Namely, the specific cases of rapid industrialisation in Japan, Korea, Taiwan, Singapore, or China as well as the industrial expansions of Britain, Germany, France in the 19th century can be investigated in much greater detail, using extensive data from respective countries. Moreover, an econometric analysis over a wide range of countries can also be very informative as this would allow us to detect the trends (interaction effects, non-linearity, thresholds analysis etc.) in different contexts.

Last, the study assumes two major categories of countries and arrives at policy implications relevant to their cases; developing countries that are in growth acceleration and developed countries that are facing capital saturation and demographic slowing. This is clearly a simplification, which leaves out other potential cases with characteristics relevant to the analysis of fiscal policy. Namely, very poor countries with little state capacity, developing countries with abundant natural resources (e.g. oil-rich economies), or developed economies where migration keeps demographic dynamism high can be analysed separately. Perhaps most importantly, this study does not engage with the question of pre-modern stagnation and how industrial growth can be kickstarted in such economies.

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