An introduction to alternative theories of economic growth
Mark Setterfield

It has become commonplace for leading textbooks on growth theory to characterize the historical development of the subject as a simple progression from first- to second-generation neoclassical growth theory, punctuated only by a brief hiatus during the 1970s when inflation became the cause célèbre of macrodynamics (for representative examples, see Barro and Sala-i-Martin, 1995; Jones, 2002; Aghion and Howitt, 2009). But as has been remarked elsewhere (Setterfield, 2002, 2003), these "stylized facts" are more apparent than real. They conceal a rich history of alternative theories of economic growth, that both parallels and interacts with the development of neoclassical theory. The purpose of this Handbook is to provide a comprehensive overview of these alternative theories – one that both surveys major sub-fields of alternative theories of economic growth (including, but not limited to, Classical, Kaleckian, Evolutionary, and Kaldorian growth theories) and draws attention to frontier issues in the field. The ambition of this introduction is to orient the reader towards the content that follows.

1 Common themes in alternative theories of economic growth
Economic theories that depart from one or more of the "hard core" presuppositions of neoclassical economics (such as optimizing behaviour by decision makers, or the marginal productivity theory of value and distribution) are often said to be defined chiefly in terms of their opposition to neoclassical theory – that is, in terms of what they are *not*. As is obvious from what has already been said above, it is tempting to lapse into the same habit of thought when characterizing alternative theories of economic growth. Fortunately, however, it is not necessary to succumb to this habit. Despite their differences, alternative theories of economic growth exhibit many commonalities. Ultimately, they constitute a "broad church" characterized by numerous shared preconceptions. And even if these preconceptions cannot all be combined in a single synthetic model of growth, distribution and technical change, they are nevertheless suggestive of a "common research program rather than a gulf of irreconcilable scientific differences" (see Foley and Michl, Chapter 2, this volume). In this section, five broad features of the research programme common to alternative theories of economic growth are highlighted, with a view to emphasizing what the corpus of alternative theories of economic growth *is*, rather than what it is *not*.

1.1 The role of aggregate demand in the long run
An enduring theme in alternative theories of economic growth – one that was inspired by the Keynesian revolution in macroeconomics and, in particular, such seminal contributions to growth theory as Harrod (1939) and Robinson (1956) – is the role of aggregate demand in the long run. This is not to say that all alternative theories of growth identify

1

a causal role for aggregate demand in the long run, but rather that there is a shared tradition of taking the demand side of the economy seriously. This is every bit as evident in the Classical tradition, in which aggregate demand is ultimately found to matter only in the short or medium run (see, for example, Duménil and Lévy, 1999), as it is in the contemporary theories of demand-led growth associated with the Kaleckian and Kaldorian traditions.

1.2   Value and distribution

The value-theoretic foundations of alternative theories of economic growth are typically rooted in the Classical surplus approach rather than marginal productivity theory. This helps to explain the prominence of distributional outcomes in alternative growth theories – not just as potential causes of, for example, technical change or the precise rate of growth, but also as something of interest and importance in and of themselves. This latter concern arises from the likelihood that distributional outcomes will reflect inequities in the functioning of capitalist economies, rather than simply benign forms of inequality.

1.3   The theory of production

Alternative theories of economic growth generally postulate that the technical structure of production is best characterized by Leontieff (fixed coefficient) technology, rather than the possibility of continuous substitution between factors of production. It is also common to regard the state of technology as being embodied in factors of production, so that technical change requires factor accumulation accompanied by discrete change in the technique of production.

1.4   Technical change

The embodied technical change described above is generally understood to be caused by growth and distribution outcomes themselves. In other words, technical change is not just endogenous in the sense of being explained within the model (the key innovation that distinguishes second-generation neoclassical endogenous growth theory from the first-generation neoclassical growth model associated with Solow (1956)). It is also endogenous to the very outcomes (growth and distribution) with which alternative theories of economic growth are ultimately concerned. Examples of these mechanisms of endogenous technical change include the Verdoorn Law (see, for example McCombie and Thirlwall, 1994, Chapter 2; McCombie et al., 2003) and the Classical theory of induced, factor-biased technical change (see, for example, Foley and Michl, 1999; Sasaki, 2008).

1.5   Methodology

An enduring question in growth theory is how best to characterize (and hence model) capitalist growth? The dominant view – reinforced by Kaldor's (1961) oft-repeated stylized facts – is that growth is a steady and balanced process. This view lends itself to steady-state equilibrium analysis, which does proliferate in alternative theories of economic growth. But historically the latter have also shown concern with different visions of what the growth process involves and hence how it should be modelled. These include the possibility that long-run growth is best conceived as innately cyclical (rather than as a steady process punctuated by short-run disturbances), and that long-run growth

is inherently unbalanced, involving structural change in the composition of output, employment, consumer demand and so forth.

2   Emerging themes in alternative theories of economic growth

The themes highlighted above can be regarded as well-rehearsed features of alternative theories of economic growth. As such, it will not surprise the reader to learn that they recur throughout this volume. But the chapters that follow also serve to highlight a variety of other "emerging" themes which, if not all strictly new, are nevertheless associated with what are currently frontier research issues in alternative theories of economic growth. One of these emerging themes concerns the precise adjustment mechanism – or combination of such mechanisms – that describes the response of a growing economy to conditions of excess aggregate demand. Does it involve changes in prices (and hence the mark up/profit share) as, for example, in the classic Cambridge models of growth associated with Robinson, Kaldor and Pasinetti? Or does it involve changes in output (and hence the rate of capacity utilization), as in the canonical Kaleckian model of growth? Or is it the case that some combination of these mechanisms – which are by no means mutually exclusive – renders them simultaneously operative? This seemingly narrow, technical issue has profound implications for growth theory, not the least of which is its impact on the very stability of equilibrium in some steady-state models. As such, it is not surprising to find that it is extensively discussed in the chapters that follow, including those by Kurz and Salvadori, Skott, Lavoie and Gibson (see Chapter 4, 5, 6 and 1).[1]

A second prominent emerging theme is the relationship between the actual and the potential (i.e. Harrodian natural) rates of growth. One concern here is with the endogeneity of the latter to the former, something that transforms the natural rate of growth from an exogenously given ceiling into a path-dependent constraint on the expansion of the economy. A second concern is with the reconciliation of the two growth rates in a steady-state framework. The importance of this issue is easily seen by reference to the following, simple measure of resource capacity utilization (E):

$$E = \frac{Y}{Y_p} \tag{1}$$

where Y is the actual level of real output and Y_p is the potential level of real output. It follows from the expression above that:

$$e = y - y_p \tag{2}$$

where lower case letters denote the rates of growth of upper case variables. Since it is obvious by inspection of (1) that E is bounded above and below, it follows from (2) that any steady growth equilibrium also requires balanced growth of the form:

$$y = y_p \tag{3}$$

in order for the steady-state growth equilibrium to be sustainable in the long run. In short, the actual and potential growth rates must be reconciled in a steady-state framework in order to avoid illogical claims regarding the rate of resource utilization, E. This problem persists even if the natural rate of growth is endogenous to the actual rate.

Hence note that, beginning from a situation in which equation (3) is satisfied and conjecturing an increase in y, the endogeneity of y_p to y is not, in and of itself, sufficient to restore the condition in (3). Instead any increase (decrease) in y must induce an equal proportional increase (decrease) in y_p in order for (3) to be maintained. In other words we require an elasticity of aggregate supply (i.e. potential output) with respect to aggregate demand (i.e. actual output) of exactly one (Cornwall, 1972). If this is not observed (and estimates of, for example, the Verdoorn law suggest that in general it will not be), then some other mechanism must be postulated to bring the actual and natural rates of growth back into alignment. The chapters by Dutt, León-Ledesma and Lanzafame, and Seguino and Setterfield (Chapters 11, 10 and 18) all address the relationship between the actual and natural rates of growth.

Another emerging theme in alternative theories of economic growth concerns the potential importance of endogenous variation in labour costs for the stability of the growth process. This theme is complementary to the concern with "output versus price adjustment" discussed earlier and, as such, it is not surprising to find that it is taken up in Chapters 5 and 6 by Skott and Lavoie, in the context of Harrodian and Kaleckian growth models, respectively. But the importance of endogenous variation in labour costs also has a long pedigree in the Classical tradition. This is reflected, for example, in its centrality to the cyclical growth process described by Goodwin (1967). Chapter 16 by Flaschel and Greiner in this volume further advances this tradition, by examining whether or not the stabilizing role of wages in Goodwin-type growth dynamics can be replaced with mechanisms that are more compatible with a social-democratic variant of capitalism.

Finally, the interaction of finance and growth has emerged as a pressing theme in alternative theories of economic growth, in view of the increased "financialization" of capitalism in recent decades. The novelty and significance of this topic is amply demonstrated in Chapters 13 and 14 by Hein and van Treeck, and Palley. Having previously been likened to "Hamlet without the Prince" by virtue of their neglect of money and finance (Kregel, 1985), alternative theories of economic growth have now embraced the search for processes that make sense of how growth is affected by financial variables (such as interest rates, stocks of debt, debt-servicing commitments, and so forth) and the very institutional structure of finance and its relationship to industry.

It is important to emphasize that the issues discussed above are not the only emerging themes in contemporary alternative theories of economic growth. Moreover, they are by no means the only *important* themes, whether emerging or already well established. As such, the purpose of the foregoing discussion is not to privilege certain issues relative to others. Instead, the point is to draw attention to the fact that, in addition to reviewing the existing state of the art in alternative theories of economic growth, a second objective of this Handbook is to highlight frontier issues in the field. The themes discussed above serve no greater purpose than to exemplify this aspect of the project. It is hoped that they suffice to give the reader at least a sense of the two-fold ambition of the volume; that is, both to take stock of and to point towards promising avenues for advancing alternative theories of economic growth.

3 The structure of this Handbook

The organization of this volume reflects the fact that there are numerous sources of overlap between the chapters that follow. Some chapters are similar by virtue of their

structure, surveying themes associated with a particular approach to analysing growth. Others utilize a common framework or model in their analysis of what might otherwise be putatively different issues. And some chapters share an interest in a particular topic, regardless of the framework of analysis they adopt. The sequence of chapters with which the reader is presented represents an effort to balance these various cross-cuts in a manner that makes the Handbook readable from beginning to end. But those who are interested in, for example, a particular alternative theory of growth, or a particular issue in growth theory, or even in simply coming to grips with the "nuts and bolts" of the different approaches that comprise alternative theories of economic growth, may find it profitable – and are actively encouraged – to read the chapters out of sequence.

3.1   Alternative theories of economic growth: an overview

The volume begins with a series of eight chapters that survey the main approaches that comprise alternative theories of economic growth. In the opening chapter, Bill Gibson analyses structuralist growth theory relative to its neoclassical counterpart. In a salient lesson for growth theorists of all stripes, Gibson shows how both neoclassical and structuralist models can be developed in a common analytical framework that highlights the similarities of orthodox and alternative growth theories – in particular, the dependence of their steady-state solutions on a single, key variable (the rate of growth of the labour force in the neoclassical model, the rate of growth of autonomous demand in the structuralist model). The chapter then investigates efforts to make investment – the key component of autonomous demand in the structuralist tradition – endogenous to the rate of capacity utilization. It is shown that, as compared to the neoclassical model, which requires relatively few plausible assumptions for steady growth to emerge, variants of the structuralist model in which investment is endogenous to capacity utilization face potential instability problems. Gibson then shows how these problems can be ameliorated by reconsidering the role of the profit share in the determination of investment. The chapter concludes by noting – with some irony – that while the stability of the neoclassical model is structurally determined, it is necessary for structuralists to pay more attention to agency – in particular, the investment behaviour of firms – in order for their models to generate stable, steady-state growth paths.

In Chapter 2, Duncan Foley and Tom Michl provide an account of the Classical tradition in growth theory, in relation to both neoclassical and Keynesian theories of growth. To this end, they review the main features of the Classical, neoclassical and Keynesian approaches to growth, before explicitly comparing and contrasting the neoclassical and Keynesian theories with the core tenets of the Classical tradition. Foley and Michl argue that the main debate between Classical and Keynesian growth theorists concerns the applicability of Keynesian results (such as the paradoxes of thrift and costs) in the long run – a controversy that can be summarized in terms of how these competing theories envisage the reconciliation of the actual and normal rates of capacity utilization. But the authors also draw attention to similarities between Classical and Keynesian growth theories, including their treatment of labour as a chronically under-utilized resource, and of labour supply and technical change (and hence the natural rate of growth) as endogenous to the actual rate of growth. After reviewing exogenous, semi-endogenous and endogenous variants of neoclassical growth theory, Foley and Michl highlight the important differences between the Classical and neoclassical traditions in

growth theory. These include contrasting treatments of production and technical change in Classical and neoclassical growth analysis. Of particular importance in this regard is the interplay of distribution and technical change in Classical growth theory, a relationship that is overlooked in the legalistic-cum-technocratic treatment of technical progress typical of neoclassical growth theory.

The third chapter, by Stan Metcalfe and John Foster, identifies the cumulative, two-way interaction between economic growth and the growth of knowledge as central to evolutionary growth theory – an approach that the authors also associate with emphases on unbalanced growth, non-equilibrating adjustment processes, and an attention to heterogeneity at the microeconomic level (particularly with regard to the conduct of entrepreneurs and the process of innovation). After discussing the stylized facts of economic growth, Metcalfe and Foster develop a model of evolutionary growth in which aggregate growth outcomes arise from the interaction of two essential processes operating at lower levels of aggregation: technical progress, and changes in the composition of demand. Both of these processes are, themselves, endogenous to economic growth – the first thanks to the Smith-Young-Kaldor dictum that "the division of labour depends on the extent of the market", and the second to a generalization of Engel's Law. The upshot is a model of non-equilibrium and non-equilibrating growth – or "restless capitalism" – that shows how evolutionary growth theory can reconcile Kaldor's (1961) stylized facts of constancy and balance in the growth record with those of Clark (1944) and Kuznets (1971), which emphasize structural change.

Chapter 4, by Heinz Kurz and Neri Salvadori, surveys theories of growth and distribution based on what Kaldor (1955–56, p. 95) termed the "Keynesian hypothesis", that investment is determined independently of saving and that saving adjusts to investment to create a situation of equilibrium. The authors identify two different adjustment mechanisms consistent with this Keynesian hypothesis. One involves the adjustment of saving to investment by means of changes in prices relative to wages (i.e. through a redistribution of income between profits and wages) and is usually associated with models of full capacity utilization and full employment. The second involves changes in capacity utilization and employment (and in the long run, the rate of accumulation) with the distribution of income taken as given. Kurz and Salvadori survey models based on both mechanisms, identifying the former primarily with the work of Kaldor and Pasinetti, and the latter with the class of models that is now conventionally referred to as Kaleckian. With respect to the former, the authors pay particular attention to the conditions necessary for the existence of a two-class economy; with respect to the latter, they focus attention on the plausibility of the underlying adjustment mechanism and its importance in the analysis of long-run growth.

Chapter 5, by Peter Skott, sets out to develop and contrast Kaleckian and Harrodian models of growth and distribution. The chapter begins by outlining the canonical Kaleckian growth model. By calibrating the equilibrium solution of this model to actual data, Skott argues that the Kaleckian model predicts a variability in the rate of capacity utilization that is at odds with what is observed in reality. He traces this problem to two key theoretical features of the Kaleckian model: its assumption of a constant mark up (and hence profit share); and its treatment of investment as relatively insensitive to the rate of capacity utilization. Skott then proceeds to develop a variety of Harrodian models of growth that eschew the two key theoretical features of the Kaleckian

approach. In these models, it is variously assumed that the supply of labour is either perfectly elastic or else constrains the long-run growth rate, and that either the profit share or output adjust rapidly in response to variations in aggregate demand. Ultimately, Skott argues that Harrodian models are based on behavioural foundations that are superior to those of the Kaleckian model. He also calls attention to the potential instability of the Harrodian warranted rate as providing a framework suitable for the analysis of both trend *and* cycle.

Marc Lavoie's survey of Kaleckian growth theory in Chapter 6 places particular emphasis on the stability properties of the Kaleckian model, in both the short run and the long run. The chapter begins by studying short-run stability dynamics – that is, the process of adjustment towards equilibrium rates of growth and capacity utilization. Two adjustment processes are considered: a pure Keynesian adjustment process involving changes in capacity utilization; and a dual adjustment process involving changes in both capacity utilization and profit margins. The first depends on the traditional Kaleckian stability condition, but the latter does not. Lavoie thus argues that the robustness of Kaleckian stability results is greater than some critics of this model suggest. Attention is then turned to long-run stability dynamics – that is, the reconciliation of the actual (equilibrium) rate of capacity utilization and its normal or desired rate. Lavoie rebuts Duménil and Lévy's (1999) claim as to the necessity of being "Keynesian in the short run and Classical in the long run", showing that with appropriate dynamic adjustment mechanisms, key Kaleckian results (such as the paradox of thrift and paradox of costs) carry over to the long run.

Following the Harrodian and Kaleckian emphases of the two preceding chapters, it is fitting that in Chapter 7, John King surveys the Kaldorian approach to growth theory, as exemplified both by Kaldor himself and his followers. Four variants of Kaldor's own growth analysis are discussed. The first two (pre-1966) variants focus on the relationships between distribution, technical change, and growth in a closed, one-sector economy. The two remaining (post-1966) variants are principally concerned with multi-sector and/or open economy issues, and their impact on growth conceived as a historical (path-dependent) rather than an equilibrium process. Kaldorian growth theory, meanwhile, is shown to build largely on Kaldor's post-1966 contributions. Three interrelated variants are identified: balance-of-payments-constrained growth models; models based on the principle of cumulative causation; and North–South models that feature sectoral (agriculture and industry) interactions. A key conclusion that emerges from King's survey is that modern Kaldorian growth theory comprises various overlapping strands rather than a single, unified (i.e. general) theory of growth – much like the work of Kaldor himself.

Davide Gualerzi's chapter (Chapter 8) brings the opening section of the volume to a close by discussing transformational growth theory, which he identifies as an analysis centred on explaining growth and structural change in terms of both the rate of expansion and changes in the composition of aggregate demand. Gualerzi locates transformational growth theory within the broad corpus of demand-led growth theory, but argues that it transcends the dominant (e.g. Kaleckian and Kaldorian) approaches to demand-led growth by seeking to better explain how demand is generated by the process of growth and development itself, along the course of an unbalanced growth path. He outlines a theory of endogenous demand creation centred on the evolution of basic social

structures (such as the household and the firm) and imbalances created by the process of uneven development. Gualerzi also highlights the role played by historical evidence and stylized facts in the methodology of transformational growth theory. His chapter culminates with an analysis of the seeming exhaustion of the process of transformational growth by the early 1970s, and its subsequent resurgence in the guise of the information economy during the 1990s.

3.2   *Aggregate demand, aggregate supply and long-run growth*

Chapters 1 through 8 having thus outlined the major approaches characteristic of alternative theories of economic growth, the remainder of the volume is organized thematically, focusing on a variety of issues in which alternative theories of economic growth express a shared interest. Each of the three chapters in Part II of the Handbook is concerned with the treatment and/or interaction of aggregate demand and aggregate supply in the analysis of long-run growth. In Chapter 9, Jesus Felipe and John McCombie begin by noting the ubiquity of and central role played by continuous aggregate production functions in neoclassical growth theory. The authors argue that because of the severe theoretical difficulties associated with aggregation and the results of the Cambridge capital controversies, the best defence of the aggregate production function is an instrumentalist one: it is useful because it predicts well. Felipe and McCombie's chapter is devoted to illustrating that this claim is unsustainable. The problem lies in the fact that all data against which aggregate production functions are tested satisfy an accounting identity (relating total value added to the sum of wages and profits) that can be re-written so that it resembles an aggregate production function with constant returns to scale and output elasticities equivalent to factor shares. Hence any hypothesized production function with these features will provide a near perfect fit with the data *regardless* of the production technology that *actually* characterizes the economy, simply because of the way that the data are compiled. To illustrate this point, Felipe and McCombie discuss four simulations in which data are generated by specific and known structures of production. In each case, a Cobb-Douglas production function is shown to provide a perfectly good – but entirely spurious – fit to the data. Because the aggregate production function is the centrepiece of neoclassical growth theory, the authors conclude that their results call into question the capacity of neoclassical theory to furnish answers to even the most basic questions in macrodynamics, such as what determines growth and why growth rates differ.

As its title suggests, Chapter 10 by Miguel León-Ledesma and Matteo Lanzafame is concerned with the endogeneity of the natural rate of growth – specifically, the propensity of the latter to be influenced by variations in the *actual* rate of growth. The authors identify the notion of an endogenous natural rate with the Kaldorian tradition in growth theory, in which there is a long-standing emphasis on path dependency in the growth process according to which both the equilibrium *and* the potential rates of growth may be influenced by the actual rate. But León-Ledesma and Lanzafame note that neoclassical growth theory – in which the natural and equilibrium rates of growth are one and the same – has also begun to emphasize mechanisms through which the natural rate is endogenous to the actual rate. There is thus an emerging consensus within the growth literature on the interplay of trend and cycle. The authors go on to survey recent empirical evidence on the link between the actual and natural rates of growth. They conclude that this has largely strengthened the original findings of León-Ledesma and Thirlwall

(2000, 2002), but that in so doing it has drawn attention to the likely impact of structural features of the economy (such as the sectoral composition of employment and the structure of the financial system) on the relationship between the actual and natural rates of growth.

The final chapter in this section of the Handbook, by Amitava Dutt, begins with the observation that, historically, growth theory has been "partitioned" into theories of supply-determined growth (associated with the Classical and neoclassical traditions) and theories of demand-led growth (associated with the Keynesian tradition) with the former, in its neoclassical guise, having become the dominant mode of analysis. The central premise of Dutt's chapter is that *both* demand and supply factors play a role in the determination of growth, and that value therefore attaches to theories that seek to reconcile demand and supply in the analysis of long-run growth. The author reviews the essential architecture of both Classical and neoclassical theories of supply-led growth, and Keynesian theories of demand-led growth. He then describes two existing attempts to integrate aggregate demand and aggregate supply in the theory of long-run growth, deriving from the Classical and neoclassical traditions respectively. The chief shortcoming of these models, Dutt argues, is that aggregate demand is significant only in the short run: it plays no role in the determination of long-run growth in what therefore remain quintessentially supply-determined growth models. Dutt then draws attention to the stringency of the assumptions necessary to produce these results and shows how, by relaxing these assumptions, it is possible to develop models that involve a richer and more satisfactory reconciliation of the roles played by aggregate demand and aggregate supply in the determination of long-run growth.

3.3   Economic growth and technical change
Although technical change is a theme that recurs throughout this Handbook, Part III of the volume features a chapter that is devoted exclusively to the development and application of a particular theory of technical change – specifically, the Classical theory of induced, factor biased technical change. Gérard Duménil and Dominique Lévy build a dynamical model of this process, central to which is the choice of technique by firms, based on the criterion of comparative profitability. In each period, firms select from among available techniques in an environment of random technical innovation. Despite its apparent simplicity, the authors show that their model can be used to explain trends in technology and the distribution of income in the US since the mid-nineteenth century, and many of the "laws of motion" attributed to capitalism by Marx. Especially important in this latter regard is the secular behaviour of the rate of profit, which Duménil and Lévy associate with the conditions of innovation and, in particular, the *difficulty* of innovating (as represented by an innovation set that provides too few opportunities for profitable changes in technique). Finally, the authors reflect on the Marxian pedigree of their model, its relationship to evolutionary theorizing in economics, and the differences between their model and neoclassical analysis based on continuous aggregate production functions.

3.4   Money, finance and growth
As intimated earlier, money and finance have traditionally been regarded as "missing pieces" in the analysis of long-run growth – even in models associated with the Keynesian

tradition, in which the intrinsically monetary nature of the economy is a central tenet. The two chapters in Part IV of the volume go some way towards rectifying this error of omission. Eckhard Hein and Till van Treeck begin their chapter with a survey of the effects of "financialization" in post-Keynesian models of growth and distribution. Financialization is a notoriously imprecise concept (see, for example, Epstein, 2005, p. 3, for a broad definition), but the authors circumvent this problem by focusing on three specific channels through which financial processes can affect the economy: the objectives of and constraints faced by firms; the accumulation of financial assets and liabilities by households; and the distribution of income. The principal question addressed by the chapter is: are the effects of financialization expansionary in the short run and/ or long run? Hein and van Treeck show that the answer to this question is ambiguous. Depending on the precise form and relative strength of the three channels identified above, financialization may have either expansionary or contractionary effects on the economy. However, the authors caution that even when financialization has expansionary effects, the resulting growth path may be associated with the gradual build-up of, for example, stock-flow imbalances. In other words, the economy may grow rapidly but also become more financially fragile, which raises questions about the *sustainability* of a financialized accumulation process.

In the following chapter, Tom Palley examines the effects of private sector debt accumulation on growth, thus focusing on a particular aspect of the broader process of financialization discussed by Hein and van Treeck. Once again, Palley's particular concern is with the question as to whether or not the dynamics of private sector debt accumulation are likely to raise the rate of growth. This concern becomes pressing once it is recognized that, from the perspective of demand-led growth theory, debt accumulation is a "double-edged sword". On one hand, in an endogenous money environment where some forms of lending create money, debt accumulation relaxes the constraint on aggregate expenditures (and hence economic expansion) that would otherwise be imposed by current income and previously accumulated wealth. This assists demand formation and boosts growth. On the other hand, once accumulated, debt must be serviced. The resulting transfer payments to creditors can diminish growth, by raising the value of the average propensity to save. However, Palley shows that this latter result is most likely in the event that debtors are households: debt service payments by corporations can, in principle, *increase* aggregate spending and growth. The overall conclusion of the chapter is, therefore, that private sector debt accumulation has theoretically ambiguous effects on long-run growth – a conclusion that, as the preceding chapter illustrates, is very much of a piece with those reached by the financialization literature as a whole.

3.5   Growth and distribution

As previously discussed, the interplay of distribution and growth is an issue of long-standing concern in alternative theories of economic growth. Part V, the penultimate section of the Handbook, revisits the relationship between growth and distribution, its four chapters drawing attention to new avenues of research associated with this well established theme.

The first two chapters in this section are both concerned with the potential benefits of egalitarian labour market policies in a growing economy, as analysed from the perspective of Keynesian and Classical growth theories, respectively. The point of departure

in Chapter 15, by Ro Naastepad and Servaas Storm, is the conventional wisdom that there exists a trade-off between efficiency and equality – or, more precisely, between rapid growth and low unemployment on one hand, and egalitarian labour market policies that enhance employment security and the rate of growth of wages on the other. The authors contend that the models under-girding this conventional wisdom are misspecified, in that they neglect the Kaleckian influence of the wage share on the rate of growth, the Kaldorian influence of growth on technical progress, and the Marxian influence of the wage share on technical progress. Naastepad and Storm construct a growth model consistent with each of these principles, and use it to investigate the hypothesis that real wage restraint and/or labour market "flexibility" will unambiguously improve growth and employment performance. The authors reject this hypothesis, showing that even when wage restraint and labour market "flexibility" produce "conventional" results (faster employment growth and falling unemployment), these seemingly beneficial labour market outcomes may result from regressive growth outcomes (specifically, slower productivity growth). They conclude that egalitarian or "high road" growth paths associated with both rapid growth and secure, well-paid employment are both desirable and economically feasible.

The premise of the chapter by Peter Flaschel and Alfred Greiner is that any form of capitalism that is made self-regulating (and therefore sustainable in the long run) by periodic bouts of mass unemployment (as, for example, in Goodwin, 1967) is socially unacceptable. The authors posit that in a democratic society, the Marxian reserve army mechanism must be replaced by an alternative mechanism that reconciles full employment with the reproduction of capitalist relations of production in the long run. Indeed, Flaschel and Greiner show that a Goodwin-type model augmented by "environmental feedbacks" (in which the availability of natural resources positively influences the value of the capital–output ratio, while high (low) values of the latter degrade (replenish) the environment) generates unstable growth cycles, making the need to transcend Goodwin-type dynamics all the more pressing. To this end, the authors construct a model of flexicurity capitalism, in which labour is hired and fired at will in the private sector, but in which workers are always guaranteed a job in a second (state-backed) labour market. They demonstrate that such a system is capable of generating steady growth outcomes consistent with protection of the environment. In this way, and similar to the previous chapter, Flaschel and Greiner show that it is possible to create a variant of capitalism that is both sustainable in the long run *and* provides income security for the whole of society.

In the penultimate chapter of this section of the Handbook, Gilberto Lima argues that examining the impact of profit sharing schemes on distribution and growth represents a natural extension of the traditional concern with distribution and growth in alternative theories of economic growth. Lima modifies a standard Kaleckian model of growth so that workers receive compensation in the form of both wages and a share of total profits. Several different specifications of the investment and savings functions are considered in order to ensure that any general conclusions drawn from the analysis are robust with respect to the most obvious plausible changes in household and firm behaviour. Lima focuses attention on the comparative static effects of income redistribution (resulting from *either* a change in the real wage *or* a change in workers' share of total profits) on capacity utilization, growth and the various (class-specific and aggregate) rates of profit

to which his model gives rise. He finds that these are sensitive to the different assumptions made about investment and saving behaviour – but in the process, he is able to identify in what precise circumstances the Kaleckian model corroborates Weitzman's (1983, 1984, 1985) neoclassical arguments regarding the beneficial macroeconomic effects of profit sharing schemes.

In Chapter 18, Stephanie Seguino and Mark Setterfield examine the impact of reduced gender wage inequality on long-run growth in developing economies. Using a balance-of-payments-constrained growth model, the authors identify a variety of possible effects of gender wage inequality on growth. They note, however, that if women work in predominantly cost-sensitive, export-oriented industries, then increasing the growth of women's wages in the pursuit of reduced gender inequality is likely to reduce the equilibrium rate of growth. Seguino and Setterfield then go on to show that even if increasing gender wage equality *does* reduce growth, lower growth can be an unequivocally good thing – even in economies whose low standards of living make rapid growth desirable. This result turns on the need, discussed earlier, to reconcile the actual rate of growth with the potential rate of growth if steady growth is to be sustainable in the long run. The authors identify two key labour market mechanisms that, if brought about by judicious policy intervention, would mean that growth in excess of the natural rate automatically reduces gender wage inequality and hence lowers the actual rate of growth towards the potential rate of growth. In this way, it is shown that mechanisms designed to reduce gender wage inequality can contribute to a "long-run soft landing", by reconciling the actual and potential rates of growth and thereby increasing the sustainability of the growth process.

3.6   International and regional dimensions of growth

Each of the three chapters in Part VI, the final section of the book, addresses international and/or regional dimensions of the growth process. Robert Blecker and Arslan Razmi begin their chapter with an empirical observation: despite the success of export-led growth strategies in the East Asian "tiger" economies (and, more recently, in India and China), the majority of developing countries that have sought to raise their rates of growth by specializing in exports of manufactures have not met with great success. One hypothesis that purports to explain this observation rests on the notion of a "fallacy of composition" (FOC) in export-led growth: developing economies cannot simultaneously prosper by exporting the same manufactures to the same developed-economy markets. Blecker and Razmi subject this hypothesis and its policy implications to closer examination. The authors identify and test three distinct FOC hypotheses: the idea that exports from one developing country directly displace or "crowd out" exports from other countries; the idea that price competition among export-oriented, developing countries erodes the gains that might otherwise accrue to those countries individually; and the idea that real exchange devaluation relative to the currencies of its export-market competitors will boost the growth rate of a developing economy. They find empirical evidence for all three of these hypotheses. Blecker and Razmi conclude that since industrialized countries seem not to have grown fast enough to facilitate successful export-led growth by all developing economies, development policy must place more emphasis on internal markets and domestic demand. They note that this affords opportunities as well as challenges – including the possibility that wages come to be seen more as a source of demand

and hence "homespun" growth, and less as simply a cost of production that must be minimized in the pursuit of export markets.

Chapter 20, by Juan Carlos Moreno Brid and Esteban Pérez Caldentey, analyses the relationship between trade and growth from a Latin American perspective. The authors argue that popular understanding of the nature of the trade–growth relationship in Latin America has changed significantly over the past 60 years. Five distinct stages in the evolution of this popular understanding are identified, which have taken Latin America from an initial rejection of free trade and an emphasis on state-led development as the key to sustained growth, through an "orthodox" phase during which free trade and free markets were emphasized as essential drivers of growth, to a contemporary position of scepticism regarding the importance of trade liberalization for growth. In the process of discussing the different approaches to trade and growth that have, at different times, dominated Latin America since the 1940s, the authors pay particular attention to economic rhetoric and the efforts that each approach has made to present itself as the "correct" view, both theoretically and in terms of Latin American reality. At the same time – and echoing the general observation made by Blecker and Razmi in Chapter 19 – Moreno Brid and Pérez Caldentey draw attention to the fact that during the period they study, no robust relationship between trade and growth is discernable in Latin America. They suggest that overcoming this state of affairs is one of the most important challenges confronting contemporary Latin American economies.

In the final chapter of the Handbook, Mark Roberts and Mark Setterfield critically assess the now burgeoning literature on the spatial application of endogenous growth theory. Following a brief discussion of various issues of measurement and definition, the authors draw attention to the variety of ways in which the principles of endogenous growth theory have been linked to urban and regional development. Next, they identify and assess two main strands in the empirical literature on endogenous regional growth: a predominantly North American strand associated with the "new economics of urban and regional growth" (see, for example, Glaeser et al., 1992); and a predominantly European strand that focuses on either regional economic convergence or estimation of the Verdoorn law. Finally, Roberts and Setterfield identify avenues for future research motivated by the observation that there is much that North American and European researchers can learn from one another. Foremost among these is the need for greater recognition that endogenous growth can be either "neoclassical" (i.e. supply-led) or "Keynesian" (demand-led) in character – a distinction that, at present, surfaces only in the branch of the European empirical literature that focuses on estimation of the Verdoorn law. The authors note that the differences between demand- and supply-led endogenous growth have important implications for what is understood to be the ultimate *source* of growth (and hence how regional development policy should be conducted), and for our understanding of why the sources of growth are geographically confined and why, as a result, the growth process has an inherently spatial dimension.

4   Conclusion

By way of conclusion, it only remains to be said that alternative theories of economic growth represent a vibrant and ongoing research effort to understand the macrodynamics of capitalist economies. Above all else, then, it is hoped that this Handbook will provide both a fillip to and a valuable springboard for further research that will continue

the development of these theories, inspiring both existing researchers and those new to the field to build on the body of work to date that the volume represents.

Note

1. The theme also emerges in the chapter by Metcalfe and Foster (Chapter 3), although theirs is an evolutionary model of growth in which adjustments are an ongoing feature of the growth process, rather than a transitory property of movement towards a steady state.

References

Aghion, P. and P. Howitt (2009) *The Economics of Growth*, Cambridge, MA: MIT Press.
Barro, R.J. and X. Sala-i-Martin (1995) *Economic Growth*, New York: McGraw-Hill.
Clark, C. (1944) *The Conditions of Economic Progress*, London: Macmillan.
Cornwall, J. (1972) *Growth and Stability in a Mature Economy*, London: Martin Robertson.
Duménil, G. and D. Lévy (1999) "Being Keynesian in the short term and classical in the long term: the traverse to classical long-term equilibrium", *The Manchester School*, **67**, 684–716.
Epstein, G.A. (ed.) (2005) *Financialization in the World Economy*, Cheltenham, UK and Northampton, MA, USA: Edward Elgar.
Foley, D and T. Michl (1999) *Growth and Distribution*, Cambridge, MA: Harvard University Press.
Glaeser, E.L., H.D. Kallal, J.A. Scheinkman and A. Shleifer (1992) "Growth in cities", *Journal of Political Economy*, **100**, 1126–52.
Goodwin, R. (1967) "A growth cycle", in C.H. Feinstein (ed.) *Socialism, Capitalism and Economic Growth*, Cambridge: Cambridge University Press.
Harrod, R.F. (1939) "An essay in dynamic theory", *Economic Journal*, **49**, 14–33.
Jones, C.I. (2002) *Introduction to Economic Growth*, 2nd edn, New York: W.W. Norton.
Kaldor, N. (1955–56) "Alternative theories of distribution", *Review of Economic Studies*, **23**, 83–100.
Kaldor, N. (1961) "Capital accumulation and economic growth", in F.A. Lutz and D.C. Hague (eds) *The Theory of Capital*, London: Macmillan.
Kregel, J.A. (1985) "Hamlet without the Prince: Cambridge macroeconomics without money", *American Economic Review*, **75**, 133–9.
Kuznets, S. (1971) *Economic Growth of Nations*, Cambridge, MA: Belknap Press, Harvard University.
León-Ledesma, M. and A.P. Thirlwall (2000) "Is the natural rate of growth exogenous", *Banca Nazionale Del Lavoro Quarterly Review*, **215**, 433–45.
León-Ledesma, M. and A.P. Thirlwall (2002) "The endogeneity of the natural rate of growth", *Cambridge Journal of Economics*, **26**, 441–59.
McCombie, J.S.L. and A.P. Thirlwall (1994) *Economic Growth and the Balance of Payments Constraint*, London: Macmillan.
McCombie, J.S.L., M. Pugno and B. Soro (eds) (2003) *Productivity Growth and Economic Performance: Essays on Verdoorn's Law*, London: Palgrave Macmillan.
Robinson, J. (1956) *The Accumulation of Capital*, London: Macmillan.
Sasaki, H. (2008) "Classical biased technical change approach and its relevance to reality", *International Review of Applied Economics*, **22**, 77–91.
Setterfield, M. (2002) "Introduction: a dissenter's view of the development of growth theory and the importance of demand-led growth", in M. Setterfield (ed.) *The Economics of Demand-Led Growth: Challenging the Supply Side Vision of the Long Run*, Cheltenham, UK and Northampton, MA, USA: Edward Elgar (2002) and Madrid: Ediciones Akal, S.A. (2005).
Setterfield, M. (2003) "Supply *and* demand in the theory of long-run growth: introduction to a symposium on demand-led growth", *Review of Political Economy*, **15**, 23–32, reprinted in *Circus: Revista Argentina de Economía*, **1**, 1, 38–50 (2007).
Solow, R. (1956) "A contribution to the theory of economic growth", *Quarterly Journal of Economics*, **70**, 65–94.
Weitzman, M.L. (1983) "Some alternative implications of alternative compensation systems", *Economic Journal*, **93**, 763–83.
Weitzman, M.L. (1984) *The Share Economy*, Cambridge, MA: Harvard University Press.
Weitzman, M.L. (1985) "The simple macroeconomics of profit sharing", *American Economic Review*, **95**, 937–53.