Keynes’s economics and the question of public debt

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Statement of originality

I hereby declare that this submission is my own work and to the best of my knowledge it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at University of Sydney or at any other educational institution, except where due acknowledgement is made in the thesis.

Any contribution made to the research by others, with whom I have worked at University of Sydney or elsewhere, is explicitly acknowledged in this thesis.

I also declare that the intellectual content of this thesis is the product of my own work, except to the extent that assistance from others in the project’s design and conception or in style, presentation and linguistic expression is acknowledged.

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Abstract

The Global Financial Crisis generated renewed interest in the relevance of John Maynard Keynes’s economic policy proposals, particularly those related to budget deficits, public debt and government expenditure. ‘Keynesian’ economic policies are commonly understood as entailing short-run fiscal activism, by which is meant discretionary, counter-cyclical fiscal policy together with deliberate budget deficits. However, this was not Keynes’s actual position. In the General Theory Keynes contended that demand-deficiency was a permanent problem in a modern capitalist economy. Seen in this light, Keynes’s central policy concern was with maintaining full employment through a permanent enlargement of the public sector and associated public expenditures. Keynes also held a rather conservative view towards public debt and was opposed to debt-financed current expenditure. This thesis reappraises Keynes’s policy views by reference to the relevant primary and secondary materials. Particular attention is given to Keynes’s much neglected policy writings contained in the 1942-45 Treasury Memoranda. The core logic of Keynes’s policy position is then captured in an illustrative model of a demand-led economy. Keynes’s central policy objectives are represented by requiring that the growth in public expenditure is sufficient to maintain full employment, but subject to a debt sustainability constraint.
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Chapter 1. Introduction

The recessionary conditions caused by the Global Financial Crisis led to a revival of interest in John Maynard Keynes and Keynesian economics more generally. The simultaneous downturn in economic activity throughout developed countries in late 2008 and 2009 saw sharp contractions in output, rising cyclical unemployment and a deterioration in public finances. Seen in this light, the global downturn has called into question the capacity of a decentralised competitive economy to automatically self-correct and eliminate unemployment in the absence of government intervention.

In this context there has been a resurgence of interest in the possible relevance of Keynes’s theory and policy. The fiscal and monetary responses of governments in developed countries to falling private demand were popularly described as having a ‘Keynesian’ character. Governments implemented discretionary fiscal stimulus spending in order to offset sharp contractions in household consumption and private investment. Activist fiscal policy was supported by the responses of central banks in implementing expansionary monetary policy. The operation of budgetary automatic stabilisers together with the effect of discretionary fiscal measures saw increasing budget deficits and rising public debt trajectories. Net public debt increased in the United States from 42.0 percent to 72.6 percent of GDP between 2006 and 2011, and in the United Kingdom from 38.0 percent to 72.9 percent of GDP over the same period (IMF, 2011). The question of public debt sustainability continues to be a significant contemporary economic and political issue.

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At the level of popular influence, there is a well-established belief that Keynes advocated short-run fiscal activism in response to an economic downturn. Keynes is commonly understood to have called for the ‘fine-tuning’ of government expenditure through temporary fiscal stimulus, together with public works programs. With a view to expanding the economy through public borrowing this would amount to the deliberate creation of government budget deficits. Indeed, Keynes is sometimes charged with being the ‘apostle of permanent budget deficits’ (Skidelsky, 2010b: xviii). Discretionary, ‘counter-cyclical’ and debt-financed fiscal policy has become the mainstay of the conventional characterisation of Keynes’s economic policies. However, this was not Keynes’s actual policy position.

It is well documented that Keynesian economic policies were not the economic policies of Keynes. Motivated by the recent renewed interest in Keynes, this thesis seeks to reappraise his economic policy proposals with respect to the issues of public debt, budget deficits and government expenditure. The relevant primary materials to be examined are the *General Theory of Employment, Interest and Money* (Keynes, 1936; hereafter the ‘*General Theory*’ or ‘*GT*’) together with Keynes’s policy writings from the 1940s while working at the British Treasury. These policy documents arose from Keynes’s involvement in post-war planning and are referred to as the 1942-45 *Treasury Memoranda* (reproduced in Volume 27 of *The Collected Writings of John Maynard Keynes*, Moggridge, 1980: 203-419; hereafter ‘*CW*27’). The primary material is supported by a relatively coherent body of secondary

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4 This thesis leaves aside Keynes’s policy proposals for international monetary and exchange-rate arrangements in the post-war world.
literature that has highlighted the dissonance between the long-term policy views held by Keynes himself and what later came to be regarded as Keynesian policy.

Keynes’s core policy position was much more far-reaching than temporary, debt-financed fiscal activism during a recession. Keynes called for a permanent enlargement of the public sector (supported by a scheme of low real interest rates), which would prevent economic fluctuations and maintain full employment. This normative prescription was grounded on Keynes’s theory, which led him to assert that aggregate demand deficiency was a persistent problem in a decentralised, competitive economy. Keynes saw a difference between policies designed to maintain full employment by avoiding economic fluctuations (described in this thesis as anti-cyclical policies) and those of a conventional counter-cyclical character. In the context of Britain in the 1930s and 1940s Keynes’s preferred vehicle for the enlargement of government expenditure was public investment spending to be undertaken by decentralised public entities – the so-called ‘socialisation’ of investment (GT: 378). In contrast to common understanding, Keynes did not advocate the kind of consumption manipulation or counter-cyclical fiscal policy often regarded as characteristically ‘Keynesian’.

Further, Keynes did not support the deliberate creation of government budget deficits. To this effect, Keynes appears to have been somewhat more conservative towards the issue of public debt than is commonly understood. This is reflected in his proposal for a formal

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5 This thesis makes a theoretical distinction between counter-cyclical and anti-cyclical policies. The Oxford Dictionary of English defines ‘counter-’ as ‘retaliation’ or ‘movement or effect in the opposite direction’. ‘Anti-’ is defined as ‘against’ or ‘preventing’. While a counter-cyclical policy responds to a change in private demand, an anti-cyclical policy seeks to prevent it from occurring. Keynes separates the tasks of preventing and reacting to demand fluctuations. However, to the extent that both policies in practice would be conducted in a forward-looking manner the distinction is only to highlight that Keynes’s focus was on preventing fluctuations.
distinction between the government’s current and capital budgetary items. Keynes opposed discretionary budget deficits of current expenditures over current revenue. However, Keynes did maintain that public capital expenditures should be at least partly debt-financed. As such, Keynes’s concern was with the accumulation of public debt issued to finance current expenditure, or so-called ‘dead-weight debt’ (CW27: 278). In Keynes’s first-best world, changes in public expenditure would ensure that full-employment output was maintained so that the current budget would remain balanced or in surplus. Having recourse to debt-financed current spending during a recession was only really a second-best expedient for Keynes.

Re-examining the character of Keynes’s policy position has general relevance to the recent fiscal policies adopted in developed countries. After initially being confronted with the short-term task of expanding public expenditures, the concern of policy-makers soon shifted towards the alleged longer-term challenges relating to public debt sustainability and fiscal restraint. It is not argued that Keynes’s specific policy proposals formed in the context of 1940s Britain should be directly applied in the current context. However, the revival of interest in Keynesian economics does warrant a re-appraisal of the character of the economic policies that Keynes, the economist, is understood to have supported.

This thesis is organised into five chapters. Chapter 2 provides an overview of the relevant secondary literature that has interpreted Keynes’s policy views. It examines the common understanding of Keynesian economic policies before evaluating the alternative interpretations that have reconstructed Keynes’s policy position based on the General Theory together with the Treasury Memoranda. This literature reveals the nature of Keynes’s proposals for public expenditure, while also showing his apparently conservative views towards deficit-financed spending. The literature also emphasises the importance of
the ‘socialisation’ of investment to Keynes’s post-war policy proposals, although this is somewhat overstated.

Chapter 3 analyses the relevant primary materials. While some understanding of Keynes’s long-term policy proposals can be discerned from examining Keynes’s speculative ‘Social Philosophy’ in the General Theory itself, these ideas are clarified by giving a detailed discussion of the 1942-45 wartime Treasury Memoranda. These writings have been much neglected in contemporary discussions of Keynes’s views on economic policy. They show that Keynes’s policy position was much more far-reaching than short-run fiscal activism.

Chapter 4 develops an illustrative model to capture the core logic of Keynes’s policy objectives. In a demand-led theoretical setting, this is represented as requiring that the growth in public expenditure is sufficient to maintain full employment, but where the government budget is subject to a debt sustainability constraint. A Domar (1944) type condition requires the stabilisation of the public debt-to-GDP ratio at a definite long-period value, which entails a sustainable primary public deficit-to-GDP ratio. The mathematical derivations relevant to Chapter 4 are provided in an Appendix. A necessary condition for a debt-constrained full employment policy to be economically feasible is that the sum of the total budget deficit and private investment, expressed as shares of total income, is positive and less than the ratio of private savings to after-tax income. With the other parameters given, the government’s choice of an income tax rate along with an interest rate determines the long-period public debt-to-GDP ratio in the economy. The model also provides a theoretical basis for a ‘cheap money’ policy. Chapter 5 offers some concluding remarks.

This thesis provides a more rigorous analytical treatment of the primary and secondary literature concerning Keynes’s economic policy position. Part of the contribution of this thesis to the literature is to clarify the nature of Keynes’s preference for public investment.
spending over consumption to the extent that it was somewhat contingent on Keynes’s historical and political context, including his views on ‘capital saturation’. In addition, this thesis extends on the existing literature by developing an illustrative model that captures the central logic of Keynes’s policy position. In particular, it provides a framework for analysing public debt sustainability within Keynes’s theory. While it is not the purpose of this thesis to ask whether Keynes would or would not have approved of the stance of recent fiscal policies, this thesis will clarify the character of policies that Keynes envisaged as being desirable for maintaining full employment in a liberal capitalist economy.
Chapter 2. Literature review: Keynes and economic policy

Naturally enough, Keynes’s economics and policy have generated numerous different interpretations. It is certainly conceivable that an intellectual and ideological vision so rich as Keynes’s should evolve into something beyond the conception of Keynes himself. In this respect, the conventional characterisation of ‘Keynesian’ economic policy has broken many of the links with Keynes’s work itself. This chapter critically examines the secondary literature that has interpreted Keynes’s policy proposals, in turn highlighting the dissonance between Keynes’s own policy ideas and those that have subsequently been attributed to him.

There are important differences between Keynesian economic policy and the economic policies of Keynes. This thesis follows the approach of Leijonhufvud (1967) by using the epithet ‘Keynesian’ to describe the majority school of macroeconomics that developed from Keynes’s *General Theory*. This is a narrower characterisation than the so-called ‘Keynesian’ political philosophy embracing a mixed-market economy and the welfare state that dominated most Western economies in the three decades following World War II (cf. Backhouse and Bateman, 2008).

The common and widely held characterisation of Keynesian economic policy is that it amounts to short-run fiscal activism. By this is meant discretionary, counter-cyclical fiscal policy, typically by way of recourse to deficit spending. However, this was not Keynes’s position. The simplified caricature of Keynes’s policy views has been described in the literature using such expressions as ‘Bastard Keynesianism’, ‘Hydraulic Keynesianism’ and ‘fiscalism’. The secondary question of how Keynes came to be associated with policies that

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6 For instance, Guger and Walterskirchen (1988: 107), Wray (1994: 285-86) and Seccareccia (1995: 43) borrow Joan Robinson’s expression ‘Bastard Keynesianism’ to describe the policy views that were espoused by Keynes’s ‘disciples’ such as John Hicks, Alvin Hansen, Abba Lerner, and especially Paul Samuelson.
he never actually endorsed is left aside. However, one may conjecture that at least part of the answer rests with the influence of the second-generation Keynesians such as Hicks, Hansen, Lerner and Samuelson (cf. Brazelton, 1980-81; Pearce and Hoover, 1995; Backhouse and Bateman, 2008).

By contrast, since the early 1980s a body of secondary literature has reconstructed Keynes’s policy position from his writings contained in the 1942-45 Treasury Memoranda, together with the General Theory. There is broad agreement across the literature that Keynes supported a full employment policy that called for a permanent expansion in government expenditure, with an emphasis on public investment, to prevent macroeconomic fluctuations. At the same time, Keynes was opposed to budget deficits, except so far as capital expenditures were concerned, and somewhat cautious regarding the issue of public debt.

Chapter 2 consists of three sections. Section 2.1 discusses Keynes’s approach towards theory and policy. Section 2.2 provides an overview of the conventional or popular view of so-called ‘Keynesian’ policy. Finally, Section 2.3 critically examines the secondary literature that has reappraised Keynes’s policy position in light of the Treasury Memoranda.

2.1 Keynes on theory and policy

For Keynes, the application of theoretical principles to practical policy issues was a secondary question to developing a descriptive theory of a modern capitalist economy. The General Theory itself is primarily concerned with theoretical problems. Keynes notes in the

Coddington (1976: 1263-65) uses the epithet ‘Hydraulic Keynesians’ to refer to the exponents of ‘Keynesian economics’ in the 1940s and 1950s that invoked the IS-LM model. He also distinguishes between Keynesianism as a normative policy doctrine (popularly interpreted as ‘fiscalism’), and Keynesianism as a descriptive theory of the economy.
preface that ‘its main purpose is to deal with difficult questions of theory, and only in the second place with the applications of this theory to practice’ (GT: xv). However, Keynes believed that it was the role of the economist not only to construct theoretical models but also to develop policy recommendations (Patinkin, 1984: 99). Defending the General Theory in the Quarterly Journal of Economics, Keynes (1937) wrote:

This that I offer is, therefore, a theory of why output and employment are so liable to fluctuation. It does not offer a ready-made remedy as to how to avoid these fluctuations and to maintain output at a steady optimum level. But it is, properly speaking, a Theory of Employment because it explains why, in any given circumstances, employment is what it is. Naturally I am interested not only in the diagnosis, but also in the cure; and many pages of my book are devoted to the latter. But I consider that my suggestions for a cure, which, avowedly, are not worked out completely, are on a different plane from the diagnosis. They are not meant to be definitive; they are subject to all sorts of special assumptions and are necessarily related to the particular conditions of the time. But my main reasons for departing from the traditional theory go much deeper than this. They are of a highly general character and are meant to be definitive. (Keynes, 1937: 221-22, emphasis added)

Interestingly, economic policies of a conventional Keynesian character had already been proposed throughout Europe and the United States well before Keynes’s theoretical innovations (cf. Hutchison, 1953; Patinkin 1983a; Musgrave, 1987; Kregel, 1993; 1994-95; Backhouse and Bateman, 2008). Hall (1989) described this as ‘proto-Keynesianism’. In particular, Hutchison (1953: 422) argued that by 1929 the majority of economists in Britain
(including Keynes) supported the general case for public works to reduce unemployment.\(^7\)

This support was in opposition to the orthodox ‘Treasury View’ that public works would crowd-out private sector expenditure (\textit{cf.} Keynes, 1929; Hutchison, 1953: 414-23; Bidel, 2008). To the extent that activist fiscal policy was already a mainstream proposition, Pearce and Hoover (1995: 186) have suggested that the ‘underlying motivation [of the \textit{General Theory}] was to bring intellectual coherence to a family of anti-depression policies that had already been widely supported on pragmatic grounds’.

There are however a small number of direct policy recommendations in the \textit{General Theory}. Keynes makes several references to the employment-expanding effect of public works via the multiplier (\textit{GT}: 116-17, 119-20, 127-31). He also provides several discussions of the limitations of monetary policy as a short-run policy for managing private investment (\textit{GT}: 163-64, 202-08, 315-21, 378). Further, in Chapter 19 Keynes refutes the argument that downward-flexible money-wages would ensure the restoration of full employment, leading him to support a rigid money-wage policy (\textit{GT}: 257-71).

The clearest direct exposition of Keynes’s policy position in the \textit{General Theory} is in Chapter 24, ‘Concluding Notes on the Social Philosophy Towards which the \textit{General Theory} Might Lead’ (\textit{GT}: 372-84). In this chapter, Keynes envisages the policy framework that would be desirable for the maintenance of full employment in a liberal capitalist society. However, this vision is not a necessary consequence of the preceding theoretical parts, and much of it is contingent on the historical and political context. In a letter to E. F. M. Durbin (later a Labour MP) in 1936, Keynes acknowledged that Chapter 24 brought

\(^7\) Keynes rested his advocacy of public works on the multiplier mechanism; \textit{cf. The Means to Prosperity} (Keynes, 1933).
together all kinds of non-economic factors ‘about which economists as such are entitled, as well as likely, to differ…amongst themselves’ (Moggridge, 1979: 231).

2.2 The conventional characterisation of Keynes’s policy position

Keynesian economic policies, broadly conceived, call for demand management through short-run fiscal activism. This normative proposition is grounded on the central theoretical innovation of the General Theory: the possibility of systematic demand deficiency in a capitalist economy. Coddington (1976: 1264) argued that at the level of popular influence ‘Keynesianism is a doctrine about how a largely decentralized economy may be subject to broad (as opposed to detailed) central control or influence through the instrument of the budget’. In this respect the conventional characterisation of Keynesian economic policy has three main themes. These are an advocacy of discretionary, counter-cyclical fiscal policy; the deliberate creation of budget deficits; and a belief that government expenditure does not crowd-out private spending.

Firstly, central to the common understanding of Keynesian policies is a counter-cyclical role for fiscal policy that reacts to, and compensates for, cyclical changes in private demand. Modigliani (1977: 1) described the impetus for demand stabilisation as the ‘fundamental practical message’ of Keynesian economics. Granted that the economy may be absent of any reliable forces that re-establish full employment, and given a positive relation between government expenditures and national income, there is a role for temporary fiscal fine-tuning of aggregate spending over the business cycle (cf. Kregel, 1994-95: 261; Seccareccia, 1995: 43-44). To this extent, Keynesian policy adjustments are generally considered to be discretionary rather than rules-based.
Secondly, at the level of popular influence Keynesian policy advocates a role for budget deficits financed by public borrowing. In the event of a recession Keynesian policy calls for the expansion of aggregate spending through debt-financed government expenditure (Musgrave, 1987: 172). Keynes’s alleged advocacy of counter-cyclical fiscal activism has commonly been conceived of as support for unqualified deficit spending (Kregel, 1994-95: 267). For instance Dalton (1954: 221) in the fourth edition of *Principles of Public Finance*, claimed that ‘the new approach to budgetary policy’ meant that ‘[w]e may now free ourselves from the old and narrow conception of balancing the budget, no matter over what period, and move towards a new and wider conception of balancing the whole economy’.

The association of Keynes with increasing budget deficits has led to the charge of fiscal profligacy. In a seminal rebuke of Keynesian political economy, Buchanan and Wagner (1977: 24) noted that the ‘legacy or heritage of Lord Keynes is the putative intellectual legitimacy provided to the natural and predictable political biases towards deficit spending, inflation, and the growth of government’. They argued that the Keynesian revolution overturned the ‘traditional and time-honoured norms for fiscal responsibility’ and legitimised the deliberate creation of budget deficits on the principle that the ‘[b]udget balance did not matter’ (1977: 30-31; cf. Bateman, 2005).

Thirdly, the efficacy of Keynesian demand management policies relies on the absence of any substantial decline in private spending in response to an increase in government expenditure. Blanchard (2008) used the expression ‘crowding out’ to refer to the various channels through which expansionary fiscal policy may not have a positive effect on output. One of these channels is the Ricardian equivalence theorem (attributed to Barro, 1974), which contends that a debt-financed financed tax cut must be matched by future tax increases, leaving the present value of future taxes unchanged and therefore consumption...
spending unchanged (cf. Blanchard, 2008; Cunningham and Vilasuso, 1994: 190). A second channel is the ‘real’ crowding out effect, which supposes that an increase in public spending at full employment is offset by a diversion of resources away from the private sector. A third channel is the ‘financial’ crowding out effect, which claims that a higher budget deficit stimulates output, but is (partially or fully) offset by an increase in the rate of interest that causes a decline in interest-elastic private investment (Blanchard, 2008).

The conventional characterisation of Keynesian economic policy amounts to short-run fiscal activism. The next section provides a survey of the alternative interpretations of Keynes’s economic policy position. This will emphasise the contrast between Keynes’s policy proposals and those commonly considered to be Keynesian. Section 2.3 also begins to clarify the central concerns of Keynes’s policy position, which are represented in the illustrative model in Chapter 4.

2.3 Alternative interpretations of Keynes’s policy position

This section examines the development of the small body of secondary literature since the early 1980s that has reappraised Keynes’s long-term policy position in light of the 1942-45 Treasury Memoranda. There is a significant degree of continuity across the literature relating to Keynes’s core views on government expenditures and public finances. Keynes is understood to have supported a full employment policy that would prevent business cycle fluctuations (in this sense, an anti-cyclical policy) through a long-term public investment program. While the government’s current budget should not be in deficit, public investment expenditure was to be partly debt-financed and partly of a ‘user-pays’ character. To the extent that his preference for public investment was of a somewhat contingent nature, Keynes’s more general proposal was for a permanent enlargement of the public sector.
Meltzer (1981) provided the first significant reinterpretation of Keynes’s policy position making detailed reference to the *Treasury Memoranda*. Meltzer (1981: 43) argued that Keynes’s central policy concern was with eliminating involuntary unemployment through the stabilisation of investment. In turn, Meltzer refuted the notion that Keynes advocated counter-cyclical budgetary policy and short-run fiscal stimulus. According to Meltzer (1981: 34-36), the *General Theory* was Keynes’s attempt to explain why government intervention could move an economy closer to full employment by systematically increasing the capital stock and output.

Meltzer contended that rather than advocating short-run fiscal activism, Keynes believed that output could be increased by raising and stabilising the average level of investment and reducing interest rate risk premiums. This proposition was grounded on the two key themes of Keynes’s theory (Meltzer, 1981: 43, 57-61). Firstly, output fluctuations were primarily caused by changes in unpredictable, long-term expectations. Secondly, fluctuations in output and employment occurred around a level below that which might otherwise have been attainable with a higher level of total investment.

According to Meltzer (1981: 43, 61), Keynes proposed several policies to raise total investment, including: lowering the long-term rate of interest through a monetary or wage policy; eliminating the influence of speculation and the volatility of expectations; and redistributing income in order to increase the economy’s propensity to consume. However, Meltzer claimed that Keynes’s core solution was the state management of investment – the so-called ‘socialisation’ of investment.⁸ Public investment spending would dampen...

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⁸ Meltzer distinguished between Keynes’s public investment program and Keynes’s public works proposals, treating the latter as a policy aimed at increasing current period consumption. Patinkin (1983b: 49) argued that this distinction was artificial, and that Keynes regarded the two as being interchangeable. Meltzer (1983: 71-73) reinforced his interpretation in a subsequent response.
fluctuations in total demand and reduce the cyclical component of involuntary unemployment. A long-term program of state investment expenditure could bring investment to its ‘saturation point’ where the equilibrium marginal efficiency of capital was reduced to zero (Meltzer, 1981: 46).

Meltzer (1981: 41) contended that there is little evidence to suggest that Keynes supported ‘compensatory’ (that is, counter-cyclical) fiscal policy or the fine-tuning of government spending in response to macroeconomic fluctuations. In fact, Keynes actually opposed measures to influence consumer spending through unplanned changes in government expenditure and taxation. Meltzer observed that this is consistent with Keynes’s emphasis on the role of expectations, which led him to conclude that the most practicable way to reduce fluctuations in income was to prevent fluctuations in investment. Meltzer (1981: 62) argued that ‘Keynes’s main concern in the General Theory and after is to reduce the instability of the economy by eliminating fluctuations in the most volatile elements, not to substitute one source of variability for another’. Meltzer (1981: 47) also observed that Keynes was opposed to a counter-cyclical role for monetary policy.

Meltzer’s interpretation of Keynes’s policy position differs markedly from the conventional characterisation of Keynesian fiscal activism. In this regard, Meltzer (1981: 41) also noted that there is some documented evidence suggesting that Keynes did not accept the post-war economic policies conventionally termed ‘Keynesian’ and even described himself as ‘not a Keynesian’. However, there is some doubt as to the factual reliability of these statements (cf. Patinkin, 1983b: 49-50).

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9 Keynes’s only exception to this is James Meade’s social security proposal (Meltzer, 1981: 42). See Section 3.2.
Kregel (1985; 1993; 1994-95) is another important figure in the reappraisal of Keynes’s long-term policy position. Like Meltzer, Kregel (1985: 33) argued that the stabilisation of investment was Keynes’s primary long-term policy goal. Kregel’s key contributions were in examining Keynes’s apparent aversion to budget deficits, as well as the preventative or ‘defensive’ character of Keynes’s policy views.

Kregel (1985: 35) contended that deliberate government budget deficits were not part of Keynes’s full employment policy. In fact, Keynes’s long-term policy proposals were designed to ensure that budget deficits of current expenditure and revenue were prevented from occurring in the first place. According to Kregel, Keynes advocated the formal separation of capital and current items in the government budget into distinct ‘capital’ and ‘ordinary’ (or current) budget accounts, respectively. Public investment expenditures would be shown on the capital budget and were to be financed by public borrowing and user-charges. However, Kregel (1985: 35) noted that Keynes drew a sharp distinction between debt-financed capital spending and current expenditure. If full employment was maintained the ordinary budget should remain balanced over the long-term and as such, public debt should eventually decline as a proportion of national income. Seen in this light, Keynes viewed budget deficits as a consequence of the failure of policy-makers to achieve full employment rather than as a desirable recourse to remedy unemployment during a recession (Kregel, 1985: 32). In this regard Keynes acknowledged that there was a significant role for cyclical influences on the ordinary budget balance.

Kregel (1985: 33-34, 37-38) also emphasised Keynes’s preference for a preventative (that is, anti-cyclical) fiscal policy program, rather than one that reacted to fluctuations in private demand (that is, counter-cyclical). According to Kregel, Keynes’s public investment expenditures were to be delivered through ‘public and semi-public bodies’ so as to produce
the long-term level of investment associated with full employment. In two subsequent articles, Kregel (1993; 1994-95) further explored Keynes’s emphasis on preventative policy action. He distinguished between Keynes’s so-called ‘offensive’ and ‘defensive’ economic policy. ‘Offensive’ policy was to be applied in depressed conditions, while ‘defensive’ policy was to perform an ongoing, long-term role as a preventative defence against recessions before they occurred. Kregel (1993: 429) contended that Keynes’s ‘defensive’ policy called for the socialisation of investment implemented by means of a capital budget.

Keynes’s preference for public investment spending over fiscal manipulation of consumption is another important theme in Kregel (1985). Keynes is sceptical of the efficacy of measures to stimulate short-run consumption spending through the current budget. On the composition of government expenditure, Smithin (1989: 210) argued that Keynes supported a larger direct contribution by the state to fixed capital formation, together with a broader set of initiatives by which public and quasi-public authorities would be able to influence a substantial proportion of total investment spending. Smithin argued that Keynes did not advocate the sort of ‘fiscal fine-tuning’ later termed ‘Keynesian’. He also observed that Keynes’s preference for state investment over consumption spending would be less susceptible to any ‘crowding out’ effect, and could in actual fact ‘crowd in’ private investment (Smithin, 1989: 214-15, 219-20). Similarly, Pressman (1987: 17) noted that public investment would have the economic advantages over current government expenditures of raising productivity and having a greater impact on employment.

\[10\] Kregel claimed that Keynes’s ‘offensive’ policy influenced ‘short-period inter-temporal prices’ with the goal of reversing market expectations of further price reductions during a recession. This drew heavily on Keynes’s earlier theoretical work still steeped in orthodoxy, *A Treatise on Money* (1930).
Moreover, Kregel (1985: 32; 1994-95: 261) suggested that many of the policy recommendations commonly attributed to Keynes – particularly the support for counter-cyclical fiscal policy and deliberate budget deficits – more closely resemble Abba Lerner’s theory of ‘functional finance’. Pearce and Hoover (1995: 189) argued that by the late 1940s, while the economics profession had settled on the IS-LM model as the Keynesian theoretical model, Lerner’s analysis constituted the standard textbook exposition of mainstream Keynesian policy (cf. Colander, 1984). However, it is unclear whether ‘functional finance’ meaningfully informed Keynes’s own views on economic policy and Keynes’s attitude towards Lerner’s theory is subject to historical debate (cf. Colander, 1984; Scitovsky, 1984; Pérez Caldentey, 2003).

More recently, Brown-Collier and Collier (1995) re-emphasised Keynes’s core policy views in light of the Treasury Memoranda together with the body of secondary literature that had developed. Brown-Collier and Collier reiterated the central theme in the literature that Keynes’s long-term policy for promoting full employment and reducing economic fluctuations was the socialisation of investment. Contrary to the conventional characterisation of Keynesian policies, Keynes did not call for recurring budget deficits to finance current expenditure, nor did he advocate counter-cyclical policy to smooth fluctuations in income and consumption. In an extension on the previous literature, Brown-Collier and Collier (1995: 345-50) also provided a more comprehensive discussion of how different government expenditure, revenue and financial transactions would be recorded on

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11 ‘Functional finance’ posited that fiscal measures should be judged solely by their effectiveness rather than upon the basis of what was ‘sound’ or ‘unsound’ in terms of balancing the budget. The ‘first law of functional finance’ implies that the government should ‘fine-tune’ total expenditure within the economy at the level that equalises total expenditure and the total supply of goods and services. Whether this resulted in a budget deficit was irrelevant (Lerner, 1943).
Keynes’s proposed ordinary and capital budgets. They noted that while Keynes opposed deficit-financed current expenditure, public investment was to be at least partly debt-financed and repaid over the service life of the project.

Brown-Collier and Collier (1995: 342-43, 350) also emphasised that Keynes’s policy position did not call for direct government control or influence over private investment (however, this overlooks Keynes’s support for a policy of permanently low interest rates; see Section 3.1). Instead, public investment would add to private investment (in the absence of any crowding out effect), with the level of public investment determined by the shortfall of private investment relative to the full employment level of savings.

Chapter 2 has reviewed the secondary literature that has examined Keynes’s policy position. The body of literature that has been informed by the Treasury Memoranda stands in contrast to the conventional understanding of Keynesian economic policy. Keynes is shown to have supported a full employment policy based around a preventative (or anti-cyclical) long-term government expenditure program. At the same time, Keynes was opposed to deficit-financed current government expenditures and thereby somewhat conservative regarding public debt. Chapter 3 analyses the relevant primary materials with a particular focus on the 1942-45 Treasury Memoranda.
Chapter 3. A reappraisal of Keynes’s core policy position

It was shown in Chapter 2 that while the conventional characterisation of Keynesian economic policy places an emphasis on short-run fiscal activism, a reconstruction of the primary literature reveals that Keynes advocated a long-term policy for achieving full employment through an expanded public investment program. This chapter examines the relevant primary materials with an emphasis on the 1942-45 Treasury Memoranda. While this chapter confirms the central message of the secondary literature, it also attempts to ascertain those features of Keynes’s policy position that were of a general character and those that were more contingent upon Keynes’s historical and political context. The characterisation of Keynes’s policy position in this chapter motivates the illustrative modelling in Chapter 4.

As a starting point, Keynes’s position on the role of fiscal policy is based on the central theoretical proposition in the General Theory. In a decentralised, capitalist economy there is no reliable, automatic mechanism that coordinates investment and savings in such a way as to guarantee that the system will adjust to full-employment output (Aspromourgos, 2011). Moreover, a modern economic system exhibits a persistent tendency towards aggregate demand deficiency, giving rise to involuntary unemployment. In refuting the ‘classical theory’, Keynes observed that even with flexible prices and money-wage the economic system ‘seems capable of remaining in a chronic condition of sub-normal activity for a considerable period’ and that ‘full, or even approximately full, employment is of rare and short-lived occurrence’ (GT: 249-50). By demonstrating the possibility of systematic demand deficiency in a capitalist economy the General Theory provided the theoretical underpinning for an activist role for the state in maintaining full employment.
Section 3.1 begins by examining several of the key policy proposals that are evident in the *General Theory* itself. Section 3.2 then analyses the key features of Keynes’s policy position that are depicted in the *Treasury Memoranda*.

### 3.1 Keynes’s ‘Social Philosophy’ in Chapter 24 of the *General Theory*

As previously noted, the *General Theory* is largely a theoretical text and Keynes gives only secondary attention to policy issues. He makes several references to the employment expanding effects of public works programs in Chapter 10 (*GT*: 116-17, 119-20, 127-131) and once in the Appendix to Chapter 19 (*GT*: 277). Also, Keynes makes only two references to the word ‘deficit’. The first reference appears in Chapter 8 where Keynes notes how, as an endogenous consequence of a decline in employment, a government may be liable ‘willingly or unwillingly, to run into a budgetary deficit or will provide unemployment relief; for example, out of borrowed money’ (*GT*: 98). The second reference appears in Chapter 10 in the context of the infamous (and slightly facetious) description of burying bottles filled with banknotes. Keynes distinguishes between two forms of government loan expenditures: net borrowings on the capital budget (that is, public investment spending), and net borrowings to meet a current budgetary deficit (*GT*: 128-29, *n.*). In the main part of the text there is no explicit endorsement of budgetary deficits or discretionary demand management.

In Chapter 24 of the *General Theory* Keynes provides a commentary on the long-term policies that he envisaged as being desirable to maintain full employment in a liberal capitalist economy. He begins the chapter by claiming that the ‘outstanding faults of the economic society in which we live are its failure to provide for full employment and its arbitrary and inequitable distribution of wealth and incomes’ (*GT*: 372). Towards remedying these faults, three key policy proposals emerge from Chapter 24: policies to improve the
distribution of income and wealth, a scheme of permanently low interest rates, and a permanent enlargement of the public sector (with an emphasis on public investment).

Firstly, Keynes endorsed policies to redistribute income. He clearly objected to the inequality in the distribution of income caused by modern capitalism on both ethical as well as economic grounds. According to Keynes, a more equal distribution of income (achieved through, for instance, direct taxation such as income tax and death duties) was central to increasing the propensity to consume and the multiplier (GT: 372-73; cf. 94). This was a long-run policy. Keynes was actually sceptical of the ability of short-run fiscal changes to influence current consumption (cf. CW27: 319, 323). On the basis of the theory of effective demand Keynes refuted the orthodox proposition that growth in the economy’s capital stock depended upon the strength of the motive towards individual saving (especially the ‘abstinence of the rich’), arguing instead that ‘the growth of capital depends not at all on a low propensity to consume but is, on the contrary, held back by it’ (GT: 372-73). However, Keynes acknowledged that there was ‘social and psychological justification for significant inequalities of income and wealth’, although ‘not for such large disparities as exist to-day’ (GT: 374).

Secondly, Keynes advocated a long-run policy of systematically reducing the riskless real interest rate towards zero.\(^{12}\) This is Keynes’s ‘euthanasia of the rentier’ or ‘the functionless investor’ (GT: 376). Granted an inverse relation between the interest rate and investment, a permanently low rate of interest (or ‘cheap money’ policy) could induce a volume of private investment equal to the magnitude of savings at full employment (GT: 375). Keynes argued

\(^{12}\) However entrepreneurship – such as risk-bearing – would still need to be remunerated. Given a divergence between real and nominal yields, a zero real rate would perhaps not be so radical (Aspromourgos, 2004: 219-20, 232).
that because ‘the extent of effective saving is necessarily determined by the scale of investment and that the scale of investment is promoted by a low rate of interest’ it followed that ‘it is to our best advantage to reduce the rate of interest to that point relatively to the schedule of the marginal efficiency of capital at which there is full employment’ (ibid.). According to Keynes, the progressive growth in the capital stock would gradually diminish the marginal efficiency of capital (note that Keynes does conceive of the long-run possibility of capital satiation; cf. CW27: 350).

Keynes’s conclusion that savings and investment were equilibrated by the aggregate level of activity (rather than the interest rate), led him to suppose that the general rate of interest was conventionally determined (GT: 202-04; cf. Aspromourgos, 2004; 2007). This opened up a role for the monetary authority to autonomously set interest rates as part of a ‘cheap money’ policy. Such a policy would have practical advantages for the sustainability of public debt and budget deficits.¹³ This is returned to in Section 4.3.

Keynes was opposed to short-run interest rate activism (that is, monetary policy employed for counter-cyclical purposes) and expressed doubts about the adequacy of monetary policy to exercise a decisive influence on private demand (GT: 164, 202-08, 315-21, 378). Keynes believed that fluctuations in market expectations of the marginal efficiency of capital would exert the most influence on private investment, which could not be practically offset by short-run changes in the rate of interest (GT: 319-20). Whilst Keynes advocated permanently low interest rates to induce private investment, he nevertheless believed that it would not be the case that ‘the influence of banking policy on the rate of interest will be sufficient by itself to determine an optimum rate of investment’ (GT: 378). For this reason,

Keynes anticipated that the state would take a greater responsibility for implementing a sufficient level of investment to maintain full employment (GT: 163-64, 377-81).

The third important policy proposal articulated in Chapter 24 of the General Theory concerns the role of fiscal policy in expanding public expenditure. Keynes understood that demand deficiency and chronic unemployment were persistent problems in a modern economic system. To this effect, Keynes contended that the only means of securing full employment was through a long-term program of state intervention entailing a permanently enlarged public sector (combined with low interest rates). Keynes envisaged a long-term role for the state direction of investment, which he referred to as the ‘socialisation’ of investment (GT: 378). By influencing investment spending through public or semi-public bodies, the government could grow effective demand at a rate consistent with the full employment level of savings, so as to ensure full employment (CW27: 321).

Despite the nomenclature, Keynes’s proposal for the ‘socialisation’ of investment was by no means an argument in favour of state ownership of the factors of production.\(^\text{14}\) While he did conceive of some ‘central controls’ and an ‘extension of the traditional functions of government’, Keynes made it clear that ‘no obvious case is made out for a system of State Socialism’ and that ‘it is not the ownership of the instruments of production which it is important for the State to assume’ (GT: 378). Keynes saw the state as filling the vacant position of ‘entrepreneur-in-chief’ without interfering with the actual ownership or management of individual businesses (CW27: 324). In the tradition of British liberalism, Keynes still retained a central role for the advantages of individualism, such as economic efficiency and decentralisation (GT: 380). Keynes supported the enlargement of the public sector as the solution to the ‘disease’ of unemployment and ‘the only practicable means of

\(^{14}\) This is well documented; cf. Meltzer (1983: 71), Kregel (1985: 30), Smithin (1989: 212).
avoiding the destruction of existing economic forms in their entirety and as the condition of the successful functioning of individual initiative’ (*GT*: 380, 381).

However, Keynes’s ‘socialisation’ of investment should be treated with caution. His preference for public investment was a policy position developed contingent on the particular context of Britain in the 1930s and 1940s. This theme will be returned to in the next section of this chapter. Having outlined the policy proposals that Keynes posited in the *General Theory*, Section 3.2 provides further detail by reference to the 1940s policy documents.

### 3.2 Keynes’s policy proposals for the post-war world

The remainder of this chapter examines Keynes’s relevant policy writings contained in the *Treasury Memoranda*. These documents arose out of policy planning for the post-war world. There are several issues that are of relevance to this thesis. The first is a clarification of Keynes’s notion of the ‘socialisation’ of investment. The second to be examined is Keynes’s emphasis on maintaining full employment by preventing economic fluctuations through anti-cyclical policies. The third issue is Keynes’s preference for investment spending over consumption manipulation. Fourth is the question of the financing of public expenditures, including a discussion of capital budgeting and Keynes’s apparent conservatism towards public debt and budget deficits. A fifth related issue to be addressed is Keynes’s preference for policies of a ‘user-pays’ character.

To the first issue, and as discussed above, Keynes supported an expansion in the scale of the public sector as the means of achieving full employment. In the 1930s and 1940s Keynes’s emphasis was on a long-term program of public investment, or the ‘socialisation’ of investment. This was grounded on the theoretical proposition that fluctuations in private
investment were the primary cause of changes in effective demand, namely because investment is ‘influenced by our views of the future about which we know so little’ (Keynes, 1937: 221). Responding to criticisms of the General Theory, Keynes (1937) wrote:

> The theory can be summed up by saying that, given the psychology of the public, the level of output and employment as a whole depends on the amount of investment. I put it in this way, not because this is the only factor on which aggregate output depends, but because it is usual in a complex system to regard as the *causa causans* that factor which is most prone to sudden and wide fluctuation. (Keynes, 1937: 221)

In the absence of any reliable mechanisms in a decentralised competitive economy for ensuring full labour employment, Keynes’s solution was the permanent expansion of public expenditure. According to Keynes, public investment should offset changes in private demand, of which investment was the most volatile component. In this regard, the level of public investment would be determined by the shortfall in private investment as compared with the level of savings corresponding to full-employment output (*CW27*: 321).

Keynes envisaged the long-term investment program to be undertaken by ‘public or semi-public bodies’ (*CW27*: 322). In the tradition of British liberalism, Keynes looked to decentralised government entities and semi-autonomous public bodies operating under government auspices, including levels of government below the national level. In an earlier article, *The End of Laissez-Faire*, Keynes (1926) had already alluded to what he understood to be public or semi-public bodies.\(^\text{15}\)

\(^\text{15}\) Kregel (1985), Pressman (1987), Smithin (1989) and Seccareccia (1995) have all clarified Keynes’s notion of ‘public or semi-public bodies’ by reference to *The End of Laissez-Faire*, noting its continuity with Keynes’s later policy proposals.
...in many cases the ideal size for the unit of control and organisation lies somewhere between the individual and the modern state. I suggest therefore, that progress lies in the growth and the recognition of semi-autonomous bodies within the state – bodies whose criterion of action within their own field is solely the public good as they understand it...I propose a return, it may be said, towards medieval conceptions of separate autonomies. But in England at any rate, corporations are a mode of government which has never ceased to be important...It is easy to give examples, from what already exists, of separate autonomies which have attained or are approaching the mode I designate – the universities, the Bank of England, the Port of London Authority, even perhaps the railway companies. (Keynes, 1926: 288-89)

Seccreccia (1995: 48-52) argued that part of the institutional setting that Keynes envisaged may have been contained in his proposal for the establishment of a National Investment Board after the 1930s. The Board would behave in a similar way to a publicly run investment bank, making available the pooled funds from public and semi-public bodies and engaging in long-term financing of investment projects. Skidelsky (2010: 177) considered these arrangements as being somewhat analogous to ‘public-private’ partnerships.

Keynes gave few specific details about the precise characteristics of the kind of public investment that he supported. He does make brief mention in the General Theory to public investment in road-building and house-building (GT: 106). At a broader level, Keynes (1926: 291) argued that public expenditures should be directed at ‘those things which at present are not done at all’ by private enterprise. The significant criteria should be whether the project would provide a real return over time, either as a direct cash return or an indirect flow of services (CW27: 407-08). Pressman (1987: 17) suggested that the sorts of
investment that would meet Keynes’s criteria would include rebuilding Britain’s infrastructure (a priority following World War II), clearing slums, providing low-income housing and building and operating hospitals and schools.

The second important characteristic of Keynes’s policy position was that public investment expenditures would be directed at maintaining full employment by preventing business cycle fluctuations. Keynes saw a difference between preventative or anti-cyclical policy (presumably entailing some forecast of future private investment demand), and a conventional counter-cyclical policy that would respond to fluctuations in private demand as they occurred.\(^\text{16}\) Government action at the margin could accelerate or delay investment projects to expand or curtail public investment expenditure. According to Keynes, measures to prevent economic fluctuations were justified on the basis that it was typically difficult to offset sharp fluctuations once they had occurred (\textit{CW27}: 316, 323). In a 1943 memorandum Keynes argued that:

If two-thirds or three-quarters of total investment is carried out or can be influenced by public or semi-public bodies, a long-term programme of a stable character should be capable of reducing the potential range of fluctuations to much narrower limits than formerly, when a smaller volume of investment was under public control and when even this part tended to follow, rather than correct, fluctuations of investment in the strictly private sector of the economy...The main task should be to prevent fluctuations by a stable long-term programme. If this is successful it should not be

\(^{16}\) See footnote 5. While there may be only slight practical differences in how an anti-cyclical policy is implemented compared with a counter-cyclical policy, the importance of the distinction is to highlight that Keynes’s primary focus is with \textit{preventing} fluctuations in total demand.
too difficult to offset small fluctuations by expediting or retarding some items in this long-term programme. \(CW27: 322;\) cf. 326)

Given the growth in the size of public sectors in developed economies over the post-war period Keynes’s proposals may not have been so unrealistic. Assuming a constant proportion of investment to national income, Keynes estimated that public investment was likely to range from 7.5 percent to 20 percent of net national income – certainly a conceivable range for the total public sector share of activity in developed countries \(CW27: 323\). In general however, economic policies in the post-war period did not match the character of Keynes’s policy proposals, at least so far as his preference for public investment spending was concerned. The literature suggests that over the post-war period public investment decreased as a share of total investment and total output, and was not being used in a way to stabilise total investment.17 At the same time, taxation changes were the main policy instrument for influencing economic activity. Transfer payments also rose as a share of public outlays.18 Nevertheless, Aspromourgos (2011) argued that the growth in the size of the public sectors in developed countries over the post-war period has on some level been a realisation of Keynes’s vision, even if occurring for other reasons. These include the increasing share of tertiary services in expenditure that accompanies rising living standards, together with imperatives to state provision of at least part of these (such as education and healthcare).


18 See Kregel (1985: 30-31, 41-44) in particular. See also Clarke (2009: 168-176), who highlighted the different trajectories followed by British and American Keynesianism, especially the greater emphasis that American Keynesianism placed on manipulating consumption through ‘tax-and-spend’ policies.
The third aspect of Keynes’s policy position is his preference for investment spending rather than manipulating current consumption. At least part of this is grounded on Keynes’s theoretical understanding that private investment fluctuations were the main cause of macroeconomic volatility. Rather than supporting the fine-tuning of current expenditure, Keynes questioned the practicality of policies to expand private consumption, noting that ‘I doubt if much is to be hoped from proposals to offset unforeseen short-period fluctuations in investment by stimulating short-period changes in consumption’ (*CW27*: 323; *cf.* 319). In a 1943 letter to James Meade, Keynes observed that short-run variations in current government expenditure would interfere with people’s established habits and consumption patterns. Ironically, Keynes’s position reads almost like an endorsement of the permanent income hypothesis, which later came to constitute part of the assault on Keynesian economics:

> People have established standards of life. Nothing will upset them more than to be subject to pressure constantly to vary them up and down. A remission of taxation on which people could only rely for an indefinitely short period might have very limited effects in stimulating their consumption. And, if it was successful, it would be extraordinarily difficult from the political angle to reimpose the taxation again when employment improved. (*CW27*: 319; *cf.* 350)

Keynes is pragmatic in recognising the political and practical advantages of public investment spending over consumption manipulation. He also contended that capital expenditure could have a greater effect on an economy during a recession compared with programs to stimulate household consumption: ‘it is not nearly so easy politically and to the common man to put across the encouragement of consumption in bad times as it is to induce the encouragement of capital expenditure’ (*CW27*: 319).
However, Keynes does not fully acknowledge the impact time-lags typical of large-scale public investment projects. To the extent that Keynes already envisaged the public investment program would prevent rather than respond to cyclical fluctuations this would have required a very forward-looking policy regime. Presumably, Keynes anticipated that specific government machinery would have been in place so that public investment programs at the margin could be immediately implemented or curtailed.

The only exception that Keynes made to his preference for investment spending related to Meade’s proposal for a rules-based National Insurance contribution scheme, resembling something like a modern budgetary automatic stabiliser. Meade’s proposal was to use a formula for reducing social security taxes on workers when the unemployment rate rose above 8 percent (CW27: 206-08, 312, 319). Contrary to the conventional understanding of Keynesian fiscal policy, as noted above Keynes generally disapproved of discretionary fiscal stimulus to influence current consumption. Seen in this light, Meltzer (1981: 42) argued that Keynes’s policies amount to a ‘mixture of rules, based on his theory, and pragmatism [rather] than as ad hoc changes’.

However, Keynes’s apparent preference for public capital expenditure should be clarified by noting that it was largely a contingent conviction arising from the context of post-war reconstruction facing Britain in the early 1940s together with Keynes’s views on ‘capital saturation’. In a 1943 memorandum Keynes anticipated ‘three phases’ at the end of World War II:

\[\text{19}\] There are references to this point in some of the secondary literature, but in general Keynes’s preference for investment spending is somewhat overstated; cf. Kregel (1985: 35), Guger and Walterskirchen (1988: 107-08), and Pérez Caldentey (2003: 35-38).
(i) When the inducement to investment is likely to lead, if unchecked, to a volume of investment greater than the indicated level of savings in the absence of rationing and other controls;

(ii) When the urgently necessary investment is no longer greater than the indicated level of savings in conditions of freedom, but is still capable of being adjusted to the indicated level by deliberately encouraging or expediting less urgent, but nevertheless useful investment;

(iii) When the investment demand is so far saturated that it cannot be brought up to the indicated level of savings without embarking upon wasteful and unnecessary enterprises. (*CW27: 321*)

In the first phase of post-war reconstruction Keynes envisaged an excess of investment demand over the indicated level of savings.\(^{20}\) Equilibrium could only be achieved by limiting the volume of investment and consumption through state controls and rationing (*CW27: 322*). Keynes anticipated this phase would last approximately five years.

The second phase after the War would be characterised by a deficiency of private investment demand relative to the indicated level of savings.\(^{21}\) Keynes’s proposals for the socialisation of investment were directed primarily at this second phase (*cf.* Guger and Walterskirchen, 1988; Pérez Caldentey, 2003). To this extent the secondary literature has overstated the importance that Keynes gave to investment spending as a general principle

\(^{20}\) Keynes defined the ‘indicated level of savings’ as the savings level where total expenditure was equal to the full employment level of income (*CW27: 321*).

\(^{21}\) Guger and Walterskirchen (1988: 107-08) suggested that the second phase would have corresponded to the 1950s and 1960s.
Keynes envisaged that this second phase could last for between five and twenty years (CW27: 323, 350).

Keynes’s preference for public capital investment was in some ways grounded on his belief that the economy was yet to reach ‘capital saturation’: the point at which capital would become so abundant that the yield on capital would only cover production costs (Moggridge, 1979: 211). Pérez Caldentey (2003: 35-38) argued that Keynes’s recommendation for public investment spending was only applicable up until the saturation point of investment. In a 1943 letter to Josiah Wedgwood, a fellow director at the Bank of England, Keynes addressed the question of why he should prefer a ‘heavy scale of investment to increasing consumption’:

My main reason for this is that I do not think we have yet reached anything like the point of capital saturation. It would be in the interests of the standards of life in the long run if we increased our capital quite materially. After twenty-years of large-scale investment I should expected to have to change my mind. Even in the meanwhile it is a question of degree. But certainly for the first ten years after the war – and I should expect for another ten years after that – it would not be in the interests of the community to encourage more expenditure on food and drink at the expense of expenditure on housing. (CW27: 350)

In the third phase, a sort of ‘golden age’ at which point investment demand would be satiated, government policy would shift towards discouraging savings and increasing consumption expenditure in order to bring savings and investment into equality. Keynes
certainly believed in the prospect of capital saturation and consumption satiation.\textsuperscript{22} Eventually, it would become necessary to reduce the indicated level of savings by reducing labour supply and increasing leisure, such as through more holidays or shorter work hours (\textit{CW}27: 323-24). Hence in the very long term, the economy should be ‘aiming towards a steady long-period trend towards a reduction in the scale of investment and an increase in the scale of consumption (or, alternatively, of leisure)’ (\textit{CW}27: 324).

The fourth issue relating to Keynes’s long-term policy position is the question of financing public expenditures. The proposal to institute a formal distinction between current and capital public expenditure serves to highlight Keynes’s somewhat conservative views on public debt, even though he conceded it was really ‘no more than a matter of presentation’ (\textit{CW}27: 352). Compared with the secondary literature, this thesis puts more emphasis on the implications that Keynes’s views on deficit spending have on issues related to public debt.

Keynes proposed that there should be an ‘ordinary budget’ and a ‘capital budget’ reflecting the separation of current from capital items, respectively. The ordinary budget should contain current expenditures and revenues, and be balanced or in surplus.\textsuperscript{23} Any surplus should be transferred to the capital budget, not to extinguish debt, but to expand capital expenditures that would generate a real return over time (\textit{CW}27: 225, 277, 352). Keynes defined a capital budget as ‘a regular survey and analysis of the relationship between sources of savings and different types of investment and a balance sheet showing how they have been brought into equality for the past year, and a forecast of the same for the year to

\textsuperscript{22} See for instance \textit{Economic Possibilities for Our Grandchildren} (Keynes, 1930), which foreshadows that ‘within a hundred years,’ ‘absolute’ consumption needs (those independent of the situation of others) would have been satiated.

\textsuperscript{23} The ordinary budget would also record the repayment (or amortization) of public debt; \textit{cf.} \textit{CW}27: 407, 410.
come’ (CW27: 368). Thus, on the capital budget the government would forecast the shortfall of private demand and institute public investment spending to meet the savings-investment requirements for full employment.

Keynes contended that the government should not intentionally run an ordinary budget deficit. This would mean that there should be no aggregate public debt issue to debt-finance recurrent expenditures (what Keynes refers to as ‘debt-weight debt’). He regarded deficit financing on the ordinary budget to be a second-best expedient, possibly available as a final recourse if capital budgeting failed to maintain full employment.24 In no way does Keynes advocate unqualified deficit spending on the ordinary budget. While public investment on the capital budget should at least partly be financed by new borrowing from the public, Keynes contended that capital budgeting had ‘nothing whatever to do with deficit financing’ (CW27: 352). In this respect Keynes cautioned against ‘confusing the fundamental idea of the capital budget with the particular, rather desperate expedient of deficit financing’ (CW27: 353-54).

While the emphasis of Keynes’s policy position was on maintaining full employment he does not unequivocally close off the prospect of the government ever having recourse to a deficit on the ordinary budget. In a 1943 memorandum Keynes wrote:

> If, for one reason or another, the volume of planned investment fails to produce equilibrium, the lack of balance would be met by unbalancing one way or the other the current Budget. Admittedly this would be a last resort, only to come into play if the machinery of capital budgeting had broken down…Thus the capital budgeting is

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24 Guger and Walterskirchen (1988: 109) suggested that in the third phase following the end of the war, Keynes envisaged no escape from deficit budgeting; however, this is unclear.
a method of maintaining equilibrium; the deficit budgeting is a means of attempting
to cure disequilibrium if and when it arises. \((CW27: 322-23)\)

Despite being reluctant to directly endorse deficit financing (except perhaps in the most
exceptional of circumstances) Keynes proves to be characteristically pragmatic in a 1943 memorandum:

> About other forms of deficit financing I am inclined to lie low because I am sure
that, if serious unemployment does develop, deficit financing is absolutely certain to
happen, and I should like to keep free to object hereafter to the more objectionable
forms of it. \((CW27: 353)\)

The exception to Keynes’s aversion towards deficit budgeting is Meade’s social security
proposal \((CW27: 277, 319, 353)\). In this case, Keynes argued that the social security budget
should be one section of the capital budget itself, so as to ensure that the ordinary budget
would be ‘balanced at all times’ \((CW27: 225)\).

Keynes recognised that changes in the budget balance were predominately an endogenous
consequence of the economic cycle. In a 1944 memorandum on post-war employment
Keynes contended that ‘it is the failure to adopt a remedy for severe cyclical
unemployment’ which might ‘unstabilise the national budget’ \((CW27: 366)\). He argued that
there ‘appears to be no glimmer of recognition that measures to stabilise the national income
are \textit{ipso facto} measures to stabilise the national budget’ \((CW27: 366; \textit{cf.} Keynes, 1933:
347)\). In this sense Keynes saw a budget deficit as the consequence of not achieving full
employment.

Keynes’s caution towards budget deficits implies that he was apparently somewhat
conservative concerning the question of public debt. However it should be noted that
Keynes’s aversion to budget deficits was namely an aversion to current budget deficits. He did maintain that the government should debt-finance capital expenditures (as well as relying on user-charges to funding public investment). In this way Keynes appears to have been opposed to rising public debt insofar as it reflected debt-financed current expenditures, or ‘dead-weight debt’. But even in this sense it is probably unwise to treat Keynes’s apparent debt conservatism as a general principle (Aspromourgos, 2011). At one point he appeared to have been unconcerned about the growth in ‘dead-weight debt’ that was ‘neither large in itself nor out of proportion to the growth of the national income’ (CW27: 278). Further, upon reading Lerner’s (1943) article on ‘functional finance’ that took a very relaxed approach to rising public debt, Keynes described it as ‘impeccable’ (CW27: 320). Moreover, and as a matter of historical context, by the end of World War II the public debt burden in Britain was well in excess of 200 percent of GDP. In this regard there would appear to have been a clear economic and political imperative to balance the budget.

A fifth aspect of Keynes’s policy position is that he appeared to have favoured ‘user-pays’ financing of a substantial part of the capital expenditure program. To the extent that housing was part of Keynes’s investment proposals for instance, it could presumably have been at least partly funded by user-charges (CW27: 350-51). In general, Keynes contended that public investment would effectively pay for itself by generating surpluses on the ordinary budget through higher taxation revenue and charges (CW27: 319-20). Keynes claimed that ‘[t]he more socialised we become, the more important it is to associate as closely as possible the cost of particular services with the sources out of which they are provided’ (CW27: 224). User-pays financing would also have the effect of reducing the required tax share of national income, as well as reducing the extent of required government borrowing. With this
in mind, in a 1943 letter to Meade, Keynes explained the advantages of investment expenditure:

   Capital expenditure would, at least partially, if not wholly, pay for itself…Moreover, the very reason that capital expenditure is capable of paying for itself makes it much better budgetwise and does not involve the progressive increase of budgetary difficulties, which deficit budgeting for the sake of consumption may bring about, or, at any rate, would be accused of bringing about. (*CW27:* 319-20)

Chapter 3 has examined Keynes’s core policy position. Keynes supported a permanent enlargement of the public sector that would maintain full employment and prevent macroeconomic fluctuations. Keynes treated debt-financed expenditures with some degree of caution and he opposed deficits on the ordinary budget. While in the 1930s and 1940s Keynes’s preferred type of public expenditure was capital investment, this was largely a contingent conviction. The next chapter develops an illustrative model that captures the core logic of Keynes’s policy position.
Chapter 4. A model of Keynes’s policy position

As has been discussed in the previous chapters, Keynes supported a permanent enlargement of the public sector and associated public expenditures that aimed to maintain full employment. However, Keynes was also somewhat conservative towards rising public debt. To represent Keynes’s central vision, this chapter develops an illustrative model of a public expenditure program that aims to maintain full employment but is subject to a public debt sustainability constraint.

To capture the essential character of Keynes’s theory this thesis uses a long-period demand-led model based on the output ‘super-multiplier’ (Hicks, 1950; cf. Cesaratto, Serrano and Stirati, 2003; Aspromourgos, 2004; 2007). Long-period output is determined by the growth of autonomous demand, which is assumed to consist only of government expenditure. The super-multiplier is determined by the marginal propensity to consume out of after-tax income together with an investment accelerator.

Section 4.1 derives the basic model. In Section 4.2 two policy constraints are imposed to capture the core logic of Keynes’s policy objectives. The first constraint ensures that the long-period growth rate in public expenditure is consistent with the maintenance of full employment. The second constraint is a debt sustainability constraint of the Domar (1944) type, which ensures that the long-period public debt-to-GDP ratio is stabilised at a definite magnitude. Section 4.3 derives the income tax rate and examines its properties. Section 4.4 examines the restrictions required for the model to be economically feasible, defined as requiring the income tax rate to be between zero and unity. Section 4.5 discusses the implications of the model, especially regarding the policy choice of the tax rate and the nominal interest rate.
4.1 The basic model

Assume a single commodity, produced by means of homogenous labour and circulating capital of the same commodity. Aggregate demand ($Q$), or output in real terms is determined by consumption ($C$), private investment ($I$) and government expenditure ($G$). For simplicity, a closed economy is assumed. The price level $P$ is assumed constant. The equilibrium equation for $Q$ is:

$$Q = C + I + G$$ (1)

The public sector collects taxation revenue ($T$). Government expenditure ($G$) is autonomous and grows the economy at a rate equal to $g$. The government can deficit-finance some part of its current expenditure by borrowing from the public, with gross public debt (in real terms) denoted by $B$, and the ratio of public debt to nominal GDP ($Y$) given by $b$. The government borrows at a nominal interest rate $i > 0$. Alternatively, the government can accumulate budget surpluses and accrue a ‘negative’ public debt ($b < 0$).25

Real consumption is a positive function of real after-tax private sector income. Total private sector income ($Y$) is defined as the sum of the nominal value of aggregate output and interest income from holdings of public debt (see Appendix A.1 for a derivation). Define $0 < s < 1$ as the ratio of private saving to after-tax private sector income (or the marginal propensity to save out of after-tax income), and $0 < t < 1$, where $t$ is the average income tax rate, or the tax share of income (assuming that income tax is the only tax instrument). Income tax is levied on both interest income and income from production. Real consumption is then given by:

25 A practical interpretation of this in contemporary circumstances would be a savings fund, such as a ‘sovereign wealth fund’.
\[ C = (1 - s)(1 - t) \left( \frac{1 + g}{1 + g - tb} \right) Q \]  

(2)

With circulating capital (or equivalently, complete depreciation of fixed capital in each time period), private investment is the sum of the replacement requirement of the existing capital stock \((vQ)\), plus the additional capital requirements determined by firms’ assumed uniform expectation of aggregate demand growth \((g_e)\). The capital-output ratio \((v)\) is assumed to be less than unity and positive to ensure the viability of production, \(0 < v < 1\). Private investment in real terms is given by an accelerator mechanism so that investment is induced by the expected growth in aggregate demand:

\[ I = v(1 + g_e)Q \]  

(3)

Combining equations (1), (2) and (3) gives a Keynesian expression for aggregate demand \((Q)\) as a function of autonomous expenditure \((G)\) and the super-multiplier:

\[ Q = \left\{ \frac{1}{1 - (1 - s)(1 - t) \left[ \frac{(1 + g)}{(1 + g - tb)} - v(1 + g_e) \right]} \right\} G \]  

(4)

The first bracketed term is the output super-multiplier. The theoretical restriction on the denominator of the super-multiplier is that it lies between zero and unity to ensure that the multiplier is greater than unity and finite.\(^{26}\) Intuitively, the induced expenditure (consumption and investment) resulting from a one-dollar increase in income must be less than one dollar.

The assumption of a closed economy simplifies the analysis and more clearly demonstrates the core logic of Keynes’s policy position. However, it is worth noting that Keynes’s Britain

\(^{26}\) This requires that \(0 < (1 - s)(1 - t) \left( \frac{(1+g)}{(1+g)-tb} \right) + v(1 + g_e) < 1\)
at the end of World War II had a considerable external debt burden. The model could be extended to capture this proposition by introducing an external sector. External debt repayments would be a subtraction from national income $Y$, while a net exports component $(X - M)$ could be inserted into equation (1). A positive trade balance at full employment would ‘crowd out’ domestic consumption possibilities or government expenditure. In order to retain focus on the central nature of Keynes’s policy proposals these possible open economy augmentations are put aside.

This model is useful for illustrative purposes but obviously only has limited generality. One limitation of this simplified model is that the government expenditure component does not distinguish between current expenditures and capital expenditures. However, given that the capital stock is not a variable in the model the distinction between current and capital expenditures is not relevant. Further, were some part of $G$ assimilated into the investment accelerator mechanism then this part of public expenditures would become a positive function of effective demand, which would not reflect Keynes’s position. Moreover, the sorts of investment projects that Keynes proposed, such as infrastructure and residential housing, were not really ‘capacity-creating’ in the usual sense of private investment spending.

4.2 The policy constraints

Two constraints are imposed in order to capture the core logic of Keynes’s policy position. The first is a full employment objective and the second is a public debt sustainability constraint.
(i) *Full employment objective*

To maintain full employment the long-period growth in aggregate demand is assumed to be equal to the long-period growth rate in the labour force, \( n \). In long-period equilibrium, the expected growth in aggregate demand is equal to the actual growth rate, which in turn is equal to the growth in the labour force; that is, \( g_e = g = n \).

(ii) *Debt sustainability constraint*

Keynes’s apparent public debt conservatism can be modelled using a Domar (1944) type equation for the sustainability of public debt (*cf.* Aspromourgos, Rees and White, 2010). It requires that the long-period public debt-to-GDP ratio \( b \) is stabilised at some finite value. This entails the government maintaining a constant *total* deficit-to-GDP ratio (that is, including interest payments on public debt). For a constant \( i \) interest payments on public debt are a stable proportion of GDP. A stable total budget deficit-to-GDP ratio therefore implies a stable *primary* deficit-to-GDP ratio (exclusive of interest payments). Assuming some given sustainable public debt burden \( b \), the long-period debt sustainability constraint is given by:

\[
\frac{PG}{Y} - \frac{PT}{Y} = \left( \frac{(g - i)}{(1 + g)} \right) b
\]

where the left-hand side of the equation gives the primary budget deficit-to-GDP ratio. See Appendix A.2 for a derivation.

The primary budget deficit-to-GDP depends on (i) the desired value of the sustainable debt-to-GDP ratio, \( b \); (ii) the nominal interest rate on government debt, \( i \); and (iii) the economy’s growth rate, \( g \). For a positive debt-to-GDP ratio, if \( g > i \) the government can maintain a sustainable primary deficit, while if \( g < i \) it must maintain a primary surplus. Adding back
interest payments gives an expression for the sustainable total budget deficit-to-GDP ratio.

From the first condition setting \( g = n \) gives:

\[
d + \frac{ib}{(1 + n)} = \frac{nb}{(1 + n)}
\]  

(6)

where \( d \) is the primary deficit-to-GDP ratio.

Equations (5) and (6) are fairly mechanical characterisations that capture the core logic of public debt sustainability and Keynes’s apparent debt conservatism. They give the budget deficit-to-GDP ratio that is consistent with a constant public debt-to-GDP ratio. To reflect Keynes’s policy position \( b \) could be interpreted as an upper-bound on the government debt trajectory or a long-run trend value.\(^{27}\) Taken literally, Keynes’s aversion to current budget deficits could be modelled as requiring \( b = 0 \) (although as discussed in Section 3.2 Keynes most likely allowed scope for some net debt issue). While requiring a constant public debt-to-GDP ratio may appear slightly restrictive this requirement still allows for short-run deviations in the debt-to-GDP ratio (cf. Aspromourgos, Rees and White, 2010: 436).

4.3 Solving for the income tax rate

Conditions (i) and (ii), together with equations (4) and (6), give an expression for the long-period income tax rate as a function of the other five parameters (see Appendix A.3 for a derivation):

\[
s(1 - t) = \frac{nb}{(1 + n)} + v[(1 + n) - ib]
\]  

(7)

\(^{27}\) This leaves aside the question of the transition path towards that long-period sustainable \( b \); which if below the current-period debt-to-GDP ratio would entail a difficult path of fiscal restraint; cf. Aspromourgos, Rees & White (2010: 441). Regarding the issue of an optimal \( b \) see Aspromourgos, Rees and White (2010: 436-38).
Equation (7) is a standard leakages-injections expression. The left-hand side of the equation is equal to the private savings-to-GDP ratio. The first term on the right-hand side is equal to the total budget deficit-to-GDP ratio (equivalently, the public sector deficit). The second term on the right-hand side is equal to the ratio of private investment-to-GDP (see Appendix A.3). Equation (7) essentially requires that the public sector deficit (surplus) is equal to the private sector surplus (deficit), expressed as a share of total income. Rearranging equation (7) gives an expression for the income tax rate \( t \):

\[
t = 1 - \frac{1}{s} \left\{ \frac{n b}{(1 + n)^2} + v[(1 + n) - ib] \right\}
\tag{8}
\]

The sensitivity of \( t \) to the five parameters is examined by taking partial derivatives. The public debt to-GDP-ratio \( b \) is assumed to be strictly positive. The full results are reported in Appendix A.4. There are three cases of interest.

\[
\frac{\partial t}{\partial n} = -\frac{1}{s} \left[ \frac{b}{(1 + n)^2} + v \right] < 0
\tag{9}
\]

\[
\frac{\partial t}{\partial i} = \frac{1}{s} [vb] > 0
\tag{10}
\]

\[
\frac{\partial t}{\partial b} = \frac{1}{s} \left[ vi - \frac{n}{(1 + n)} \right] \approx 0
\tag{11}
\]

Equation (9) shows a negative relationship between the growth rate \( n \) and the income tax rate. As the full-employment growth rate increases, with \( n \) in the investment accelerator the share of private investment in income increases. A higher \( n \) also increases the total sustainable budget deficit-to-GDP ratio. By equation (7), in order to finance the increase in the income share of the public sector deficit and private investment, private savings as a
share of income must increase. This requires a lower tax rate (equivalent to a lower tax share of income).

Equation (10) shows a positive relationship between the interest rate on government debt \( i \), and the income tax rate for positive values of \( b \). An increase in the interest rate increases public debt servicing as a share of income. This means that a smaller proportion of private savings are available to finance private investment, so the share of investment in income decreases. By equation (6) the total budget deficit-to-GDP ratio must remain unchanged, so a higher tax rate is required to divert private savings into taxation revenue.

The existence of a positive relationship between the income tax rate and the interest rate is relevant to public debt sustainability under a ‘cheap money’ policy (see Section 3.1; cf. Aspromourgos, 2004; 2007). To the extent that the government can influence the value of the nominal interest rate, a lower \( i \) decreases public debt servicing as a share of income, allowing for a lower income tax rate for a given total budget deficit-to-GDP ratio. In other words, a lower nominal interest rate on public debt can lessen the taxation burden that is required to maintain a sustainable public debt ratio. At the same time, a lower interest rate provides a basis for higher primary sustainable budget deficits.

Equation (11) shows that there is an ambiguous relationship between the sustainable public debt ratio and the income tax rate. The direction of the relationship between the income tax rate and the public debt ratio will depend on the values of the parameters \( n, i \) and \( v \). An increase in the public debt ratio results in a decrease in the investment share of income, which requires a lower level of private savings and a higher \( t \). At the same time, an increase in \( b \) increases the total sustainable budget deficit as a share of income, which requires higher private savings and a lower \( t \). Hence the necessary adjustment in private savings as a share of income is ambiguous. Where the decrease in the ratio of private investment-to-GDP
is greater than the increase in the public sector deficit-to-GDP ratio, then the necessary tax rate increases.

4.4 Restrictions for a feasible income tax rate

A feasible income tax rate requires that the tax share of income lies between zero and unity, $0 < t < 1$. (This only defines what is economically feasible. Political feasibility may of course impose more severe restrictions.) The following conditions are sufficient (although not strictly necessary) to ensure a feasible solution for the income tax rate.

(i) Restriction on the sum of the total budget deficit and private investment

Using equation (8), a necessary theoretical condition for a feasible income tax rate is:

$$0 < \frac{nb}{(1 + n)} + v[(1 + n) - ib] < s$$  \hspace{1cm} (12)

where $0 < s < 1$.

The first term in the centre of the inequality is the total sustainable budget deficit-to-GDP ratio. The second term is private investment as a share of GDP. The ratio of private saving to after-tax income (not total income) is $s$. That is, for a feasible income tax rate it must be that the sum of the total budget deficit and private investment, expressed as shares of total income, is strictly positive and less than the ratio of private saving to after-tax income.

Equation (12) is a variation of the standard leakages-injections expression given in equation (7). The two terms in the centre of the inequality in equation (12) give the financing requirements of the public and private sectors out of total savings. The total budget deficit gives the excess of total government outlays (expenditure plus interest payments) over the tax share of income, representing the public sector deficit, financed out of private savings.
Similarly, private investment reflects the private sector’s call on private savings. Since the ratio of private savings to total income, \( s(1 - t) \), is less than the ratio of private savings to after-tax income, \( s \), then the sum of the total budget deficit and private investment (expressed as a share of income) is less than \( s \).

(ii) **Restriction on the super-multiplier to be positive and finite**

As a necessary theoretical restriction to ensure a stable long-period equilibrium, the denominator of the super-multiplier in equation (4) is assumed to be between zero and unity. Setting \( n = g \) gives the condition:

\[
0 < (1 - s)(1 - t)\left[\frac{(1 + n)}{(1 + n) - ib}\right] + v(1 + n) < 1
\]

where \( t \) is determined by equation (8).

(iii) **Restriction on private investment as a share of effective demand**

A necessary theoretical restriction is that private investment is less than total demand, so that \( v(1 + n) < 1 \). This also sets a maximum upper-limit on the growth rate equal to the ratio of net product to capital input, \( n < (1 - v)/v \).

(iv) **Restriction on private investment as a share of income**

This restriction is assumed to be empirically plausible. It requires that the ratio of private investment to income lies between zero and unity; that is:

\[
0 < v[(1 + n) - ib] < 1
\]

Given that \( v \) lies between zero and unity, a positive investment share of income in turn requires \( n > ib - 1 \) (however a ‘disaster’ scenario where \( n < ib - 1 \) is not inconceivable;
for instance, if an economy was contracting at a rate of 10 percent, the nominal interest rate was 50 percent and the public debt ratio was 200 percent of GDP).

4.5 Implications

The model developed in this chapter captures the central logic of Keynes’s policy position in a demand-led-growth setting. It shows how the growth in public expenditures can ensure a long-period growth rate in effective demand that is sufficient to maintain full employment. The novel feature about this model is the public debt sustainability constraint, which requires the public debt-to-GDP ratio to be stabilised at some definite long-period magnitude. From Section 4.4, equation (12) is the key restriction that ensures the income tax share is economically feasible (and in turn, that the model generates meaningful results). This requires that the sum of the total budget deficit-to-GDP ratio and the private investment-to-GDP ratio is strictly positive and less than the ratio of private savings to after-tax income.

The model can be used to illustrate the choice of policy variables by the government. Consider the relationship between the long-period values of the tax share of income ($t$), the public debt-to-GDP ratio ($b$) and the interest rate ($i$), given the other variables $\nu$, $s$ and $n$. If two of $t$, $b$ and $i$ are given, by equation (8) the remaining one will also be determined. Equation (12) together with equations (13) and (14) defines the combinations of $b$ and $i$ over the feasible range of $t$ (with the other parameters given).

Figures 1–4 (below) represent graphically the region of feasible $b$ and $i$ combinations consistent with an income tax rate between zero and unity (with $\nu$, $s$ and $n$ fixed). The shaded area corresponds to the region satisfied simultaneously by equations (12), (13) and (14). The nominal interest rate is shown on the horizontal axis (from 0 to 50 percent) and
the long-period public debt-to-GDP ratio is shown on the vertical axis (from -250 percent to +250 percent of GDP). Each combination of $b$ and $i$ in the feasible range corresponds to a value for the income tax rate necessary for debt sustainability.

Figures 1 and 2 show that with a relatively high savings rate, the government has a relatively large range from which to choose $i$ and $b$. In Figure 3 a lower savings rate constrains the choice to a small region of negative values for $b$ (that is, net public sector lending). In Figure 4, with a negative growth rate and a low savings rate the government is constrained to positive values for public debt, this being associated with a total budget surplus.

Rather than supposing that some given choice of $i$ and $b$ determines the necessary income tax rate, it is more meaningful to think in terms of the government autonomously choosing a desired value for the income tax rate $t$. This ensures that the choice of $t$ is both economically feasible as well as allowing policy-makers to choose $t$ subject to the possibly more severe constraint of political feasibility. The most realistic case would involve the government autonomously choosing a desired $t$ together with the nominal interest rate $i$ (where the general level of interest is a convention; cf. Aspromourgos, 2004; 2007). This would in turn determine the economy’s long-period public debt ratio $b$.

Furthermore, to the extent that the monetary authority can determine the nominal interest rate, a lower $i$ for a given $b$ reduces the necessary long-period income tax share. As such, the model provides a theoretical basis for Keynes’s policy views on ‘cheap money’. Systematically decreasing the nominal interest rate has the practical advantage of easing the burden of debt servicing on national income. It also allows the government to run a higher primary budget deficit-to-GDP ratio. However, scope for such a policy would be restricted
in more real-world cases with open capital markets and inflation-targeting monetary policy (Aspromourgos, 2004: 232).

One limitation of this model is that $i$ and $b$ are implicitly assumed to be independent. The model would appear to be somewhat optimistic to the extent that it suggests the government can maintain a seemingly very high long-period public debt ratio at the same time as a very high interest rate (see Figure 1, for example). Aspromourgos, Rees and White (2010) note that more realistically, the sustainable limit on $b$ would be constrained by the potential rise in interest rates that the private sector would require for holding higher levels of public debt. In this way it is unlikely that $i$ and $b$ would be independent. A possible extension to the model would be to specify a functional relationship between the private sector’s willingness to hold public debt and the interest rate on debt.
Shaded area corresponds to the solutions satisfied simultaneously by the following three inequalities:

(i) Equation (12): $0 < \frac{nb}{1+n} + v[(1 + n) - ib] < s$

(ii) Equation (13): $0 < \frac{nb(1-s)}{(1+n)} + v[(1 + n) - ib] < s \left[\frac{(1+n)-ib}{(1+n)}\right]$ (defining $t$ by equation (8))

(iii) Equation (14): $0 < v[(1 + n) - ib] < 1$
Chapter 5. Conclusion

The Global Financial Crisis led to a brief resurgence of interest in Keynes’s economics and policy. Keynes’s name was popularly invoked to describe the character of policies that were implemented in response to the sharp macroeconomic contractions throughout developed countries. While he is commonly understood to have called for short-run fiscal activism and budget deficits, this was not Keynes’s actual policy position. This thesis has re-examined Keynes’s economic policy proposals relating to government expenditure, public debt and budget deficits. In contrast to the conventional characterisation of Keynesian policies, Keynes did not support temporary, discretionary debt-financed fiscal policy.

In light of the economic policy debates in recent years this thesis has clarified the central features of Keynes’s policy position. Of course, there are inherent difficulties in attempting to reconstruct what Keynes said. While it might be alleged that Keynes ‘changed his mind’ or was inconsistent on fiscal policy issues, there is a remarkable degree of continuity between his views in the General Theory and his later policy writings in the Treasury Memoranda. Moreover, a worthwhile future research question would be examining how the policies of mainstream Keynesian economics came to diverge from Keynes’s position. In particular, how Abba Lerner’s theory of ‘functional finance’ came to be associated with the common understanding of Keynesian economic policies is a question that warrants future exploration.

One contribution that this thesis makes to the literature is to more closely examine Keynes’s post-war policy proposals with a view to distinguishing Keynes’s somewhat more contingent proposals. While the secondary literature places a significant emphasis on Keynes’s apparent preference for public investment spending over consumption
expenditure, Keynes did not see this as a general principle. More likely, Keynes’s proposal for the ‘socialisation’ of investment was a product of his views on capital saturation and the imperative of post-war reconstruction. More generally, Keynes’s understanding that aggregate demand-deficiency was a persistent problem in a modern capitalist economy led him to support a permanent enlargement of the public sector.

The second main contribution of this thesis is to develop an illustrative model that captures Keynes’s central policy position in a demand-led growth setting. The long-period model in Chapter 4 shows how the government can maintain full employment where public expenditure is subject to a debt sustainability constraint. Using a Domar-type condition for public debt sustainability is a tractable way of capturing Keynes’s apparent debt conservatism. The model can be used to show that each combination of the public debt ratio and the interest rate determines a value for the tax share of income (with the other parameters given). Allowing the government to choose a desired income tax rate together with an interest rate effectively determines the magnitude of the long-period public debt ratio for the economy. The model also provides a theoretical basis for a ‘cheap money’ policy, where a lower interest rate decreases the tax rate that is required for debt sustainability.

With the revival of interest in Keynes following the Global Financial Crisis, much has been written about what Keynes ‘would have thought’ of the responses of Western governments to the global recession. Clarke (2009: 177) described such questions as ‘anachronistic ventriloquism’. While this thesis has shown that Keynes was generally opposed to short-run fiscal activism, Keynes’s core policy vision was for a permanent enlargement of the public sector that would have prevented macroeconomic fluctuations from occurring in the first place. In this sense, having recourse to debt-financed public expenditure during a recession
was a second-best expedient for Keynes, although nevertheless one that *may* have been available. In this regard, a reappraisal of Keynes’s policy views is both timely and relevant in the context of current debates concerning long-term fiscal sustainability and public debt in developed countries. After all, it was Keynes himself who infamously stated that ‘the ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed the world is ruled by little else’ (*GT*: 383).
Appendix

A.1 Derivation of nominal GDP ($Y_t$) in terms of $Q_t$

Nominal GDP at time $t$ is equal to the money value of output, plus interest income earned on public debt in the previous period:

$$Y_t = PQ_t + ib_{t-1}Y_{t-1}$$

Where $b_{t-1} = PB_{t-1}/Y_{t-1}$, and $PB_{t-1}$ is the value of public debt at time $t - 1$. The price level $P$ is assumed constant. With the GDP growth rate equal to $g$, $Y_{t-1} = Y_t/(1 + g)$ then:

$$Y_t = PQ_t + \frac{ib_{t-1}Y_t}{(1 + g)}$$

which simplifies to:

$$Y_t = \left\{ \frac{(1 + g)}{(1 + g) - ib_{t-1}} \right\} PQ_t$$

Assuming a constant public debt-to-GDP ratio, in long-period equilibrium:

$$Y = \left\{ \frac{(1 + g)}{(1 + g) - ib} \right\} PQ$$  \hspace{1cm} (A1)

A.2 Derivation of the debt sustainability constraint$^{28}$

The government budget constraint is given by:

$$B_{t+1} = G_{t+1} - T_{t+1} + (1 + i)B_t$$

$^{28}$ Based on Aspromourgos, Rees and White (2010: 434-36)
where all variables are expressed in real terms. To express in money-terms as a share of nominal GDP, multiply through by the price level $P$ and divide by $Y_{t+1}$ to get:

$$\frac{PB_{t+1}}{Y_{t+1}} = \frac{P(G_{t+1} - T_{t+1})}{Y_{t+1}} + (1 + i)\left(\frac{PB_t}{Y_{t+1}}\right)$$

Noting that $Y_{t+1} = (1 + g)Y_t$ and using lower case letters to denote ratios to nominal GDP,

$$b_{t+1} = d_{t+1} + \frac{(1 + i)}{(1 + g)} b_t$$

Where $d_{t+1}$ is the primary budget deficit-to-GDP ratio (that is, exclusive of interest repayments) at time $t + 1$. Subtracting $b_t$ from both sides:

$$b_{t+1} - b_t = d_{t+1} + \frac{(1 + i)}{(1 + g)} b_t - b_t = d_{t+1} + \frac{(i - g)}{(1 + g)} b_t$$

For a constant public debt-to-GDP ratio let $b_{t+1} = b_t$ and rearrange to give the long-period debt sustainability condition:

$$d = \left\{ \frac{(g - i)}{(1 + g)} \right\} b$$

(A2)

To find the sustainable total budget deficit-to-GDP ratio, add back in the interest payments accruing on public debt in the previous period $iPB_t = ibY_t$ and expressing as a share of $Y_{t+1}$

$$d_{t+1} + \frac{iPB_t}{Y_{t+1}} = \frac{(g - i)}{(1 + g)} b_t + \frac{iPB_t}{Y_{t+1}}$$

Since $Y_{t+1} = (1 + g)Y_t$ this simplifies to give the long-period total budget deficit-to-GDP:

$$d + \frac{ib}{(1 + g)} = \frac{bg}{(1 + g)}$$

(A3)
A.3 Solving for the income tax rate

Find an expression for the total budget deficit-to-GDP ratio and equate this with equation (A3). At time $t$ the total budget deficit (expressed in real terms) is given by:

$$G_t - T_t + \frac{ibY_{t-1}}{P}$$

Noting that $Y_{t-1} = Y_t/(1 + g)$, and expressing in nominal terms as shares of $Y_t$, this gives:

$$\frac{PG_t}{Y_t} - \frac{PT_t}{Y_t} + \frac{ib}{(1 + g)}$$

Using the expression for the output super-multiplier in equation (4), and substituting in $g = g_e = n$ gives:

$$\left\{1 - \frac{ib}{(1 + n)} - (1 - s)(1 - t) - v[1 + n - ib]\right\} - t + \frac{ib}{(1 + n)}$$

where the first-term in braces is equal to $PG/Y$ and $PT/Y = t$. Equating this with (A3) and solving for the income tax rate $t$:

$$s(1 - t) = \frac{nb}{(1 + n)} + v(1 + n - ib)$$

(A4)

Note that the second term on the right-hand side of equation (A4) is the ratio of private investment-to-GDP, given by:

$$\frac{PI}{Y} = \frac{v(1 + n)PQ}{\left\{\frac{(1 + n)}{([1 + n] - ib)}\right\}PQ}$$

$$\frac{PI}{Y} = v(1 + n - ib)$$

(A5)
A.4 Sensitivity of $t$ to the other parameters

Taking partial derivatives of $t$ with respect to the other model parameters gives:

\[
\frac{\partial t}{\partial v} = -\frac{1}{s} \left[ (1 + n) - ib \right] < 0
\]

\[
\frac{\partial t}{\partial n} = -\frac{1}{s} \left[ \frac{b}{(1 + n)^2} + v \right] < 0
\]

\[
\frac{\partial t}{\partial i} = \frac{1}{s} [vb] > 0
\]

\[
\frac{\partial t}{\partial s} = \frac{1}{s^2} \left\{ \frac{nb}{(1 + n)} + v[(1 + n) - ib] \right\} > 0
\]

\[
\frac{\partial t}{\partial b} = \frac{1}{s} \left[ vi - \frac{n}{(1 + n)} \right] \gtrless 0
\]

If $vi > \frac{n}{(1 + n)}$ \Rightarrow $\frac{\partial t}{\partial b} > 0$

If $vi < \frac{n}{(1 + n)}$ \Rightarrow $\frac{\partial t}{\partial b} < 0$
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