Fiscal Policy: Its Role in an Independent Scotland

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Fiscal Policy: Its Role in an Independent Scotland

Abstract: In this paper we consider the implications for macroeconomic fiscal policy in Scotland if the Scottish electorate votes in favour of independence in the referendum on 18 September, 2014. We offer the paper in the spirit of the new thinking that the Scottish government's Fiscal Commission has argued will be required if the potential benefits from the exercise of independently determined macroeconomic policy instruments are to be achieved.

Keywords: Scotland, fiscal policy, secession

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The issue at stake is a whole way of thinking, central to which is the (macro) neoclassical approach to [income] distribution (Felipe and Fisher, 2003).

1. Introduction

The date for the referendum on Scottish independence has been set for 18 September 2014. Before that date, Scottish voters will have to assimilate a great deal of information on the arguments for and against independence. To assist in this important process, the Scottish government has appointed a distinguished *Fiscal Commission*, including two Nobel laureates in economics, to advise on matters of macroeconomic policy. The current global financial crisis has raised question marks over the adequacy of the prevailing neoclassical macroeconomic approach to fiscal policy. It is, therefore, important that the debate on the macroeconomic implications of Scottish independence be informed by advisers well qualified to sort the wheat from the chaff of current thought.

The *Fiscal Commission* published its first report in February 2013 the purpose of which is to provide a framework for discussion of the macroeconomic implications of Scotland achieving political independence *(Fiscal Commission Working Group, First Report, Macroeconomic Framework, Scottish Government, February 2013)* (*FCWG*). A key message of the report is that new thinking by the Scottish government will be required if the potential benefits identified by the *FCWG* from the exercise of independently determined macroeconomic policy instruments are to be realised.

Important among these instruments is macroeconomic fiscal policy. A prior indication of how a Scottish government would exercise its independent fiscal powers is provided in the *Discussion Paper*: *Corporation Tax: Options for Reform* (Scottish Government, 2011). Control over the rate of corporation tax (CT) in Scotland is a policy option to which the Scottish government attaches a great deal of importance[1]:

> The Scottish Government shares the view that having a competitive headline corporation tax rate is an essential component of an overall growth strategy....but believes that as a key driver of growth, responsibility should be with the Scottish Government rather than the UK Government (Corporation Tax: Options for Reform, The Scottish Government, 2011).

Taxation of companies, particularly CT, is seen by the Scottish government to be a key determinant of economic competitiveness and a 'competitive' (i.e. lower) rate of CT in

[1]As, too, apparently does the UK government by its announcement in the 2013 Budget of an acceleration of the introduction of the proposed reduction of CT to 20 per cent.

Scotland would boost corporate incentives to invest in physical and human capital and in research and development. A lower rate of CT would increase the profitability of Scottish-based firms and their ability to compete in domestic and overseas markets. It would also make Scotland more attractive as a location for enterprise relative to jurisdictions with more competitive tax policies. The *Discussion Paper* cites number of empirical studies as providing evidence that reductions in CT have led to significant increases in the rates of economic growth across a number of countries. It would, therefore, appear to be a 'no-brainer' for an independent Scottish government not to seek to exercise control over this key instrument of fiscal policy.

2. Neoclassical Fiscal Policy and Macroeconomics

The global financial crisis has been a cathartic experience for neoclassical economics. An area in which its limitations have been particularly exposed is macroeconomic fiscal policy. Over the years, an influential critic of the relevance of the neoclassical paradigm as a vehicle for analysing the macroeconomic effects of taxation has been R. A. Musgrave, a leading figure in public finance economics. In his later writings, however, he has become increasingly concerned about a number of aspects of public finance theory, for example, at the lack of congruence between its micro- and macro-economic dimensions:

> More basically, is the distinction between the micro and macro issues of public finance a valid one?.... The role of fiscal policy and indeed the consequences of fiscal behaviour depend on the macro as well as the micro functioning of the economy. But where micro analysis has moved along a steady path, macro models have remained in a state of flux, as have perceptions of the macro role of fiscal policy and the interplay of micro and macro concerns (Musgrave, 1997:13).

The problem facing neoclassical public finance theory is that its DNA of perfect competition, market clearing and factor mobility inevitably constrain it to a partial equilibrium approach. Once it attempts to move to a general equilibrium approach it runs into a fundamental incompatibility between its micro- and macro-economic elements (Burbidge, 1976).

The 'state of flux' in neoclassical macroeconomic analysis to which Musgrave refers was triggered by the Lucas critique (1976) whose advent resulted in the almost total eclipse of the previously dominant Keynesian paradigm. The intention of the critique was to provide neoclassical economics with its sought-after link between micro- and macro-economics

through the medium of the representative agent, motivated by rational expectations. But in complex economic systems aggregate behaviour cannot be deduced from an analysis of individuals alone. Representative agent models fail to address the most basic questions of macroeconomics.

> Modelling the economy as a representative agent rules out by assumption one of the most fundamental insights of Keynes (and Marx), to wit, the fallacy of composition, that what may be true of the individual taken in isolation is not necessarily true of the individual taken together (Harcourt, 2004:1)[2].

A further difficulty of the neoclassical approach lies in its reliance on the aggregate production function[3]. Felipe and Fisher (2003) discuss at length the dangers and inconsistencies associated with the aggregate production function. They conclude:

> Economists act, however, as if aggregate output and capital were, in fact, generated from a well-behaved production function. This is plain and simply wrong...the reasons for continuing to use aggregate production functions are fallacious and thus unacceptable....the problem with the aggregate production function, i.e. that economists still continue to use it, does not lie in itself....rather, the issue at stake is a whole way of thinking, central to which is the (macro) neoclassical approach to [income] distribution....the aggregation problem and its consequences, and the impossibility of testing empirically the aggregate production, are substantially more serious than a mere anomaly (Felipe and Fisher, 2003:247-56).

The studies cited by the Scottish government *Discussion Paper on Corporation Tax* in support of the arguments in favour of reducing CT are classic examples of the application of neoclassical endogenous growth theory in which the role of the aggregate production function is central. Fine (2004:246) identifies the structure of a typical endogenous growth theory paper as follows:

> An opening section might provide cursory discussion of some earlier contributions and an overview of what is to come. Next comes a mathematical model. *Typically, it includes a production function for aggregate output, dependent on capital and labour as inputs* (emphasis added).

So far as any role for fiscal policy is concerned, Fine (2004:259) concludes:

> Models of the *fiscus*, then, in the context of endogenous growth theory are little more than an exercise in inter-temporal optimisation, with outcomes dependent on how productivity is generated and how the welfare of future generations is linked to those of the present so that appropriate taxes and subsidies can be calculated. Such literature....is notable for its failure to consider the political and practical issues attached to fiscal policy which seem to have been set aside. As in other applications, and the core models themselves, endogenous growth theory depends upon gross simplifications despite the technical complexity that results.

This brief discussion highlights difficulties that arise when adopting a neoclassical approach

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[2]Lee and Gordon (2005), one of the sources quoted approvingly by the Discussion Paper *Corporation Tax: Options for Reform*, explicitly use the 'representative taxpayer' as the economic agent of their analysis of the effects of reducing CT

[3]Lee and Gordon (2005) explicitly specify a Cobb-Douglas aggregate production function as the foundation of the model they use to estimate the effects of reducing CT.

to analysing the macroeconomic effects of fiscal policy. Professor J. Stiglitz, one of the co-authors of the *FCWG* report, has this to say on representative agent models:

> For macroeconomics, representative agent models have been shown to be misleading, both as to the nature of fluctuations and their welfare costs. At the microeconomic level, the neoclassical models, which assume that the issues of efficiency and distribution can be separated, have been shown to be wrong once imperfections of information and limitations on markets are taken into account (Furman and Stiglitz, (2005:252)

And Hartley (1997) author of *The Representative Agent in Macroeconomics* writes:

> The purpose of this book is to evaluate thoroughly the use of the representative agent in macroeconomics. It pulls together the scattered justifications for using such models and evaluates them. *The conclusion from this enquiry is that representative agent models are neither a proper nor a particularly useful means of studying aggregate behavior.* (Hartley, op.cit.:3) (emphasis added).

As Felipe and Fisher observe above, 'the issue at stake is a whole way of thinking, central to which is the (macro) neoclassical approach to [income] distribution'. The *FCWG* report highlights the importance of new thinking on which a prosperous independent Scotland might be built. Paras 8.8 and 8.9 of the report identify the fiscal challenge facing the Scottish government as:

> the need to develop a range of fiscal policies better tailored to the unique needs of the Scottish economy, with the twin objectives of boosting sustainable growth and tackling inequalities [in the distribution of income].

The relationship between income distribution and growth is an unsettled area for neoclassical economics. Endogenous growth theory is not particularly helpful, nor is the theory of optimal taxation. Post Keynesian economics offers an alternative approach. The two principal strands of Post Keynesian economics derive from Keynes and Kalecki. On the relationship between income distribution and growth, Kalecki's is the only alternative. Keynes had no particular views on income distribution and, indeed, did not seem to appreciate the incongruity between the neoclassical marginal productivity theory of income distribution, which he implicitly accepted, and his macroeconomic theory of income determination. In Kalecki's macroeconomics, on the other hand, there are two channels through which it is possible to explore the relationship between income distribution and macroeconomics, one focusing on the relative propensities to consume of capitalists and

workers and the other on his degree of monopoly theory of income distribution [4].

3. Income Distribution and Consumption Propensities

The importance of inequalities in income distribution as a factor influencing economic growth is recognised in Chapter 4 of the *FCWG* report:

> A central feature of the Scottish Government's approach to economic growth.....is the recognition that certain characteristics of growth in terms of an economy's ability to tackle inequalities and ensure sustainability, are just as important as boosting overall growth (*FCWG*, para 4.58).

The *FCWG* quotes Professor Stiglitz's conclusion that countries that are more unequal in terms of their income distributions, do not do as well, do not grow as fast and are less stable. Chapter 4 of the *FCWG* cites evidence showing that while Scotland may have a lower Gini coefficient than the UK as a whole, income inequality in Scotland is relatively high by OECD standards and may well have been increasing in recent years (*FCWG* , paras 4.60-1). Inequalities in income distribution have been identified by a number of authors as a factor explaining both the emergence of and slow recovery from the Great Recession that began in 2008.

The principal changes in income distribution that are taking place internationally in recent years have been; (i) a substantial decline in the share of wages in national income in both advanced and developing economies; and (ii) an increase in the inequality of the distribution of personal incomes (Stockhammer and Onaran, 2013: 62). Neoclassical economics tends to identify technological change as the principal reason for the increasing inequality, whereas Kaleckian economics places the emphasis on the outcome of social struggles over income shares exacerbated more recently by retrenchment in state spending on welfare and by increasing 'financialisation' – the role of financial motives, financial markets, financial actors and financial institutions in the operation of domestic and international economies.

There is an important difference between the neoclassical and Kaleckian interpretations of the macroeconomic effects of a declining wage share. The neoclassical

[4]Kalecki always strenuously denied that his degree of monopoly theory was the tautology alleged by its critics (see Laramie, Mair and Reynolds (2004)).

approach views wages solely as a cost item so that any reduction in wages will improve competitiveness, increase net exports and stimulate investment due to increased profitability. In the Kaleckian approach, wages are both a cost item and a source of demand so that a decrease in the share of wages in national income will lead to a fall in domestic consumption, on the grounds that the marginal propensity to consume out of wages is higher than it is out of profits. If the objective of policy is to stimulate growth by means of the redistribution of income, the effects of such redistribution must be identified on all three components of aggregate demand, i.e. consumption, net exports and investment.

This leads to the important distinction between wage-led and profit-led economies (Stockhammer and Onaran, 2013:63). The total effect on aggregate demand of a change in the wage share depends on the relative sizes of the reactions of consumption, net exports and investment to a change in income distribution. If a redistribution results in a fall in wage share such that the total effect on aggregate demand is negative, the economy's demand regime may be defined as wage-led; if, on the other hand, the total effect on aggregate demand is positive the economy's demand regime may be defined as profit-led. Whether an economy is wage-led or profit-led is an empirical issue.

Onaran and Galanis (2012) conclude that for most economies, domestic demand is wage-led, that is, a redistribution of income in favour of profits on the sum of private consumption and private investment will be negative because consumption is more sensitive to an increase in the profit share of national income than is investment. The effect, they argue, will be profit-led only in small open economies where the positive effect of distribution on net exports is high enough to offset the negative effects on private consumption and private investment. When assessing the macroeconomic effects of fiscal policy on income distribution it is, therefore, important to know whether the demand regime is wage-led or profit-led. The literature on the demand regimes in developed countries shows the UK to be a wage-led economy in terms of the effects changes in income distribution on both domestic and total demand (Stockhammer and Onaran (2013, Table 1:69). Although not identified separately by Stockhammer and Onaran, it is likely that Scotland would fall into the category of profit-led demand regimes on the grounds of its small size and high degree of openness, as a consequence of its heavy dependence on trade

with the rest of the UK.

But, as Stockhammer and Onaran (2013: 65-7) point out, a single country should not be categorised as being wage-led or profit-led in isolation. Even if one of the countries (e.g. Scotland) is profit-led, if the other larger country (e.g. rest of UK) is wage-led due to the relatively small positive effects of a fall in wage share on its net exports, it is likely that a simultaneous fall in wage share across two highly integrated economies such as Scotland and rest of UK will leave both countries with only negative demand effects and a contraction in GDP in both countries. Given the high degree of openness of the Scottish economy and its relatively small size vis-à-vis the rest of the UK, whether the demand regime in Scotland is wage- rather than profit-led is a matter for empirical examination.

Table 1 below from Lavoie and Stockhammer (2012) shows the relationship between demand regimes and distributional policies.

Table 1: Demand regimes and distributional policies

		Demand regime	
		Profit-led	Wage-led
Distributional process policies	Pro-capital	Profit-led growth process	Stagnation or unstable growth process
	Pro-labour	Stagnation or unstable growth process	Wage-led growth process

By advocating a reduction in CT as the principal fiscal policy instrument to stimulate a faster rate of growth, the consequential increase in profit share/reduction in wage share of Scottish national income suggests that the Scottish government is assuming the demand regime in Scotland to be profit-led. If this assumption is correct, a reduction in CT (pro-capital) should result in Scotland embarking on a profit-led growth process, but at the cost of increasing inequality in the distribution of income as a result of the consequential decline in wage share. But if the Scottish demand regime is in fact wage-led (pro-labour), a reduction in CT is likely to result in stagnation or an unstable growth process.

Control over CT is not the only fiscal instrument an independent Scottish government will have at its disposal. As a consequence of the Calman Commission recommendation, partial control over the rate of income tax (IT) has already been conceded to, though not yet

implemented by, the Scottish government. Where a Scottish government might set the rate of IT relative to the rest of the UK is at present a matter of conjecture. If the Scottish government is correct in its assessment of Scotland as a profit-led economy, the appropriate policy option would be to strengthen the profit-led growth process from cutting CT in Scotland by raising the rate of IT in Scotland relative to the rest of the UK, thereby further increasing income inequality.

The Kaleckian wage-led/profit-led dichotomy highlights a potential inconsistency between the Scottish government's stated aspiration of using CT as a means of achieving its twin objectives of boosting sustainable growth and reducing income inequality. The dilemma arises as a consequence of the differences in the consumption propensities out of wage and profit incomes. Viewing the relationship between income distribution and growth as simply the consequence of the differential consumption propensities of two income groups fails to take account at least two important issues. The first is identification of the drivers of economic growth and how fiscal policy may influence their performance; and, second, consideration of the incidence of taxation and how the exercise by wage and profit earners of their economic and political powers may impact on the growth performance of the economy. This leads to the second channel that links Kalecki's degree of monopoly theory of income distribution with his theories of income determination, investment, business cycle and growth.

4. Kaleckian Growth Model and Taxation

In this section we use a Kaleckian growth model to consider the macroeconomic effects of balanced budget changes in the structure of taxation[5]. A balanced budget approach is important for two reasons. First, if an independent Scotland chooses to retain sterling as its currency, the Bank of England is likely to impose severe restrictions on the the size of any budget deficit it will permit a Scottish government to accumulate. Similarly, if an independent Scottish government applies to join the Eurozone, it will be obliged to conform to the strict budgetary constraints that the European Central Bank is seeking to impose on its members.

[5]For detailed discussions of how taxation operates within a Kaleckian growth model, see Laramie and Mair (2003) or Palley (2013).

The principal features of the Kaleckian model are:

(i) capacity utilisation is variable

(ii) the expenditure side of the government budget is fixed

(iii) analysis of the macroeconomic consequences of varying the revenue side of the government budget

(iv) attachment of first order importance to the effects of taxation on the functional distribution of income

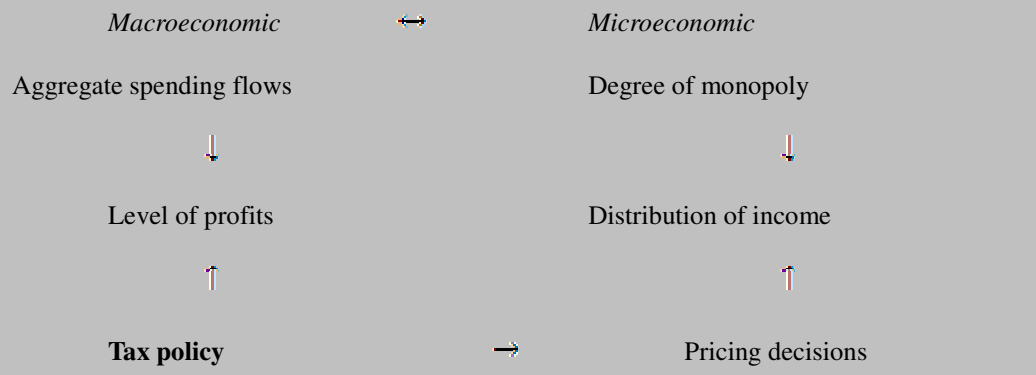
(v) recognition that tax-induced changes in the functional distribution of income can, under certain circumstances, result in higher investment and faster growth

(vi) recognition that tax shifting can result in significantly different macroeconomic outcomes

(vii) attachment of second order importance to the resource-allocating effects of taxation

By contrast with the neoclassical approach, the crux of the Kaleckian approach is that the effects on aggregate demand of tax-induced changes in the functional distribution of income are explicitly considered when assessing the macroeconomic effects and incidence of taxation. Musgrave's concern at the lack of congruity between the micro- and macro-economic elements of the neoclassical approach does not arise in the Kaleckian approach. As illustrated in Figure 1 below, the micro- and macro-economic foundations of the Kaleckian model stand side by side and are present in the analysis of taxation. At the macroeconomic level, aggregate spending flows determine the level of profits. At the microeconomic level, the degree of monopoly determines the distribution of income. Tax policy can affect the aggregate flow of spending and profits, but business pricing decisions determine the distribution of income. Ultimately, the confluence of these factors determines the short-period incidence of taxes and this incidence, insofar as it has an influence on business investment, generates a long-period effect (Laramie and Mair, 1997: 175-8).

Figure 1: The Role of Tax Policy When Both Micro- and Macro- Economic Foundations Are Present



Short period incidence → effects on investment → long period effects →dynamic theory of incidence and effects of taxation

Source: A. J. Laramie and D. Mair (1997): Macroeconomic Effect of Regional Tax Differentials in M. Danson (ed) *Regional Governance and Economic Development*, London, Pion Limited, page 176.

Laramie and Mair (2003) use a Kaleckian investment function to consider the impact of the tax system on the trend level of investment, the trend capital stock and the trend rate of capacity utilisation. The channels through which the tax system impacts on these variables are:

(i) the rate of depreciation (δ)

(ii) the level of profits (P)

(iii) the rate of capacity utilisation (c)[6]

An analysis of the effects of the tax system on these variables provides the underlying causal mechanisms in the model.

The impact of taxation on δ operates by affecting the real tax bill associated with old equipment. Technical progress, through new investment, results in increases in the productivity of new equipment which, *ceteris paribus*, results in lower prices. This increases

[6]Introduction of the rate of capacity utilisation as a variable in the model is important as this is the critical distinguishing feature between the Cambridge (UK) and Kaleckian models of growth and income distribution. Without a variable rate of capacity utilisation, the Kaleckian model would be constrained to analysing growth under conditions of full employment and in that respect no different from the neoclassical approach (Palley,2013).

the real costs and lowers the real profits associated with existing equipment, accelerating its obsolescence. Thus, an increase in CT will increase the rate of depreciation and, hence, the level of profits and *vice versa*. A change in IT will have no impact on the rate of depreciation (Laramie and Mair, 2003: 333-4).

The impact of taxation on the level of profits, *P,* occurs directly through an effect brought about by changes in the rates of CT and IT and indirectly through changes in the share of wages in national income (Laramie and Mair, 2003:335-6).

The impact of taxation on the rate of capacity utilisation, *c,* depends on the impact of taxation on national income which in turn depends on the effects of taxation on pre-tax profits and the wage share. For example, under certain assumptions concerning the government budget, *G,* and the propensities to consume out of profits and wages, a balanced budget increase in *G* will push up pre-tax profits, national income and the rate of capacity utilisation (Laramie and Mair, 2003:336-7).

In the Kaleckian growth model, the macroeconomic impact of taxation depends on:

(i) the relative marginal propensities to consume out of employment incomes and out of profits
(ii) whether compensating changes are made in the government budget
(iii) the extent to which a tax change is shifted through changes in business mark-ups.

In Tables 2 – 4, the situation of budget balance is achieved by increasing government spending, *G*, and raising IT or CT by a corresponding amount. The tables summarise the effects on the long-run development of the economy of balanced budget changes in IT and CT with and without tax shifting. The critical element in determining the macroeconomic effect of taxation is the pricing behaviour of businesses as this determines whether or not changes in IT or CT will result in tax shifting by means of changes in business mark-ups and in the functional distribution of income.

Table 2: Impact of taxation on the rate of depreciation, δ

	Effect of IT and CT on δ	
	No tax shifting	Tax shifting
Effect of ΔIT > 0 on δ	0	0
Effect of ΔCT > 0 on δ	+	-

Source: Laramie and Mair, 2003:334

Table 3: Impact of taxation on the level of profits, P

	Effect of IT and CT on *P*	
	No tax shifting	Tax shifting
Effect of ΔIT > 0 on *P*	+	+/0
Effect of ΔCT > 0 on *P*	-	-

Source: Laramie and Mair, 2003:335

Table 4: Impact of taxation on the rate of capacity utilisation, c

Effect of IT and CT on *c*

	No tax shifting	Tax shifting
Effect of ΔIT > 0 on *c*	+	-
Effect of ΔCT > 0 on *c*	+	-

Source: Laramie and Mair, 2003: 336.

As can be seen from the above tables, the impact of balanced budget changes in IT or CT will be totally different depending on whether or not tax shifting occurs, i.e. whether business mark-ups change in response to the tax increase. The effects are particularly marked with respect to capacity utilisation, *c*, where the effects are reversed from being positive, if no tax shifting occurs, to negative, if increases in either IT or CT are shifted.

In Table 5 below, we show the effects on δ, *P* and *c* of maintaining *G* unchanged but altering the structure of taxation by making equal yield substitutions between IT and CT. The only tax substitution that will have a positive impact on δ is a reduction in IT and an increase in CT, provided the increase in CT is not shifted. For all other tax substitutions, the impact is negative or neutral. The only tax substitution that will result in an increase in *P* is an increase in IT and a reduction in CT, although tax shifting will modify this effect. The effects on *c* are either negative or ambiguous.

Table 5: Effect of tax substitution on δ, P and c

	Effect of ΔIT > 0		Effect of ΔCT < 0	
	No tax shifting	Tax shifting	No tax shifting	Tax shifting
Effect on δ	0	0	-	n.a.
Effect on P	+	+/0	+	n.a.
Effect on c	+	-	-	n.a
	Effect of ΔIT < 0		Effect of ΔCT > 0	
	No tax shifting	Tax shifting	No tax shifting	Tax shifting
Effect on δ	0	n.a.	+	-
Effect on P	-	n.a.	-	0
Effect on c	-	n.a.	+	-

Source: Tables 2 – 4 above.

Table 5 illustrates a fiscal scenario within which an independent Scottish government may choose to operate. While there may be limited scope to influence growth by altering the capital/current expenditure mix within a fixed government budget, the Kaleckian approach identifies the possibilities of influencing growth by targeting the principal determinants of growth by altering the structure but not the level of taxation. Whether the net effect on growth is positive or negative depends on the relative impacts on investment of changes in the rate of depreciation and in the level of profits. Changes in IT have no impact on the rate of depreciation, so if the Scottish government were to use its tax varying powers to influence the rate of depreciation and stimulate technological change it could only do so by increasing CT. This, of course, runs counter to the received neoclassical wisdom that the only way to stimulate investment and technological change is to cut CT. But as Table 5 illustrates, the neoclassical approach only considers the positive impact on P of a cut in CT and does not take into account the negative impacts on δ and c. Also, the neoclassical approach does not take into account the incidence of a reduction in CT and the possible distributional effects.

5. A Behaviouralist Kaleckian Approach to Investment

A possible criticism of the Kaleckian approach is that is dated, relating to a Fordist industrial era that has largely disappeared in a developed economy such as Scotland. However, modern behavioural interpretations of Kalecki have been developed. Important among these is Courvisanos (1996) who argues that investment cycles are influenced by the psychological pressures on business investment decisions which manifest themselves in a 'susceptibility cycle', the objective reflections of which are the Kaleckian determinants of firms' investment, namely, the current levels of profits, the actual increments in profit levels,

gearing ratios and the actual levels of capacity utilisation.

Charos et al. (2013) have extended Courvisanos's Kaleckian model and used it to estimate new orders of non-defense capital goods in the USA 1992 – 2010. They rewrite Courvisanos's basic investment equation to read:

(1) $D_t = f(P_t, s_t, sa_t\, gt, c_t, w, d)$

where D_t = new orders of non-defense capital goods; P_t = total internal funds plus inventory valuation adjustment of non-farm non-financial corporations; s_t = interest rate spread, difference between the yield on the 10 Year (constant) Maturity Treasury Bond and the Federal Funds Rate; sa_t = sales accelerator, the change in seasonally adjusted value of shipments (excluding defense); g_t = gearing ratio, measured as either (i) debt to net worth or (ii) debt to equity; c_t = capacity utilisation = cyclical variation in output, the difference between current real GDP and 'potential' real GDP as a percent of real 'potential' GDP; w = wage share, non-financial corporations' compensation to employees divided by value added; d = defense spending, ratio of national defense and consumption expenditures to nominal GDP.

Estimates generated using STATA'S Prais-Winsten auto-correlation correction technique showed that all the variables, with the exception of the constant, are statistically significant and have the expected sign. Of particular interest, when the time period was divided into two sample sub-periods, in the first of these, the wage share variable is statistically significant at the 98% confidence level and inversely related to new orders. These results demonstrate that a behavioural version of a Kaleckian investment function can be estimated successfully and underline the importance of considering changes in income distribution as a factor influencing investment decisions.

6. Income Distribution and Growth

According to Hein (2013) there is now widespread agreement among heterodox economists that the severity of the current financial and economic crisis has been caused by changes in income distribution in recent decades brought about by the deregulation and liberalisation of national and international financial markets. He argues that, from a macroeconomic perspective, this emerging finance-dominated capitalism has affected long-

run economic development through three main channels:

(i) a rising gross profit share (including retained profits, dividends and interest payments) and consequently a falling labour income share.

(ii) an increase in shareholder power vis-à-vis firms and workers and an alignment of management with shareholder interests through short-term performance-related remuneration schemes, resulting in a decrease in managers' 'animal spirits' with respect to real investment in capital stock and the long-run growth of the firm.

(iii) an increasing potential for wealth-based and debt-financed consumption.

As we have argued above, a Kaleckian approach to distribution and growth integrates changes in income distribution into a macroeconomic framework in a way that neither neoclassical or Keynesian economics can achieve. In the Kaleckian approach, the functional distribution of income in the industrial sector of the economy is determined by the mark-up pricing of firms in incompletely competitive markets. Changes in demand trigger changes in output and thus the rate of capacity utilisation and prices remain more or less stable. The rate of capacity utilisation, therefore, becomes endogenous in Kaleckian models of distribution and growth in both the industrial and service sectors of developed capitalist economies[7].

In summary, in the Kaleckian approach, the principal determinants of the functional distribution of income are: (i) the mark-up pricing of firms; (ii) the relationship between the unit material and labour costs of firms; and (iii) the sectoral composition of the economy. Kalecki (1954) argued that there are four principal determinants of the degree of monopoly, (i) the role of 'giant' firms; (ii) the development of sales promotion; (iii) changes in the level of overheads in relation to prime costs; and (iv) the power of trade unions. Laramie et al. (2004) have estimated the determinants of the degree of monopoly for two sets of samples of UK industries in the 1980s and 1990s and find that factors such as product differentiation, entry barriers and exposure to foreign competition do influence the ability of firms to determine the size of their mark-up over prime cost and, therefore, their ability to influence the distribution of income.

As with Kalecki's theory of investment discussed in part 5 above, his degree of

[7]As we report in part 5 above, the Charos et al. study shows that variations in the rate of capacity utilisation have been a significant and important determinant of investment orders in the US in recent years.

monopoly theory of income distribution may be criticised for relating to a Fordist industrial era that may no longer be relevant to a modern developed capitalist economy. Hein (2013, Table 2) has updated Kalecki's original determinants of degree of monopoly by considering the effects of 'financialisation' on the gross profit share of national income. He shows how the stylised facts of 'financialisation' – increasing shareholder value and management short-termism, rising dividend payments, increasing interest payments, increasing top management salaries, increasing relevance of the financial to the non-financial sector of the economy, mergers and acquisitions and liberalisation/globalisation of international finance and trade – can be reconciled with Kalecki's determinants of the degree of monopoly. Almost without exception, these stylised facts will have a positive effect on the original Kaleckian determinants of the gross profit share of national income compounded by the increasing neo-liberal trends towards labour market deregulation and government downsizing. Thus, a modernised version of Kalecki's theory of income distribution points inexorably towards increasing inequality in the functional and personal distributions of income not only in the UK (and Scotland) but in many developed economies. This tends to suggest that the conclusion of Table 5 above that the option of stimulating investment and growth within a balanced budget framework by increasing CT and reducing IT is likely to be thwarted by the increasing ability of profit earners to shift any CT increase with a consequential increase in income inequality in favour of profits at the expense of labour income.

7. Capital taxation

This rather depressing conclusion raises the question as to whether there is in fact a role for fiscal policy as a means of stimulating investment and growth save for the 'spend – spend – spend' functional finance approach. In a seminal paper Kalecki (1937) identified the form of taxation that he considered to be optimal. He was the first economist to consider the macroeconomic incidence and effects of taxation. He identified four types of tax - (i) a tax on consumption; (ii) a tax on wage income; (iii) a tax on the income from capital; and (iv) a tax on the value of capital. Assuming a closed economy where workers spend what they earn, capitalists earn what they spend and a balanced budget constraint where additional tax revenues are transferred to workers, thereby reducing income inequality, Kalecki drew the following conclusions:

(i) taxes on consumption and wage income simply redistribute income within the wage

earning class and have no effect on business profits or aggregate demand

(ii) taxes on the income from capital and on the value of capital redistribute income from capitalists to workers, increase consumption and aggregate demand, and push the economy closer to its potential output.

So, which is preferable, a tax on the income from capital or a tax on the value of capital? He provided a simple arithmetic example to explain why the latter is preferable to the former. Consider the effect of an increase in the rate of income tax from 15 % to 25%. If the rate of interest is initially 3%, a lender's after-tax return is 2.55% (3% - (0.15 * 3%)). If the lender wishes to maintain his/her after-tax rate of return at 2.55%, and the rate of income tax rises to 25%, then he/she must raise the lending rate to 3.4% (3.4% - (0.25 *3.4%) = 2.55%). If the borrower of the funds has an investment project that generates a pre-tax, pre-interest rate return of 9%, then the borrower's post-interest pre-tax rate of return is 6% (9% - 3%). If the borrower's rate of income tax is 15%, then his/her post-interest, post-income tax rate of return is 5.1% (6% - ((0.15 * 6%)). When the rate of income tax rises to 25% and the lender raises his/her lending rate of interest to 3.4%, the borrower's post-interest rate of return falls to 5.6% (9% - 3.4%) (as compared to 6%) and his/her post-interest, post-income tax rate of return falls to 4.2% (5.6% - (0.25 * 5.6%)) (as compared to 5.1%). Thus the burden of taxation on income from capital falls on the incentive to invest, a conclusion which accords with the neoclassical approach.

However, Kalecki draws the distinction between the taxation of the income from capital and the taxation of the value of capital. Using simple national income identities, he establishes the macroeconomic effect of a tax levied on every form of capital at, say, a rate of 2%. As with the tax on income from capital, this tax does not constitute a business prime cost. Gross profit can be written as:

$$P = (C_c + I) + T_i + T_c$$

where P = gross profit, C_c = capitalists' consumption, I = investment, T_i = income tax and T_c = capital tax.

Investment, I, and capitalists' consumption, Cc, will remain unchanged immediately after the introduction of the tax on the value of capital, so that the first effect is an increase in

employment and a rise in profits, *P*, by the amount of the tax. But the difference between taxation of the value of capital and taxation of the income from capital is that the former does not lower the net profitability of investment or raise the rate of interest. Indeed, Kalecki argues that if a borrower borrows money to build a factory, he/she does not increase his/her own capital and, therefore, does not pay any increase in tax. The net profitability of investment is not affected by the taxation of the value of capital. Similarly, all lenders are will be ready to lend at the current rate of interest because whether they lend or not does not affect the capital tax they pay. Thus:

> …..capital taxation is perhaps the best way to stimulate business and reduce unemployment. It has all the merits of financing the state expenditure by borrowing, but is distinguished from borrowing by the advantage of the state not becoming indebted (Kalecki, 1937, 325)

Kalecki's conclusion of the optimality of capital taxation is the obverse of the widely-held neoclassical conclusion that in the long run capital taxes are distorting so that the optimal tax rate on capital is zero (Chamley, 1986; Judd, 1999). But whereas Kalecki drew the important distinction between taxation of the income from capital, which he recognised would be sub-optimal, and taxation of the value of capital, this distinction seems to have eluded most neoclassical economists. Central features of the Chamley-Judd models are the production function and the representative agent, over whose relevance we have already expressed concerns. In a recent debate on the relevance of the Chamley- Judd approach (Waldman, 2013) expresses the opinion that there is little reason to accept the Ramsey model upon which the Chamley-Judd results are built as a sufficient description of the macro economy:

> Some economists might argue that it [the Ramsey model] is a decent workhorse "asymptotically", as a means of thinking about some long-term to which economies converge. But that's a conjecture without evidence. Actual experience …..suggests that "demand-side dynamics" may overwhelm the bounds of a hypothetical production function in determining the actual behavior of the economy, over periods of time as long as we can plausibly claim to foresee (Waldman, 2013).

One organisation that has picked up on Kalecki's capital tax argument is *Direct Economic Democracy (DED)* (2013). Stone (2013) writes:

> I think the crucial point is that taxes on capital need not be in the form of taxes on income from capital. It is essential that instead they are taxes on the asset value. Michal Kalecki made a very clear case that such a "capital tax" (as he called an asset tax) would be the least distorting type of tax possible. As he wrote in 1943: "...the inducement to invest in fixed capital is not affected by a capital tax because it is paid on any type of wealth. Whether an amount is held in cash, or government securities or invested in building a factory, the same capital tax is paid on it and thus the comparative advantage is unchanged". Basically, a Michal Kalecki style capital tax ensures that wealth is put to maximum use so as to get the yield to pay the tax with. In that sense, it is the complete opposite of taxes on profits and capital gains that have the perverse effect of inducing wealth owners to keep resources idle.

Endorsing Kalecki's arguments for a capital tax, *DED* (2013) proposes a similar Gross Asset Tax (GAT) the key purpose of which would be to ensure that paper assets are not concocted unless they can pay their way. The true purpose of taxation, according to *DED*, is not to 'raise revenue' but rather to maintain the true value of money. The aim is to re-align the economy towards providing a true utility and away from 'monetary schenanigans' (sic). Be that as it may, *DED* provides a useful summary of the problems that have to be addressed were a GAT/Kalecki capital tax to be introduced. These include:

(i) identification of the sterling financial assets held by both domestic and foreign citizens and institutions

(ii) valuation of domestic and foreign-owned real estate

(iii) valuation of overseas assets held by UK citizens

(iv) valuation of UK assets of multinational corporations

(v) valuation of assets of trusts held under UK jurisdiction

(vi) valuation of land and personal chattels as under current IHT legislation

There is no doubting the enormity of the task of introducing capital taxation, particularly if a Scottish government were to proceed in that direction independently of the rest of the UK. However, Kalecki saw the principal difficulty of introducing capital taxations as political rather than administrative:

> It is difficult to believe, however, that capital taxation will ever be applied for this purpose on a large scale; for it may seem to undermine the principle of private property, and, therefore, in this case, as in general 'any government which had both the power and the will to remedy the defects of the capitalist system would have the will and the power to abolish it altogether (Joan Robinson, review of R. F. Harrod, *The Trade Cycle*, in the *Economic Journal*, Dec. 1936) (Kalecki, 1937: 325).

8. Summary and Conclusions

The decision made by the Scottish electorate in the independence referendum on 18 September 2014 will undoubtedly have a significant effect on Scotland's subsequent economic performance. However, we are concerned that voters may be encouraged to vote for independence on the basis of arguments that may not necessarily generate the outcomes that are being claimed for them. This is not to impugn the integrity of the pro-independence campaigners who are making these claims. In the case of fiscal policy, they can claim, with considerable justification, to have the opinion of the big battalions of the economics profession on their side. But, as is well known, economists are congenitally incapable of

agreeing on anything. There are, in our opinion, strong grounds for questioning the theoretical integrity of the models on which many orthodox economists have derived their conclusions on the macroeconomic effects of fiscal policy. As we have observed above, one of the members of the Scottish government appointed *Fiscal Commission*, the Nobel prize winner Professor J. Stiglitz, has expressed publicly his opinion that in the field of fiscal policy, neoclassical models may at best be misleading or possibly downright wrong

.

We fully support the aspiration of the Scottish government that the objectives of its economic policy should be to create a society that is not only faster growing but also more egalitarian in its distribution of income. But under current thinking, this is a circle that we doubt can be squared. Instead, we have examined the problem from the perspective of one of the founders of modern macroeconomics, the great Polish economist M. Kalecki. For Kalecki, understanding the causes of inequalities in the distribution of income lies at the very heart of economics. For historic reasons, Kalecki has never been given credit for the originality and profundity of his writings – he has been described as writing in the wrong place, in the wrong language, at the wrong time. Misleadingly described as a Marxist, Kalecki was an independently minded engineer/mathematician who taught himself economics for the purpose of improving the performance of capitalism, not its overthrow. It was not until after his death in 1970 that the profundity of his contribution to the understanding of the macroeconomic effects of taxation began to be appreciated. By that time Keynesian economics was on the wane, to be replaced by a neo-liberal brand of economics that reached its apogee in the Reaganite-Thatcherism of the 1980s and 1990s that still dominates contemporary thinking.

A consequence of the neo-liberal ascendancy is that the views of the majority of mainstream academic economists on fiscal policy can best described as 'chaotic' (Colander and Matthews, 2004). They write:

> The once accepted Keynesian theories of how fiscal policy worked have given way to a variety of theoretical models that provide little guidance to policy makers. These developments in theory mean that economists have given up their voice on budgeting, allowing political interests, not economic reasoning, to guide practical fiscal policy (Colander and Matthews, 2004).

The irony is that in reality, Keynes's *General Theory* was not about fiscal policy at all, and

does not mention it as a policy tool.

The only coherent macroeconomic integration of macroeconomics and fiscal policy, in our opinion, was pioneered by Kalecki. We have argued in this paper that fiscal policy can be integrated into Kalecki's growth theory to provide stimuli to growth whilst maintaining the discipline of a balanced budget. This requires a 180 degree shift in the focus of fiscal policy from the expenditure side of the government budget to the revenue side. Growth can be stimulated by altering the *structure* and not the *level* of taxation.

A Kaleckian approach, therefore, holds out the prospect of using fiscal policy to achieve macroeconomic objectives without incurring additional government indebtedness. In particular, as we show in Table 5, this would require a Scottish government to raise CT and reduce IT, thereby creating greater equality in income distribution. But this would only be achieved if CT payers in Scotland were unable to shift any of the increase in their CT liabilities. The emerging international trends in income distribution, particularly as a consequence of the increasing 'financialisation' of income, and the probability that Scotland is a profit-led economy suggest that shifting of any increase in CT is likely to nullify what would in fact be a counter-productive fiscal policy option. This leads us to the inevitable conclusion that any fiscal option adopted by an independent Scottish government that involves cutting CT in Scotland to a more 'competitive' level would be pointless. It is, in our opinion, misleading to argue that Scottish government control over the level of CT would be some sort of silver bullet or magic satnav that will lead the Scottish economy to a Promised Land of faster economic growth and fairer distribution of income.

The *FCWG* calls, rightly in our opinion, for new thinking in the formulation of macroeconomic policy in an independent Scotland. We have expressed our reservations about the ability of current mainstream macroeconomic theory to provide the inspiration for such new thinking. We are equally doubtful that a return to Keynesian thinking will be of much value or relevance to a Scottish government. If an independent Scottish government is serious in its desire to achieve a more prosperous and fairer society, the only suitable fiscal option, in our opinion, is capital taxation. We do not under-estimate the technical and administrative problems that this would create. But the principal factor will the political will

of a Scottish government. Kalecki expressed his doubts that any capitalist government would rise to the challenge. Dare we express the hope that an independent Scottish government will be prepared to grasp the thistle of capital taxation in its quest to create a Brave New Scotland?

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