

The origins and evolution of the debate on wage-led and profit-led regimes¹

Marc Lavoie

University of Ottawa and University of Sorbonne Paris Cité, University of Paris 13 (CEPN)

September 2016

Many economists agree that Keynesian effects are important in the short run, but question whether Keynesian analysis can safely be used to guide long run economic policy toward economic growth. These debates should presumably be settled by looking at the empirical evidence as to how strong the tendencies moving capitalist economies toward full capacity utilization actually are. But econometric techniques for answering this question are themselves in dispute, and macroeconomic evidence is limited, so the policy dilemma remains unsolved. (Foley and Michl 1999, p. 194)

Introduction

I have been asked to address the evolution of the debate on wage-led and profit-led regimes in the last decades. Ever since its conception, the FMM conference and its network have been preoccupied with matters of income distribution. It is however a difficult task to address the question put to me, first, because of the sheer amount of literature devoted to the topic, but also because others have done so in the recent past. Engelbert Stockhammer and Özlem Onaran (2013) have presented a survey of the main empirical results regarding demand regimes in developed and less developed countries. Eckhard Hein (2016) has devoted quite a bit of space to this topic in his review for the 2016 FMM conference of the main developments of post-Keynesian economics over the last 20 years. Peter Skott (2016: 21) has recently questioned the validity of the much-quoted econometric results obtained by Onaran and Galanis (2012), linking them to ‘wishful thinking’, and he has made a series of arguments to the effect that whether output growth was wage-led or profit-led was unhelpful which, if right, would render my paper useless or obsolete. Stockhammer (2015), in a paper that was presented here at the FMM 2015 conference, has given a detailed critique of what he has called the neo-Goodwinian empirical tests of demand regimes, explaining why they often lead to the conclusion that these demand regimes are profit led. Also in a paper that was presented at a FMM conference, but this time in 2014, Robert Blecker (2016) has delivered a detailed survey of many of the theoretical issues surrounding the notion of wage-led and profit-led demand regimes. In addition, he has provided an extensive assessment of the various econometric methods and specifications that have been used to assess whether countries are in a wage-led or in a profit-led demand regime – something that I would be incapable of doing. One puzzle that Blecker tries to solve is why, for a given

¹ Many thanks to Robert Guttman and Brett Fiebiger for providing comments, although I most certainly did not fully incorporate them in the text.

country, mainly the US, different econometric studies yield contradicting results on this issue. One wonders whether the statement by Foley and Michl quoted above is just as valid in 2016 as it was in 1999 when empirical work on wage-led and profit-led regimes was in its beginnings.²

In a nutshell, what Blecker argues is that studies that show that aggregate demand in the US is profit led are most likely looking at the very short-run cyclical behaviour of the economy, while studies that show that it is wage led take a somewhat longer view of the matter. As Blecker (2016: 13) concludes, ‘the positive effects of a higher profit share on investment and net exports are likely to be felt mainly in the short run, while the negative effects on consumption are likely to be felt more strongly in the longer term’, and hence, ‘it is entirely possible that, in a typical business cycle, profits drive investment both up in the recovery and down in the recession, but a sustained profit share of income will not lead to higher investment or growth in the longer term’.

Now, as I have noted elsewhere (Lavoie 2014: 423-424), up until recently at least, there has been a kind of division of labour between Marxians and post-Keynesians, where Marxians focus more on cyclical behaviour while post-Keynesians tend to examine long-run growth – perhaps a remnant of Joan Robinson’s growth regimes. This was pointed out also by Goldstein and Hillard (2009: 6), who argued that there has been a split between growth theorists and crisis theorists, and that this division between business cycles and balanced growth has ‘tended to run along Marxian and post-Keynesian lines’. Indeed, it could be argued that those post-Keynesians who pay attention to short-term cyclical behaviour or who pay homage to Goodwin cycles (the neo-Goodwinians as Stockhammer calls them) usually carry a strong Marxian background or show eclecticism that includes Marxian theory.³ Thus, given this, and given the time-dimension findings of Blecker (2016), nobody will be surprised to find out that, roughly speaking, the authors who have provided theoretical or empirical support for a profit-led regime have some Marxian sympathies while those who have provided theoretical or empirical support for wage-led regimes have been more closely associated with a Keynesian pedigree.

To some extent, this opposition between the heterodox views based on a more Marxian slant and those based on more Keynesian-Kaleckian-Kaldorian lines will be the *fil conducteur* of my inquiry. To avoid repeating what has been done by Stockhammer, Stockhammer and Onaran or by Blecker, I will not survey the econometric literature on profit-led and wage-led regimes. Instead, I will provide a historical perspective to the issue, going back to the debates that arose in the 1980s between the two main strands of heterodox macroeconomics. This hopefully will help to bring some light on the more recent controversy over the existence of profit-led or wage-

² Thus while post-Keynesian Kaleckians are convinced that domestic demand regimes are wage led, in an email (17 September 2016) sent to a large group of economists, Lance Taylor writes that ‘the profit-led/profit-squeeze story seems pretty well established by now’, adding that ‘single equation estimates of wages vs output make no sense. They are under-identified and are capturing the robust response of distribution to demand rather than the reverse’.

³ Some neo-Goodwinians and Marxian authors (Peter Skott and Anwar Shaikh) also like to refer to themselves as Harrodians.

led demand regimes. Another particular twist of my presentation will be the emphasis that I will put on the presence of overhead labour and its impact on what can be said about wage-led and profit-led demand regimes.

In the beginning were Boddy and Crotty

Before going back in time, it should be emphasized that the distinction between a wage-led regime and a profit-led regime may apply to at least three different categories. Most of the recent empirical action has been around demand regimes, that is whether an increase in the wage share has led to an increase in the rate of capacity utilization or in the growth rate of the economy. There is also the issue of whether an increase in the wage share or in real wages might lead to an increase or a decrease in productivity or the growth rate of productivity, in which case we might speak of a wage-led or profit-led productivity regime. And finally, and this was at some stage the main concern, one may wonder whether an increase or a decrease in the wage share or in the growth rate of real wages may lead to an increase or a decrease in employment or in the growth rate of employment, in which case we may speak of a wage-led employment regime or a profit-led employment regime. In addition, there is also the issue of whether an increase in the rate of utilization or in the rate of employment will itself lead to a change in the wage share – this is what mainstream authors have called the wage curve. As recalled by Stockhammer (2015), post-Keynesian authors in the neo-Kaleckian strand have not paid much attention to this feedback relation, because they have been concerned instead with additional determinants of aggregate demand, while those that he calls neo-Goodwinians – the Marxians or the post-Keynesians that have closer ties with the Marxian approach -- have taken this feedback relation into consideration and have called it the distribution curve.

This being said, how far back in time should we go? This is an arbitrary decision, as discussions about whether slowdowns in economic activity or secular stagnation must be attributed to overly high or overly low wage shares have been entertained for a long time, going back to Marx himself and authors such as Sweezy or Steindl. The modern origins of the wage-led profit-led controversies can be found in the literature of the 1980s. It seems to me that the founding paper providing empirical support for profit-led employment or demand regimes would be the Boddy and Crotty (1975) study. Boddy and Crotty argued that the cycle ought not be broken into simply two parts – the slump and the expansion – but that instead it should be split into three parts, by distinguishing between the first part of the expansion, until its mid-point, and the latter part of the expansion, when the output peak is reached. Boddy and Crotty (1975: 5) argued that the ‘labor share typically *rises* in the latter half of an expansion. The profit squeeze discussed by Marx does occur’. They find that ‘the decline in gross share occurs well prior to the end of the expansion. The profits squeeze remains, even when profits are measured inclusive of taxes and interest payments’. With regards to the first part of the expansion, they note a decline in the wage share, as ‘unit labor costs decline relative to output prices’ (Boddy and Crotty 1975: 7). They attribute these changes to the evolution of the unemployment rate (the reserve army),

as labour militancy (quit rates, strikes, work effort) are being reduced by high and rising unemployment rates.

Thomas Weisskopf (1979), in a highly interesting and carefully-crafted paper, picked up Boddy and Crotty's idea of splitting the business cycles into three parts: the early expansion, from the trough in the level of the real output to the peak in the profit rate; the late expansion from that point until the peak in the level of real output; with the third sub-period corresponding to the recession. Recalling that the profit rate $r = umv$, where u is the rate of capacity utilization, m the share of profits and v the capacity to capital ratio, Weisskopf (1979: 252) looked at the uncorrected profit shares (we shall see later what the corrected measure was). He also found that the profit share was falling in the recession, rising in the early expansion, while it was falling again in the latter part of the expansion, thus once more providing support for the profit-squeeze view, or what he called the rising strength of labour view. The trend decline in the profit rate over several cycles could also be attributed to a trend fall in the profit share.

These results, and those of Boddy and Crotty, were at the heart of what has been called the SSA school – the social structure of accumulation school – which had several similarities with the French Regulation school, both schools of thought being concerned with the large changes that had occurred with the collapsing productivity growth and the rising inflation that could be attributed to the oil shocks and conflicts over income determination. The similarities can be exemplified by the several collaborative works of members of each school, Samuel Bowles on one hand and Robert Boyer on the other.⁴ SSA school members, in particular Bowles, David Gordon and Thomas Weisskopf wrote a series of papers and a book where they argued that the American economy, in contrast to what had happened in the Great Depression, was suffering from a supply-side crisis, that is, a profit-squeeze crisis brought about by an overly-long economic expansion, with high-employment conditions, which had overly strengthened the power of the labour force and lowered the cost of job loss to workers, giving rise to an increase in the share of wages. The fall in the share and the rate of profits, according to the SSA school, had thus brought about a fall in the rate of investment and hence a secular slowdown in economic activity. As a consequence, in their view, while a redistribution of income towards labor during the Great Depression could stimulate demand and end the crisis, no such solution was possible in the early 1980s.⁵ For Weisskopf *et al.* (1985: 261), 'no such happy coincidence of short-term material interests and longer-term radical objectives is associated with the type of supply-side crisis which results when the capitalist class is too weak. The most obvious exit from the crisis is that pointed

⁴ 'The full-employment profit squeeze ... has been analyzed in great detail by Rafford Boddy and James Crotty (in a cyclical context), by Andrew Glyn and Bob Sutcliffe (in a secular context), and it plays an important role in our individual and joint work as well' (Weisskopf *et al.* 1985: 275).

⁵ This is reminiscent of what one hears today from mainstream authors: before the Great Recession that started in 2008, expansionary fiscal policy and a reduction in inequality were useless; with the Great Recession and the zero-lower bound, these policies become useful.

to by the right: strengthen the capitalist class, restore profits and rekindle the capitalist accumulation process’.

A similar conclusion was reached by Stephen Marglin in his famous *Cambridge Journal of Economics* article. Marglin (1984a: 142) claimed the following: ‘A Left program, I would suggest, must respect the logic of the economic situation. Productivity does place limits on wages, and not just physical limits. As long as profitability remains the mainspring of investment, there are economic limits that constrain the wage share. Under capitalism, profits are indeed the geese that lay the golden eggs....A Left program must therefore accept limitations on real wages’. Presumably, Marglin, at least in those years, believed that the neo-Marxian model was the appropriate one to understand capitalism, because in his book he wrote that ‘the neo-Keynesian analysis leads to policies designed to stimulate investment demand or to reduce capitalists’ propensity to save; the neo-Marxian model leads ... to policies that will stimulate saving, or to policies that will reduce the subsistence wage... (Marglin 1984b: 101).⁶ Skott (2016: 20) wonders whether Left-wing economists would ‘advocate an increase in inequality if it could be established that a rise in inequality tends to raise the rate of economic growth’. Well, the answer to his question has been found in the text just above. Perhaps he would not, but other progressive economists in the past have advocated real-wage restrictions on that basis.

And then came Lance Taylor

Lance Taylor (2004: 305) has more recently issued the same warning: ‘wage increases as advocated by people on the Left cannot restore aggregate demand if it is in fact profit-led’. Indeed, Taylor may be somewhat over-enthusiastic about the empirical evidence providing support for the profit-led view of demand regimes when he writes that ‘as argued by Bowles and Boyer (1995) and substantiated for the United States in Chapter 9, demand in modern industrial economies appears to be profit-led’ (Taylor 2004: 243). But this is not really what Bowles and Boyer (1995) arrive at; indeed they conclude that the US economy is in a wage-led demand regime. Epstein and Gintis (1995: 7), in their presentation of the Bowles and Boyer chapter, are more uncertain as they write that the authors have found ‘mixed evidence for the stagnationist or wage-led model as the basis for a progressive strategy for restoring economic growth... Wage increases do not *by themselves* constitute a viable strategy for supporting increases in employment. However,,,, higher wages do increase productivity.’ Thus demand and productivity would be wage led, while employment would be profit led.⁷

There is a strong link between the views expressed by Taylor and those that can be attributed to the SSA school. As argued above, members of the SSA school were arguing that an expansion would eventually lead to a profit squeeze – this is the so-called distributive curve

⁶ Using the previous notations, the neo-Marxian model as described by Marglin (1984b) can be summarized by the Cambridge equation, where the growth rate $g = s_p r = s_p u m v$, with s_p the propensity to save out of profits. Thus a higher growth rate is associated with a higher saving rate and a higher profit margin m .

⁷ More on this apparent contradiction is to follow in the section preceding the conclusion.

emphasized by Taylor and his followers, where higher rates of utilization or higher rates of employment generate higher real wages and a higher wage share. In addition, by endorsing what they called a supply-side explanation of the secular crisis attributed to the US and European economies after 1973, SSA school members were essentially arguing that the demand regime was profit led. This is the position that Taylor endorses in his 2004 book. Looking at business cycles, and being inspired by Goodwin cycles, he argues that, looking at the wage share and the rate of utilization, the US economy shows ‘negatively inclined counterclockwise spirals’ (2004: 287), and hence clockwise spirals looking at profit share and utilization. This in his view (Taylor 2004: 291) is explained by the fact effective demand is profit-led (there is a negative impact of the wage share on the rate of utilization), while the distributive curve is positive (higher rates of utilization lead to higher wage shares, signaling a profit squeeze). The empirical work supporting this assessment would be presented in more detail in the oft-quoted paper by Barbosa-Filho and Taylor (2006), which was subjected to the critique by Stockhammer, as evoked in the introduction.⁸ A new version of this empirical analysis has been pursued by Kiefer and Rada (2015), concluding to the existence of a profit-led demand regime and a profit-squeeze distributive curve for their whole panel of 13 countries. As noted dismally by Fiebiger (2016: 16), ‘a pro-cyclical profit share is commonly interpreted as providing evidence of a “profit-led” demand regime and that, in turn, as supporting the Marxian conclusion that higher output growth requires abstinence by workers (via lower real wages). The flipside to the “profit squeeze” theory is that a “wage squeeze” is good for growth’.

The links between the Taylor view and those of Boddy and Crotty and the SSA school are explicitly recognized by Taylor when he acknowledges that his distributive curve is what Blanchflower and Oswald call the wage curve, ‘while for the Kaleckian radicals Boddy and Crotty (1975) its slope encapsulates a “cyclical profit squeeze”’. This usage carries over into the applied “social structure of accumulation” macro models of Bowles, Gordon and Weisskopf (1990) and Gordon (1995)’ (Taylor 2004: 305 ??). Indeed, very early on, Taylor (1983: 33) had incorporated the cyclical and profit-squeeze findings of what he then called the ‘Radical economists’. He has a table with the three phases of the cycle: In the early upswing, the profit rate, profit share and rate of utilization are rising; near the peak the rate of utilization is stable, but the profit rate and the profit shares fall; in the downswing, all three variables fall.

A close link can certainly also be entertained between these earlier works and the arguments being put forward by Peter Skott in a series of papers. Skott also relies on the observed clockwise loops between the employment rate and the profit share and between the utilization rate and the profit share (Skott/Zipperer 2011) to argue in favour of his Goodwinian-Harrodian view of the economy (which he would like everyone to adopt) and to reject anything related to a

⁸ Since Nelson Barbosa-Filho was involved with the Brazilian government at a time when it took a 180-degree turn relative to the policies pursued by the Lula government in in the 2000 decade, thus overturning all the efforts to raise real wages and working conditions, one wonders how much these profit-squeeze views could have influenced his policy advice and the observed turnaround.

Kaleckian view. A further point made by Skott (2016) in a number of places is that the rate of utilization and the rate of employment do not move together (they have their own clockwise loop), and hence that it is erroneous to omit the labour market, as do most post-Keynesian or Kaleckian growth models. Indeed, this is a point made by Bowles and Boyer (1995: 214) some time ago: ‘Output and employment need not move in the same direction when productivity varies with employment’.

A possible difference between the Marxian and post-Keynesian traditions, as pointed out by Bowles and Boyer (1995: 187) is that the Keynesian tradition tends to focus on product markets whereas the Marxian tradition focuses on class conflict and the labour market. As mentioned earlier, there was some collaboration between the SSA school and the French Regulation school. Bowles and Boyer (1988: 395) present a formalization of the profit-squeeze mechanism, as changes in wage rates can give rise to what they term ‘a wage-led or profit-led employment regime, respectively’. The saving and investment equations are determined by the share of profits, which itself is governed by labour effort, which in turn depends inversely on the level of employment.⁹ Thus, what happens is that there is a high level of employment profit-squeeze. They combine the effect of the profit share on aggregate demand with the effect of employment on the profit share (the employment version of Taylor’s distributive curve) to find out whether employment is wage-led or profit led.

The model is given more structure in Bowles and Boyer (1990), but with a given level of investment. Thanks to their effort function – an important feature of the SSA school which emphasizes the need for labour disciplining to avoid shirking – they can show that ‘high employment levels necessarily preclude a wage-led employment regime.... Thus the increase in the level of employment will itself undermine a wage-led employment regime’ (Bowles/Boyer 1990: 204). They conclude that: ‘One important result is that taking account of labour-intensity effects yields classical results – lower wages going along with higher levels of economic activity – even under extreme Keynesian assumptions concerning savings, investment, exports, and the effects of government borrowing’ (*ibid*: 210). Thus within their model, even if investment and exports are assumed to be given and hence autonomous with regards to changes in unit costs, increases in real wages, which initially lead to an increase in aggregate demand, will eventually lead to a fall in output as it will induce a fall in profitability: at some point profits will be negative or will be below some acceptable target level, and hence will require a reduction in employment.

By arguing that labour productivity drops as employment goes up, what Bowles and Boyer have done is to reintroduce something that acts like the neoclassical decreasing returns. Their visual depiction of the aggregate demand relationship between real wages and employment

⁹ There is thus some similarity with the mechanism described by Skott (1989), according to whom high rates of employment will discourage entrepreneurs from producing further, as formalized through his output expansion function, or when Skott’s (2010) investment function is said to be a negative function of the employment rate.

(Bowles/Boyer 1990: 204), which has a bell shape, is identical to the graph that would depict the effective labour demand curve in a Keynesian model with decreasing returns (Schefold 1983).

SSA recantation towards a Kaleckian-Keynesian view

Presenting the views on profit-led versus wage-led demand regimes as a battle of wits between Marxians and post-Keynesians would however be a misrepresentation. First, it is an obvious point that the first creator of the neo-Kaleckian model of growth and distribution was Bob Rowthorn (1981) – a heterodox economist with more Marxian than Keynesian longings. Second, it must be pointed out that a number of Marxians have not bought into the profit-squeeze story or have contested that the demand regimes are profit led. The debates between Howard Sherman and Jonathan Goldstein on the validity of the profit-squeeze mechanism are well-known among Marxians, with Sherman taking the view that components of aggregate demand other than corporate investment were responsible for the fall in the profit rate before the end of the upswing. Furthermore, just before his death, Al Szymanski (1984) was criticizing the supply-side interpretation of the crisis that had been put forward by members of the SSA school. In other words, there has always been a number of Marxians with Keynesian tendencies who had trouble with the standard SSA school story.

Furthermore, Taylor himself seems to have been of two minds on the issue of demand regimes. In Taylor (1991: 72), he says that ‘the stylized facts suggest that developing economies adjust to changes in the real wage in wage-led fashion when the level of output is free to vary’. This comes from his WIDER 18-country studies. However, he continues by saying that ‘production is frequently subject to upper bounds in the developing world. The most common are lack of capacity, a shortage of foreign exchange, and weather and the seasonal cycle which determines supplies of food and export crops’ (Taylor 1991: 73). He concludes on this by describing a non-linear aggregate demand curve in utilization and real wage space: the economy would be demand wage-led at low real wages (wage share) and demand profit-led at high real wages. An identical non-linear relationship is also introduced in the employment and real wage space by post-Keynesian Tom Palley (2011: 226): the economy would be employment wage-led at low real wages and employment profit-led at high real wages.¹⁰

More intriguing however is an article that Bowles, Gordon and Weisskopf (1984) wrote for *In These Times*, and which appeared later as a working paper. After having told us in other articles that the crisis was a supply-led one, in other words a crisis of capital shortage, created by a profit squeeze due to excessive real wages relative to productivity which had led to a downturn

¹⁰ In a way, this also resembles the statements made by several mainstream authors when dealing with practical issues. They recognize that higher wages or a higher minimum wage may have a favourable impact on the economy under certain conditions (when real wages are low, and hence the economy is in a wage-led regime), but they always end up claiming that the current conditions are not right, as real wages are already too high (they are so high that the economy is in the profit-led regime).

in investment, these three authors turn around and argue that the 'analysis of the wastefulness of the U.S. economy leads us to suggest that a left economic program be based on the macro-economic principle of wage-led productivity growth' (1984: 2). Bowles et al. (1984: 4) note that the reigning conventional wisdom, even among the left political spectrum is the 'trickle-down distributive strategy for economic recovery', which 'sacrifices wages and living standards to boost profits and investment', so that 'raising business profitability is the way to stimulate investment and growth, and that to do this workers will have to accept a period of austerity'. This description of conventional wisdom sounds very much like Radical or SSA assessments of the time, as also endorsed by Marglin (1984a) and Taylor (2004). But Bowles et al. (1984: 6) now argue instead that 'there is a workable progressive alternative to trickle-down economics'. They further point out that 'its crucial analytical proposition is that the economies of most of the advanced capitalist nations today are slack economies, not zero-sum economies' (1984: 5).

They argue that the US economy is in a regime of wage-led productivity growth for the standard reasons invoked by Marx, Webb and Akerlof, that is, 'high wages contribute to productivity because they constitute an important source of motivation' and because they force 'employers to modernize or go out of business' (p. 8). They add a third reason, one based on the positive effects of higher wages on aggregate demand and on the Kaldor-Verdoorn effects that they had contested in another article (Weisskopf et al. 1985: 285), arguing that 'rising wages lead to rising consumer demand and hence to rising aggregate demand for goods and services. In the present context of inadequate final demand, this would increase productive efficiency directly and increase the rate of capital formation, thus contributing to productivity growth in the future' (Bowles et al. 1984: 9). This sounds no different from the arguments being brought forward by post-Keynesian authors today to support wage-led growth policies, with its positive effects both on aggregate demand and labour productivity. Present-day supporters of such wage-led growth strategies often face the objection that raising real wages more than productivity would lead to a fall in the profit share and in the expected or normal profit rate. But Bowles et al. (1984: 9) have an answer to this: 'One might nonetheless object that rising wages might not have these desirable effects if wage increases lowered the expected rate of profit on new investments and thereby reduced the incentive for business to invest. But the level of capacity utilization could be expected to improve both current and expected profit rates through the positive effect of the growth of consumer demand on capacity utilization'.

It is hard to see how the strategy proposed by Bowles et al. (1984: 12) in this particular working paper 'differs fundamentally from that of most Keynesians', in contrast to what they claim. It is true that there is some remnants of a 'loanable funds' analysis which is antithetical to the post-Keynesian endogenous credit-money view when Bowles et al. (1984: 10) write that: 'One might finally object that a high-wage strategy would reduce savings and hence discourage investment because of higher borrowing costs. This objection builds on the observation that workers tend to consume more and save less of their (wage) income. This argument is perfectly correct, as far as it goes; it has a long and respected history in both the Keynesian and neo-

Marxian literature'. But besides this, and the statement that 'in the longer run, under conditions of full capacity utilization, continued upward pressure on wages might well provoke a decline in investment or even an investment strike by capitalists', the similarities with the arguments brought forward by current Kaleckian advocates of a wage-led growth strategy are striking.¹¹

Bhaduri and Marglin to the rescue

These similarities can be made more evident by comparing Bowles et al.'s (1984) arguments with the response of Edward Nell (1985) to the claims made by Marglin in his *Cambridge Journal of Economics* article, notably the claim that progressive economists must accept that real wages must be restrained. Nell started by arguing that in a mass production economy, spare capacity is the rule rather than the exception: 'Effective demand is not a matter of short-run vagaries: it is a matter of investment, i.e., of capital accumulation. The growth of capacity must keep in step with the growth of demand. This is the essence of the multiplier-accelerator process, more generally expressed as the capital stock adjustment principleBy contrast, the *fundamental* proposition of the Keynesian tradition is that neither in the short run nor in the long run is there any reason to suppose that this balance will be achieved at full capacity by the unregulated market, except by accident, or as a temporary phase in a cyclical movement' (Nell 1985: 175). Nell then reiterates the argument that higher real wages are likely to generate an increase in consumer demand, and hence an induced increase in investment, as investment depends essentially on the rise in sales. Nell also picks up the Marx-Webb argument that higher real wages are likely to lead to rising labour productivity. All in all, Nell accuses Marglin and Marxian economists of providing support for conventional wisdom by assuming scarce resources when large portions of both capital and labour are idle.

'When output is determined by effective demand, investment governs current profitability, not the other way around... First, modern economies have clearly not been operating at anything like full capacity during the past decade and a half. Raising wages would increase demand in consumer good markets. But, secondly, it would also increase the pressures on backward firms to modernise or go out of business... In short, under suitable conditions raising wages may stimulate growth.... Marglin's framework, since it assumes Say's Law, cannot deal with these questions, and is forced to accept the position that austerity policies are nothing but simple 'economic logic', which any rational agent must accept. Conservatives could ask for no better defence' (Nell 1985: 178).

¹¹ Just to bring some more confusion on the stand of Radical or SSA authors on the issue of a wage-led growth strategy, I should add that during the Union for Radical Political Economics summer conference that I attended in Cape Cod in 1986, Weisskopf objected explicitly and vehemently to a recovery policy that would be based on higher wages.

Nell's arguments were formalized in the other critique of Marglin's paper, the one by Amitava Dutt (1987), but of course they could already have been found in the neo-Kaleckian models of Rowthorn (1981) and Dutt (1984). These were models of growth where full capacity utilization was not assumed and hence where rates of capacity utilization were endogenous. Their investment functions, dependent on the profit rate and the rate of utilization, were such that growth was necessarily wage led, a necessity that disappeared once international trade was taken into account, as shown later by Blecker (1989). It seems that these models as well as Nell's sarcastic critique of Marglin – the paper carried the name Jean-Baptiste Marglin in its title – hit a chord. By October 1987, when a large conference in the honour of Nicholas Kaldor was held at the New School in New York City and at the Levy Economics Institute, no less than four papers were presented with some link with the question being addressed by Nell. Skott presented his Goodwinian-Harrodian model that would be at the core of his book (1989) and which explained the business cycle as resulting from Harrodian instability and from the claim that the rate of capital accumulation is a nonlinear negative function of the rate of employment; Boyer and Petit (1991) presented a growth model where they combined a demand regime and a productivity regime, which would become the prototype for the work latter carried on by Servaas Storm and Ro Naastepad (2012). Heinz Kurz (1990) presented a fancy model, with 3-dimensional diagrams and endogenous productivity, where the investment function was a function of the rate of utilization and a negative function of the real wage. Hence Kurz's model could generate either a wage-led or a profit-led demand regime, with the various combinations regarding the impact on the rate of utilization and the growth rate.

But although Kurz's paper arrived at similar results, the conference paper that turned out to generate the most attention, despite its rather messy presentation at the conference, was the one by Bhaduri and Marglin (1990), a version of which was published in the *Cambridge Journal of Economics*. The authors argued that the profit rate could be decomposed into a rate of utilization and a profit share, and hence that the investment function ought to depend on these two components. As I have argued on a number of occasions (Lavoie 1992), it is best to understand the profit share as being a proxy for the normal profit rate or the expected profitability, for otherwise, as pointed out by two Kaleckians, Mott and Slattery (1994: 72), 'it is not clear to us why the level of the profit share, or height of the mark-up, should influence investment by itself'.

In any case, the investment function proposed by Bhaduri and Marglin became highly popular among econometricians, so much that their model got called the post-Kaleckian model to distinguish it from the previous formalization (Hein 2014; Lavoie 2014). A big advantage of this model, as was the case with the Kurz model, as pointed out by Bhaduri and Marglin (1990: 388), is that 'particular *models* such as that of "cooperative capitalism" enunciated by the left Keynesian social democrats, the Marxian model of "profit squeeze" or even the conservative model relying on "supply-side" stimulus through high profitability and a low real wage rate, fit into the more general Keynesian theoretical scheme. They become particular *variants* of the

theoretical framework presented here'. Thus the post-Kaleckian Marglin and Bhaduri model allowed for a (partial) reunification of the Marxian and post-Keynesian strands of heterodox macroeconomics under a single umbrella, and the rest is history.

Overhead labour costs

In a workshop organized by the Post-Keynesian Economics Study Group (PKSG) in England, Simon Mohun was asked in November 2011 to provide an assessment of the chapters in the book edited by Hein and Stockhammer (2011) on post-Keynesian economics. Mohun listed what he considered to be ten missing elements. One of them was the distinction between overhead or indirect labour and direct labour. This corresponds in the US to the distinction between supervisory workers and non-supervisory workers, the former group being identified as managers or in French, the *cadres*. It is my opinion that the omission of overhead labour has detrimental consequences on our understanding of what happens during the business cycle. It has contributed to the belief, among a number of Marxian-inspired authors, that an increase in the profit share has positive effects on aggregate demand.

Overhead labour costs were included in the neo-Kaleckian growth model of Rowthorn (1981), and could be found in some of the later versions (Nichols and Norton 1991; Lavoie 1992, 1995, 2009; Dutt 2012). The absence of 'permanent administrative staff' was noted by Bhaduri and Marglin (1990: 377), but despite this the large majority of the neo- or post-Kaleckian models assumed away overhead labour. As a consequence, and probably also for lack of adequate data, empirical studies devoted to the demand regimes also omitted the possibility of overhead labour. Strangely, overhead labour was very seriously taken into account in the earlier studies on the characteristics of business cycles. Weisskopf (1979: 354) mentions that 'certain types of labour – e.g. administrative, supervisory and maintenance employees – may be characterised as "overhead labour" in the sense that they must be employed in proportion to the *capacity* of an enterprise', which is exactly how Rowthorn (1981) formalized the introduction of overhead labour in his neo-Kaleckian model. As a consequence, a rise in the profit share may just as well occur as a result of an increase in the rate of utilization as it could have as a result of a drop in the strength or bargaining power of labour. Weisskopf thus proceeded to compute a 'true' wage share, corrected for this effect due to overhead labour. Once the correction is made, it appears that changes in the profit rate during the first phase of the upswing and the downswing are nearly entirely due to changes in the rate of capacity utilization. Only in the second phase of the upswing do we see changes in the (falling) profit share playing any important role in the determination of the profit rate. Table 1 shows the evolution of the various components of the profit rate, as estimated by Weisskopf (1979), uncorrected and corrected for the impact of overhead labour. Incidentally, looking at these numbers, it is hard to understand how, as assumed by Goodwinian-Marxian authors, a recovery spontaneously led by corporate investment could occur when profit rates are at their lowest. We shall later argue that external drivers are needed for the recovery.

Table 1: Average annual rates of growth of the three components of the profit rate through the three phases of the business cycle, unadjusted and corrected for overhead labour costs

Similarly Sherman and Evans (1984: 219) attach great importance to the role played by overhead labour costs in explaining the evolution of the profit share through the business cycle, as they claim that ‘the rapid rise of output demanded and capacity utilization produce an enormous rise in productivity, mainly because of a declining ratio of overhead labor to output’. The importance of overhead labour is reiterated when they summarize their views:

‘In most of expansion, the wage share declines mostly because productivity rises, which is mainly due to falling overhead labor proportionate to all labour. While productivity is rising, real wages do not rise as fast in early expansion mainly because of the institutional fact that capitalists automatically own the increased product while workers must struggle for a share of that increase through the bargaining process and other means of industrial strife. Near the cycle peak of expansion, the wage share rises a little because productivity is flat or falling while real wages continue to rise; bargaining power is high because of a high level of employment. In most of contraction, the wage share rises because of falling productivity, owing mainly to a rising percentage of overhead labor to all labor. Finally, at the end of the contraction, the wage share begins to fall again because of the weakness of labor owing to high unemployment’ (Sherman/Evans 1984: 219).¹²

Thus, as argued by Weisskopf and also by Sherman and Evans, in an economy with overhead labour, all else equal, that is, with no change whatsoever in the markup over unit direct labour costs, an increase in the rate of utilization leads to an increase in the share of profits. Thus, unless the measures of the profit share are corrected for this effect, statistical enquiries will be biased towards finding that aggregate demand is profit-led.

But there are further problems to consider when overhead costs are explicitly introduced into a neo-Kaleckian model with the standard assumptions, such as a propensity to save out of wages equal to zero. It turns out that the profit share is a poor indicator of the potential profitability of firms. With prices determined by a target-return formula, an increase in the target rate of return might lead to an increase in the profit share, as one would expect; but for some parameter configurations, once all aggregate demand effects have been taken into consideration, a higher target rate of return might induce lower profit shares. Thus the profit share as measured by the national accountants can either increase or decrease when firms manage to implement higher costing margins or higher target rates of return into their prices, and hence reduce real wages (Lavoie 1995; 2009). Thus what this means is that, with given labour productivity, a decrease in the real wage may actually lead to an increase in the wage share once

¹² Retrospectively, I note that my graphical description of the evolution of the profit share and its causes through the business cycle corresponds fairly well to that of Sherman and Evans (Lavoie 2014: 426-427).

all the effects on aggregate demand have been taken into account. As Rowthorn (1981: 21) puts it, ‘this all goes to show how misleading it can be to argue in terms of the profit share, rather than the rate of profit, when the economy is operating below full capacity’. Thus one can only agree with Nichols and Norton (1991, p. 53) who argued that with the consideration of a third class, overhead labour, ‘a stagnationist model so generalized is capable of yielding a broader range of capitalist dynamics than the traditional stagnationist framework allowed’.

This demonstrates that the net profit share is not a reliable indicator of potential profitability when there are managerial costs, and to incorporate the profit share in an investment equation, as Bhaduri and Marglin (1990) do, seems very much like a second-best solution. Thus, in contrast to what seems to be the implicit assumption of a large number of empirical studies, the evolution of wage shares or profit shares, that is the slope of the aggregate demand relation between the wage share and the rate of utilization is not necessarily an appropriate indicator of the bargaining power of labour or of capitalists, unless one succeeds in taking adequate care of cyclical effects by incorporating the evolution of overhead labour. As Nikiforos and Foley (2012: 219-220) say in a similar context: ‘We have to move one step further from the characterization of an economy as wage-led if the slope of the demand curve is positive and profit-led if it is negative. We provide an alternative definition; *an economy is profit-led when a distributive or technological change against the wage share leads to a higher equilibrium level of capacity utilization*’. Unfortunately, this is more easily said than done, as it seems that only the USA have adequate data on the labour share of supervisory workers, most likely a good enough proxy for overhead labour (Mohun 2006). The explosion in the availability of data about rich households may however help compensate for this problem.

Share of earned income versus the share of worker wages

There is a second issue related to the fact that the pay of highly-ranked managers is included within the wage share. As has been shown by Piketty (2014) and others, these managers have succeeded in increasing their share of labour income. Mohun (2014) has also shown that wage share going to supervisory workers has dramatically increased over time in the US. Because their propensity to save is likely to be much higher than that of non-supervisory workers whose pay can be dozens of times smaller, this change in the share of labour income collected by highly-paid managers is not innocuous and may once more bias the measure of the demand regime towards the appearance of a profit-led regime. This has been underlined in particular in a number of papers by Tom Palley. The argument is the following. It may be that the share of wages has gone up, but if the split between managers or overhead labour has been modified in favour of the managers, the consequences for aggregate consumption and aggregate demand are likely to be negative. Thus, while empirical studies would assess that the demand regime seems to be profit led, this would occur because mistakenly a third class – the managers (or overhead labour) – has not been taken into consideration. Till van Treeck (2015: 162), for this reason, has also

expressed his distrust at the standard empirical method to assess demand regimes on the basis of functional income.

In the neo-Kaleckian model with target-return pricing evoked earlier, things get really messy when one tries to assess the impact of an increase in the pay check taken by managers (an increase in overhead labour costs) on the rate of utilization, the rate of profit or the share of profit, even while still assuming that ordinary workers save nothing. First, the impact, once all aggregate demand effects are brought in, depends on whether the economy is operating below or beyond the standard rate of capacity utilization. The only sure thing is that an increase in the overhead labour cost will induce a rise in the share of income obtained by overhead labour while it will lead to a fall in the share of income held by ordinary workers. Anything goes for the share of profits: it may rise or fall as a result of the increase in managers' pay. Thus, empirical studies may show that a decrease in the profit share has been accompanied by a decrease in the rate of utilization, thus leading one to conclude that the demand regime is profit led, whereas the share of income going to direct labour will have fallen.

In previous works and in a recent IMK working paper, Palley (2016) argues that a modified version of Pasinetti's model should be put forward: one ought to consider manager-capitalists, who receive salaries and hence a share of earned income and a share of profits, mainly based on their share of financial capital; and then there are the ordinary workers, who receive wages and hence a share of earned income, but who also receive a share of profits, based on their past savings. What will happen to utilization rates, profit rates and growth rates when a change occurs will actually depend on the values taken by these various shares, the shares of profits and earned income, and the parameters of the investment and those of the various saving functions. It follows that the growth and inequality relationship depends, among other things, on what one can consider to be the deep parameters of income distribution noted above. Palley (2016) also warns that in a country where the share of earned income going to the salaries of managers has been rising, while the shares of profits and hence that of wages going to workers have been shrinking, the standard econometric assessment of the demand regime may conclude that the economy is profit led. Thus, as in the case of overhead labour discussed above, it would be best to distinguish between the income of managers and that of ordinary workers so as to assess appropriately the demand regime. Palley (2016) also points out that, as long as the propensity to consume of ordinary workers is higher than that of managers, an increase in the share of wages going to workers will always lead to an improvement of economic activity, regardless of whether the economy as assessed in the standard way appears to be wage led or profit led. Thus, this should be where efforts at changing the primary and secondary income distributions should be directed to.

Taking a wider angle

Notwithstanding the above complications, there is a growing recognition that assessing whether there are profit-led or wage-led demand regimes needs to take account of many other factors

that affect aggregate demand, such as government expenditures, residential investment, and the financialization process, as can be measured by the relative size of the financial sector and the evolution of various financial variables. This point has recently been made forcefully in the context of business cycles by Stockhammer and Michell (2016). They argue that they can generate counter-clockwise loops between utilization rates and wage shares, despite assuming away any feedback effect of the wage and profit shares on demand, or even by incorporating a wage-led demand regime. They do so by assuming a profit squeeze mechanism (the wage share rising when demand increases) and by introducing a Goodwin-like predator-prey mechanism based on Minsky's financial fragility hypothesis whereby the rate of change of fragility increases with higher output and where the change in output gets slowed down by financial fragility.¹³ Thus counter-clockwise loops do not necessarily involve a profit-led demand regime.

Brett Fiebiger (2016) has also presented another explanation of the counter-clockwise loops involving the wage share that are neither associated with Minsky cycles nor with the standard Marxian interpretation. This explanation can be associated with the so-called Sraffian supermultiplier story (Freitas and Serrano 2015) and the revised neo-Kaleckian model with autonomous expenditures (Lavoie 2016). Fiebiger argues that the evolution of what he calls the semi-autonomous household expenditures, meaning here residential investment and consumption expenditures financed by credit, have always been a key mover of (US) economic growth, not just before the Great Recession. He shows that there also exists systematic clockwise cycles between the corporate profit share and the output shares of household fixed investment and semi-autonomous expenditures with respect to the rate of employment and the rate of utilization, whereas the profit share does not closely follow the output share of corporate fixed investment, especially around troughs. Indeed, he shows that the growth rates of household fixed investment expenditures and household semi-autonomous expenditures are strongly correlated with the growth rates of current and future corporate profits, whereas corporate fixed investment is weakly correlated with current corporate profits and more strongly correlated with past corporate profits.

Thus, according to Fiebiger, it is the households fixed investment fluctuations and their debt-financed consumption that drive most of the business cycle, with the cyclical evolution of the profit share being essentially explained by the existence of overhead labour costs. As to the investment of the corporate sector it is essentially reacting to the evolution of its sales. Fiebiger's assessment is roughly consistent with the econometric results of Stockhammer and Wildauer (2015) according to whom OECD countries are in a weak wage-led demand regime, with changes in aggregate demand being mostly driven by the evolution of household debt and property prices. It is also consistent with Barbosa et al. (2008: 630)'s remark to the effect that the US economy demand regime is 'household net borrowing led'.

¹³ Ironically, their Minsky cycle is inspired by the work of Skott (1994), whose critiques of the Kaleckian view is inspired by the Goodwinian interpretation of these counter-clockwise loops.

Productivity effects

Virtually everything so far has been about demand regimes. Hardly anything has been said about productivity regimes or the highly interesting works that combine the productivity regimes with the demand regimes. Taking into account the effects of higher real wages or higher wage shares will force us to take a broader look at the issue of demand or employment regimes. As was mentioned in an earlier section, Marxian authors from the SSA school did at some point advocate a wage-led productivity growth strategy, while the study of the combined productivity and demand regimes were a feature of the French Regulation school, as exemplified by the 1987 Kaldor conference paper of Boyer and Petit (1991). Noteworthy in this regard is the paper by Hein and Tarassow (2010), but I will focus on the formalization of Storm and Naastepad (2013).

Informal arguments – the same as those offered by Bowles et al. (1984), as outlined earlier – as well as empirical estimates leads us to assert that there is a positive direct effect of faster real wage growth (noted w in Figure 1) on labour productivity growth (noted p) – the Marx-Webb effect. But there is also an indirect effect, arising from the Kaldor-Verdoorn law, according to which faster output growth (noted x) generates faster productivity growth. Thus while in a wage-led demand regime these two effects reinforce each other, so that the productivity regime is necessarily wage-led, the two effects will go in opposite directions in the case of the profit-led demand regime, meaning that in this case the productivity regime could be either wage-led or profit-led. In addition, one would also need to assess the feedback effects of the change in productivity growth on the wage share, which would drop if the productivity change is positive. All these effects are represented in Figure 1. To read the figure, one starts with the growth rate of real wages

Figure 1: Combined demand and productivity effects of an increase in the growth rate of real wages.

The bottom of the figure illustrates a problem of wage-led growth that has been underlined by Storm and Naastepad (2013). While the demand regime may be clearly wage led, once the Marx-Webb and Kaldor-Verdoorn effects are taken into account, it is far from clear that the employment regime will turn out to be wage led as well, since there is no guarantee that the increase in the growth rate of aggregate demand will surpass that of the growth rate of labour productivity (with the growth rate of employment, noted e , being equal by definition to $x - p$). Indeed, Storm and Naastepad argue on the basis of their theoretical model that with standard estimates of the various effects, it is likely that a wage-led demand regime will correspond to a profit-led employment regime. This conclusion is less likely to occur if one modifies their theoretical model by adding, for instance, a feedback effect of the rate of productivity growth on the rate of accumulation, as Kalecki had suggested. Still, all this reminds us of the previous warning of Bowles and Boyer (1995) to the effect that output and employment growth may not move together once the productivity effects of faster output growth are taken into account.

The obvious answer to this conundrum is that a wage-led growth strategy must incorporate as well expansionary monetary and fiscal policies. This is the solution offered by Storm and Naastepad (2013) and it must be noted that in their recent papers advocates of a wage-led growth strategy have underlined the need for a wage-led recovery to be accompanied by expansionary fiscal policies (Onaran 2014). This is also in line with the position that was advocated by Palley (2011) when discussing a possible wage-led recovery program: besides reforming the labour market so as to give more bargaining power to ordinary workers and less to top managers and executives, there also has to be a fiscal stimulus program.

Conclusion

Ever since the empirical study by Bowles and Boyer (1995), a lot of efforts have been devoted to finding whether economies are demand or profit led. Despite these efforts, and also there seems to be some agreement regarding the wage-led productivity regime, there still is no consensus among the heterodox community regarding whether economies are in a wage-led or profit-led demand regime, meaning here either the rate of utilization or the rate of growth of output. What I have argued in this paper is that, broadly speaking, while all heterodox authors involved in these debates have some ties with Kalecki and/or Kaldor, heterodox authors closer to the post-Keynesian tradition have tended to find and to argue that aggregate demand is wage led, at least when domestic demand is considered in contrast to total aggregate demand inclusive of net exports, whereas heterodox authors who have more Marxian longings tend to find and argue that aggregate demand is profit led. I have shown however that this correspondence is far from being perfect, and that some authors have tended to oscillate in a very puzzling way in advocating or disparaging a wage-led growth strategy.

I have also argued that this split goes back to the mid-1970s, with the study of Broddy and Crotty (1975) that argued that the initial segment of the expansion in a business cycle was accompanied by a rising profit share, whereas the second segment of this expansion involved a falling profit share. Leaving what was happening during the recession, this gave rise to the belief that aggregate demand was profit led and that expansion was being halted by a profit squeeze. This finding was reinforced by the detailed study of Weisskopf (1979), who used the same three-period split, arriving at the same results with regards to the evolution of the profit share. This has given rise to the belief among members of the SSA school and among followers of Lance Taylor, as can be verified from their writings, that some sort of Goodwinian business cycle, based on profit-led demand and a profit-squeeze distributive curve, could explain the short-period cyclical evolution of the American economy. It has also led various authors with a Marxian background to find explanations as to why how high real wages or high employment rates would eventually lead to an endogenous turnaround in economic activity.

All of this was coherent with the long-run version of the Marxian model, where higher saving rates and higher profit shares allow for faster accumulation, as was presented by Stephen Marglin (1984a). His article however induced responses by post-Keynesians, who objected that

long-run analysis did not need to be associated with full-capacity utilization, and that higher real wages would speed up accumulation, as had been shown in the previous papers of Rowthorn (1981) and Dutt (1984). One can thus understand the Bhaduri and Marglin (1990) model as the Kaleckian-Marxian response to these Kaleckian-Keynesian growth models and objections, endeavouring to counteract that even with endogenous rates of utilization and Keynesian output determination, higher profit shares could induce faster growth. As we now know, the investment function of their paper, which included the profit share rather than the profit rate, facilitated empirical analysis and gave rise to the observed boom in econometric studies devoted to the determination of demand regimes.

Still, other students of business cycles, some of which with a Marxian background like Howard Sherman, have emphasized that the apparent positive relationship between profit shares and economic activity in the first part of the upswing and in the downswing could be nearly entirely attributed to the existence of overhead labour costs – something that was measured with the help of corrected measures of wage shares by Weisskopf (1979) himself. While the rise of the labour share in the latter part of the upswing was not denied, the slowdown in economic activity before the peak was instead attributed to external factors, such as restrictive monetary or fiscal policies. More recently, it has been argued by Fiebiger (2016) that these external factors can be mostly attributed to the behaviour of household residential investment and to household consumption out of credit – what he calls semi-autonomous expenditures – and hence that the slowdown in corporate investment is the result of stagnating or falling sales rather than the consequence of a fall in the profit share. It would perhaps best to say that economies are led in cyclical terms by the net financial borrowing of households. It is these effects and the presence of overhead costs that would explain the (weak) profit-led demand regimes obtained by Barbosa-Filho and Taylor (2006) and Kiefer and Rada (2015) on the basis of quarterly data and short-term dynamics.¹⁴

The presence of overhead labour, associated with supervisory workers, managers and executives poses a problem for the empirical exercises of identifying wage-led and profit-led regimes. In my view and in that of Palley (2016), they are likely to bias the results towards profit-led demand regimes. Still, for those who have some confidence in the results achieved by researchers using single-equation techniques, there seems to be some consensus that domestic demand is wage led in all countries that have been examined, while overall demand (including net exports) is wage led in a large number of countries (Onaran and Galanis 2014; Hartwig 2014; Stockhammer and Wildauer 2015; Onaran and Obst 2016). Since productivity is also wage-led, even if some countries turn out to have their overall demand profit led, it follows that a cooperation on a wage-led strategy that would be advocated by large international organizations

¹⁴ Kiefer and Rada (2015: 1346) appear to be somewhat mystified by the apparent long-run positive relationship between the wage share and capacity utilization. Their explanation is that in their (successful) efforts to reduce the wage share, governments have pursued austerity policies that have shifted down aggregate demand and reduced the average rate of utilization.

like the OECD, UNCTAD, the IMF and the ILO could turn out to be highly successful in raising economic activity and productivity, if that is the objective. However, as showed by Storm and Naastepad (2013), the fact that demand regimes are wage led does not necessarily imply that employment regimes are as well wage led. Expansionary fiscal policies are also likely to be needed, something towards which the IMF seems more inclined now, or reductions in the working week time may be required.

In conclusion, it should be pointed out, as noted by Palley (2016), that demand regimes are not set in stone; they can be endogenized by some economic policies. For instance, a more progressive tax system or lower taxes on wage income relative to unearned income, by modifying the distribution of disposable income between classes and individuals with different propensities to consume, will transform an economic system towards a more wage-led demand regime.

References

- Barbosa-Filho, N., Rada, C., Taylor, L., Zamparelli, L. (2008): Cycles and trends in US net borrowing flows, in: *Journal of Post Keynesian Economics*, 30(4), pp. 623-647.
- Barbosa-Filho, N., Taylor, L. (2006): Distributive and demand cycles in the US economy—a structuralist Goodwin model, in: *Metroeconomica*, 57(3), pp. 389–411.
- Bhaduri, A. and S. Marglin (1990): Unemployment and the real wage: the economic basis for contesting political ideologies, in: *Cambridge Journal of Economics*, 14(4), 375-393.
- Blecker, R.A. (1989), International competition, income distribution and economic growth, in: *Cambridge Journal of Economics*, 13(3), September, 395-412.
- Blecker, R.A. (2016): Wage-led versus profit-led demand regimes: the long and the short of it, Mimeo, <http://fs2.american.edu/blecker/www/research/Blecker-long-and-short-run-final.pdf>
- Boddy, R. and Crotty, J. (1975): Class conflict and macro-policy: the political business cycle, in: *Review of Radical and Political Economics*, 7(1), 1-19.
- Bowles, S. and Boyer, R. (1988): Labor discipline and aggregate demand: a macroeconomic model, in: *American Economic Review*, 78(2), 395-400.
- Bowles, S. and Boyer, R. (1990): A wage-led employment regime: income distribution, labour discipline, and aggregate demand in welfare capitalism, in: S.A. Marglin and J.B. Schor (eds), *The Golden Age of Capitalism: Reinterpreting the Postwar Experience*, Clarendon Press: Oxford, 187-217.
- Bowles, S. and Boyer, R. (1995): Wages, aggregate demand, and employment in an open economy: an empirical investigation, in: G. Epstein and H. Gintis (eds), *Macroeconomic Policy After the Conservative Era*, Cambridge: Cambridge University Press, 143-171.
- Bowles, S., Gordon, D.M. and Weisskopf, T.E. (1984): 'A progressive alternative to economic and social renewal', Working paper for Policy Alternatives, no. 2, Canadian Centre for Policy Alternatives.
- Boyer, R. and Petit, P. (1991): Kaldor's growth theories: past, present and prospects for the future, in: E.J. Nell and W. Semmler (eds), *Nicholas Kaldor and Mainstream Economics: Confrontation or Convergence?*, London: Macmillan, 485-517.
- Dutt, A.K. (1984): Stagnation, income distribution and monopoly power, in: *Cambridge Journal of Economics*, 8(1), 25–40.
- Dutt, A.K. (1987): Alternative closures again: a comment on growth, distribution and inflation, in: *Cambridge Journal of Economics*, 11(1), 75-82.
- Dutt, A.K. (2012); 'Growth, distribution and crises', in: H. Herr, T. Niechoj, C. Thomasberger, A. Truger and T. van Treeck (eds), *From Crisis to Growth? The Challenge of Debt and Imbalances*, Metropolis, Marburg, pp. 33-59.
- Epstein, G and Gintis, H. (1995): Introduction, in: G. Epstein and H. Gintis (eds), *Macroeconomic Policy After the Conservative Era*, Cambridge: Cambridge University Press.
- Fiebiger, B. (2016): Semi-autonomous household expenditures as the *causa causans* of post-war U.S. business cycles: the stability and instability of Luxemburg-type external markets, Mimeo.
- Foley, D.K. and T. Michl (1999): *Growth and Distribution*, Harvard University Press, Cambridge (Mass.).
- Freitas, F., Serrano, F. (2015): Growth rate and level effects, the stability of the adjustment of capacity to demand and the Sraffian supermultiplier, in: *Review of Political Economy*, 27(3), 258-281.

- Goldstein, J.P. and Hillard, M.G. (2009): Introduction: a second-generation synthesis of heterodox macroeconomic principles, in J.P. Goldstein and M.G. Hillard (eds), *Heterodox Macroeconomics: Keynes, Marx and Globalization*, London: Routledge, 3-23.
- Hartwig, J. (2014): Testing the Bhaduri-Marglin model with OECD panel data, in: *International Review of Applied Economics*, 28 (4), 419-435.
- Hein, E. (2014): *Distribution and Growth After Keynes: A Post-Keynesian Guide*, Cheltenham: Edward Elgar.
- Hein, E. (2016), 'Post-Keynesian macroeconomics since the mid-1990s – main developments', key lecture presented at the FMM conference in Berlin.
- Hein, E. and Stockhammer, E. (eds) (2011), *A Modern Guide to Keynesian Macroeconomics and Economic Policies*, Cheltenham: Edward Elgar.
- Hein, E. and Tarassow, A. (2010): Distribution, aggregate demand and productivity growth: theory and empirical results for six OECD countries based on a post-Kaleckian model, in: *Cambridge Journal of Economics*, 34(4), 727-754.
- Kiefer, D. and Rada, C. (2015): Profit maximising goes global: the race to the bottom, in: *Cambridge Journal of Economics*, 39 (5), 133-1350.
- Kurz, H.D. (1990): Technical change, growth and distribution: A steady state approach to unsteady growth, in: Kurz, H.D., *Capital, Distribution and Effective Demand: Studies in the Classical Approach to Economic Theory*, Cambridge: Polity Press, 210-239.
- Lavoie, M. (1992): *Foundations of Post-Keynesian Economic Analysis*, Edward Elgar: Aldershot.
- Lavoie, M. (1995): The Kaleckian model of growth and distribution and its neo-Ricardian and neo-Marxian critiques, in: *Cambridge Journal of Economics*, 19(6), 789-818.
- Lavoie, M. (2009): Cadrisme within a Kaleckian model of growth and distribution, in: *Review of Political Economy*, 21(3), 371-393.
- Lavoie, M. (2014): *Post-Keynesian Economics: New Foundations*, Cheltenham: Edward Elgar.
- Lavoie, M. (2016): Convergence towards the normal rate of capacity utilization in neo-Kaleckian models: the role of non-capacity creating autonomous expenditures, *Metroeconomica*, 67(1), 172-201.
- Marglin, S.A. (1984a), Growth, distribution and inflation: a centennial synthesis, in: *Cambridge Journal of Economics*, 8(2), 115-144.
- Marglin, S.A. (1984b): *Growth, Distribution and Prices*, Cambridge (Mass.): Harvard University Press.
- Mohun, S. (2006): Distributive Shares in the US Economy, 1964-2000, in: *Cambridge Journal of Economics*, 30(3), 347-370.
- Mohun, S. (2014): Unproductive labor in the U.S. economy: 1964-2010, in: *Review of Radical Political Economics*, 46(3), 355-379.
- Mott, T. and Slattery, E. (1994): The influence of changes in income distribution on aggregate demand in a Kaleckian model: stagnation vs exhilaration reconsidered, in: P. Davidson and J.A. Kregel (eds), *Employment, Growth and Finance*, Cheltenham: Edward Elgar, 69-82.
- Nell, E.J. (1985): Jean Baptiste Marglin: a comment on growth, distribution and inflation, in: *Cambridge Journal of Economics*, 9(2), 173-178.
- Nichols, L.M. and N. Norton (1991): Overhead workers and political economy macro models, in: *Review of Radical Political Economy*, 23(1-2), 47-54.

- Nikiforos, M. and D.K. Foley (2012): Distribution and capacity utilization: conceptual issues and empirical evidence, in: *Metroeconomica*, 63(1), 200-229.
- Nikiforos, M. (2015): Uncertainty and contradiction: an essay on the business cycle, in: *Review of Radical Political Economics*, DOI: 10.1177/0486613415621748
- Onaran, Ö. (2014): The Case for a Coordinated Policy Mix of Wage-led Recovery and Public Investment in the G20, <http://www.ituc-csi.org/IMG/pdf/modeling.pdf>
- Onaran, Ö. and Galanis, G. (2012): Is aggregate demand wage-led or profit-led: national and global effects, working paper # 40, Conditions of Work and Employment Series, International Labour Office.
- Onaran, O. and Galanis, G. (2014): Income distribution and growth: a global model, in: *Environment and Planning A*, 46(10), 2489–2513.
- Onaran, Ö. and Obst, T. (2016): Wage-led growth in EU15 member states: the effects of income distribution on growth, employment, trade balance and inflation, in: *Cambridge Journal of Economics*, doi:10.1093/cje/bew009.
- Palley, T.I. (2011): The economics of wage-led recovery: analysis and recommendations, in: *International Journal of Labour Research*, 3(2), 219-244.
- Palley, T.I. (2016): Wage- vs profit-led growth: the role of the distribution of wages in determining regime character', in: *Cambridge Journal of Economics*, doi:10.1093/cje/bew004.
- Piketty, T. (2014): *Capital in the Twenty-First Century*, Cambridge: Harvard University Press.
- Rowthorn, B. (1981): Demand, real wages and economic growth, in: *Thames Papers in Political Economy*, Autumn, 1-39.
- Schefold, B. (1983): Kahn on Malinvaud, in: J. Eatwell and M. Milgate (eds), *Keynes's Economics and the Theory of Value and Distribution*, Oxford: Oxford University Press, 229-246.
- Sherman, H.J. and Evans, G.R. (1984): *Macro-Economics: Keynesian, Monetarist and Marxist Views*, New York: Harper & Row.
- Szymanski, A. (1984): Productivity growth and capitalist stagnation, in: *Science & Society*, 48(3), 295-322.
- Skott, P. (1989): *Conflict and Effective Demand in Economic Growth*, Cambridge: Cambridge University Press.
- Skott, P. (1994): On the modeling of systemic financial fragility, in: A.K. Dutt (ed.), *New Directions in Analytical Political Economy*, Aldershot, Edward Elgar.
- Skott, P. (2010): Growth, instability and cycles, in: M. Setterfield (ed.): *Handbook of Alternative Theories of Economic Growth*, Edward Elgar, Cheltenham, 108-131.
- Skott, P. (2016): Weaknesses of “wage-led growth”, http://scholarworks.umass.edu/cgi/viewcontent.cgi?article=1208&context=econ_workingpaper
- Skott, P., Zipperer, B. (2011): Cyclical patterns of employment, utilization, and profitability, in: *Journal of Post Keynesian Economics*, 34(1), 25-57.
- Stockhammer, E. (2015): Wage-led versus profit-led demand: what have we learned?: A Kalecki-Minsky view, PKSG working paper 1512, <https://www.postkeynesian.net/downloads/working-papers/PKWP1512.pdf>
- Stockhammer, E. and Michell, J. (2016): Pseudo-Goodwin cycles in a Minsky model, in: *Cambridge Journal of Economics*, doi:10.1093/cje/bew008.

- Stockhammer, E. and Onaran, Ö. (2013): Wage-led growth: theory, evidence, policy, in: *Review of Keynesian Economics*, 1(1), 61–78
- Stockhammer, E. and Wildauer, R. (2015): Debt-driven growth? Wealth, distribution and demand in OECD countries, in: *Cambridge Journal of Economics*, doi:10.1093/cje/bev070
- Storm, S. and Naastepad, C.W.M. (2012): *Macroeconomics Beyond the NAIRU*, Cambridge (Mass.): Harvard University Press.
- Storm, S. and Naastepad, C.W.M. (2013): Wage-led or profit-led supply: wages, productivity and investment, in: M. Lavoie and E. Stockhammer (eds), *Wage-Led Growth; An Equitable Strategy for Economic Recovery*, Basingstoke: Palgrave Macmillan, 100-124.
- Taylor, L. (1983): *Structuralist Macroeconomics: Applicable Models for the Third World*, New York: Basic Books.
- Taylor, L. (1991): *Income Distribution, Inflation and Growth: Lectures on Structuralist Macroeconomic Theory*, Cambridge (Mass.): MIT Press.
- Taylor L. (2004): *Reconstructing Macroeconomics: Structuralist Proposals and Critiques of the Mainstream*, Cambridge (Mass.): Harvard University Press.
- Van Treeck, T. (2015): Inequality, the crisis, and stagnation, in: *European Journal of Economics and Economic Policies: Intervention*, 12(2), 158-169.
- Weisskopf, T.E. (1979): Marxian crisis theory and the rate of profit in the postwar U.S. economy, in: *Cambridge Journal of Economics*, 3(4), 341-378.
- Weisskopf, T.E., Bowles, S. and Gordon, D.M. (1985): Two views of capitalist stagnation: underconsumption and challenges to capitalist control, in: *Science & Society*, 49(3), 259-286.

Table 1

	Early expansion		Late expansion		Recession	
	U	C	U	C	U	C
Profit rate	+26.8		-10.1		-25.3	
Profit share	+17.0	+3.4	-8.8	-9.7	-15.6	+4.7
Utilization rate	+10.8	+27.4	+0.5	+1.4	-11.9	-32.1
Capacity/capital	-1.1	-1.1	-1.8	-1.8	+2.1	+2.1

C = corrected for overhead labour costs; U = unadjusted

Source: Weisskopf (1979: Tables 4 and 7)

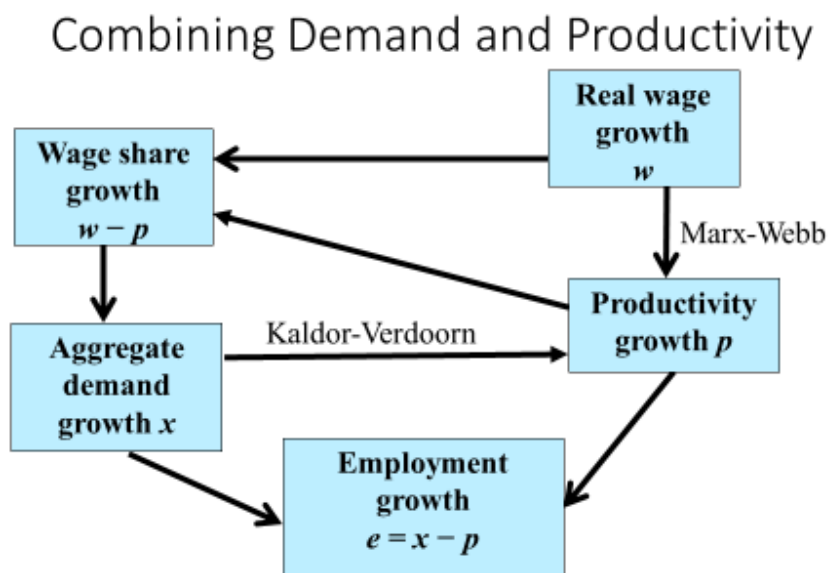


Figure 1