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Has French budgetary policy since the 1970s been truly Keynesian?¹

Sébastien CHARLES,² Thomas DALLERY³ and Jonathan MARIE⁴

Abstract

The article shows that budgetary policy in France since the 1970s cannot be characterized as Keynesian. To prove this, two rules of behaviour compatible with Keynesian teaching are proposed and then compared with changes in budgetary balances and with a battery of stylized facts. The article calls for a fiscal stimulus allowing production capacities to be fully used for the first rule, or the return to full employment for the second. The article also points to potential ways to show that the objective of full employment is not incompatible with the ecological transition and can be more easily reachable with a reduction in work hours.

Key words:

Budgetary policy; Output gap; Keynesianism

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Introduction

This paper seeks to deconstruct an idea that is regularly heard about economic policy in France and more specifically about budgetary policy since the 1970s at least. This widespread idea holds that government deficits and increased public debt are the mechanical consequence of a Keynesian and expansionary budgetary policy that has been branded as ineffective (e.g. Tinel, 2016). This type of policy should therefore be definitively proscribed (Artus, 2017) and especially so in an institutional environment that has been transformed since the 1960s so as to discipline central government (Lemoine, 2016).

Instead of trying to deconstruct this idea by showing that the high level of public debt is the combined outcome of a “snowball effect” of lower taxes and reduced economic activity (CAC, 2014), it appears important to us here to demonstrate that the budgetary policy conducted simply cannot be characterized as Keynesian. It is not Keynesian because it has only very rarely been used with the objective to restore full employment in a counter-cyclical approach. Yet, for Keynes (1936), “The outstanding faults of the economic society in which we live are its failure to provide for full employment and its arbitrary and inequitable distribution of wealth and incomes”. In this paper we concentrate on the first of these faults. We focus on budgetary policies and how it deals with unemployment problems. Obviously, Keynesian’ recommendations on economic policy include monetary policy, exchange rate policy, tax policy or income policy. Therefore, our purpose is to focus on employment - budgetary policy nexus by proposing a fresh reading of French economic policy of recent decades to show what it was and what it ought to have been from a Keynesian perspective.

In order to objectively characterize the budgetary policy conducted as Keynesian or non-Keynesian, we compare and contrast the change in the budget deficit with changes in GDP, in the level of use of production capacities, and in the unemployment rate year after year. We propose two rules inspired by Keynes with which to grasp the changes in public spending and characterize the policy conducted:

- a minimal Keynesian rule: when production capacity is under-used public spending⁵ should be mobilized to support economic activity for a return to a normal rate of use. Using the budgetary multiplier estimates from Charles *et al.* (2017), it is possible to estimate the public-spending effort that would have been necessary to reach this objective.
- a true Keynesian rule: when the unemployment rate exceeds the full employment rate, public spending should be mobilized to support economic activity for a return to full employment. Again it is possible to estimate the budgetary effort that would have been necessary.

Our two rules are compared and contrasted year after year with the changes in government budget balances in France enabling us to identify the Keynesian and non-Keynesian years. Again, we insist on the fact that we qualify as Keynesian a policy that aims at achieving full rate of utilization or full employment. In other words, we do not say that economic policies are Keynesian if we observe full employment or non-Keynesian if we are not at full employment.

In conclusion, we consider that French budgetary policy would have been more effective in the quest to achieve full employment if it really and systematically had espoused Keynesian

⁵ A tax cut might also boost economic activity, but the tax revenue multiplier is weaker than the public spending multiplier.

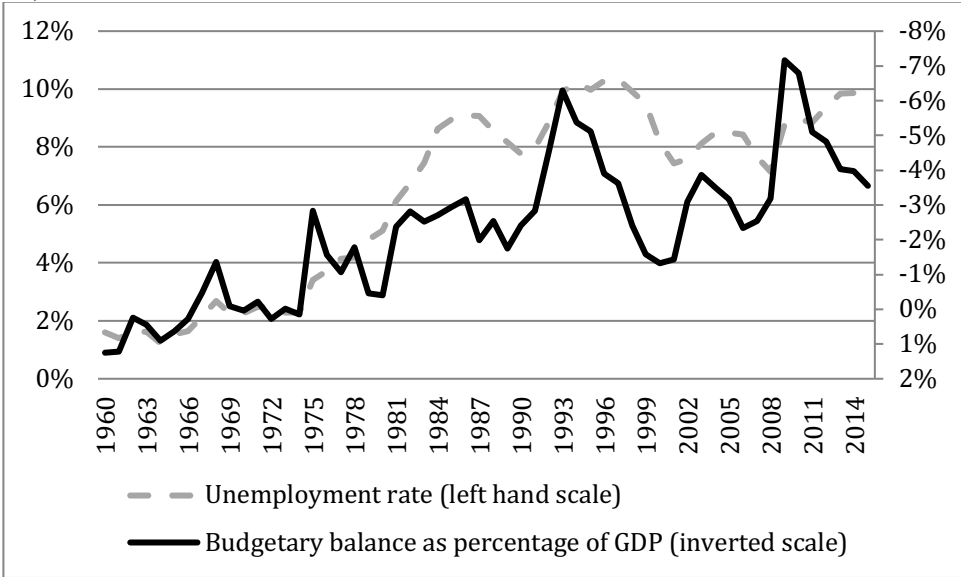
objectives and Keynesian practice. Economic activity would have been more sustained throughout the period.

1. What is a Keynesian stimulus?

A recurring criticism of Keynesian ideas consists in discrediting Keynesian measures in three steps: first by assimilating any budget deficit to a stimulus policy; then by observing that despite recurring government deficits unemployment is still high, which casts serious doubt on the effectiveness of Keynesian measures; and finally, even if the Keynesian stimulus were effective, the high level of government debt would prevent it in practice. This criticism is baseless, though, for three reasons. First, not every deficit is a Keynesian deficit; we assume our normative interpretation of Keynes’ teaching: activity must be supported only when there is underemployment. Next, it should not be concluded that budgetary policy is ineffective on the basis of continuing mass unemployment; basic macroeconomics teaches that the absence of deficits would have brought about a far worse economic situation still. Lastly, despite repeated attempts, it cannot easily be shown that beyond a certain level of public debt there is a slow down in activity (Reinhart and Rogoff, 2010; Herdorn *et al.*, 2014).⁶

In this section we shall leave aside this demonstration of the effectiveness of government deficits, which is now well documented in all the literature on the value of budgetary multipliers (see Charles *et al.*, 2017). Our objective here will be to return to the assimilation of any government deficit to a Keynesian stimulus measure. As a first approach, it would seem logical that the pattern of change in the public budgetary balance should match the pattern of unemployment: when unemployment rises, the deficit rises too. We check this relationship for the period 1960–2015 (Graph 1).

Graph 1: Unemployment rate and budgetary balance as percentage of GDP, France (1960–2015)



Source: The European Commission’s AMECO data base (Series ESA2010-UBLG, *net lending general Government*), calculations and presentation by the present authors.

Note: We could have worked with series ESA2010-UBLGI, indicating the primary deficit, that is, the deficit net of interest on the public debt, but the series is shorter.

⁶ Leão (2013) has even shown that a rise in public spending may paradoxically reduce the public debt to GDP ratio because of the high value of the multipliers.

From 1960 until the early 1980s the two curves follow the same pattern although with three apparent episodes where they are out-of-synch: two periods where the deficit deepens (consequences of May 1968; stimulus under the right-wing Prime Minister Jacques Chirac in 1975) and conversely a marked restoration of the accounts despite rising unemployment (Raymond Barre's austerity measures, especially in 1979–1980).⁷ Over the rest of the period the divergence between the two curves is even starker during three significant episodes: in the early 1980s concern for stabilizing the accounts conflicts with rising unemployment; from 1993 to 1997 the government deficit is reduced despite continuing unemployment; since 2009 the deficit is again reduced although unemployment rises. On the face of it assimilating Keynesianism to a correlation between the level of government deficit and the unemployment level does not point to the persistence of Keynesian policies in France; all too often the government budget balances departed from what the unemployment level called for. However, Keynesianism should not be judged by this relationship alone. We shall progressively attempt to arrive at a definition of the criteria by which to tell whether or not a stimulus policy is Keynesian.

If we begin with the traditional break-down of Gross Domestic Product (GDP), the various components of demand can be written:

$$Y = C + I + G + (X - M)$$

where Y is GDP, C is household final consumption, I investment, G public spending, X exports and M imports.

Assuming simply that the consumption and import functions are increasing functions of income gives us:

$$Y = cY + I + G + (X - mY)$$

$$Y = \frac{1}{1 - c + m}(I + G + X)$$

where c is propensity to consume and m propensity to import.

A formula for the Keynesian multiplier of autonomous spending can quickly be highlighted:

$$k = \frac{\partial Y}{\partial G} = \frac{1}{1 - c + m}$$

where k is the Keynesian multiplier of autonomous demand.

This multiplier concept teaches us that a variation in public spending will have a magnified effect on GDP. What naive critiques of Keynesian theories forget is that the multiplier works both ways: true, an increase in public spending has a leverage effect raising the level of activity, but a reduction in public spending will be like a sledgehammer crushing the level of activity

⁷ This was an astonishing period in terms of the articulation between monetary and budgetary policies. On the one hand budgetary policy was restrictive as from the second half of 1976; first a tax increase was adopted, then a reduction in public spending as from 1977, all for the purpose of limiting the public deficit (see Martin *et al.*, 2011), but the monetary policy, although monetarist in its inspiration (the Banque de France was assigned pre-set growth targets for M2) was ultimately not restrictive (because the growth rates of monetary aggregates were high) and this monetary policy did not prevent real interest rates from staying in negative territory (for details on the monetary policy of the time see Galbraith, 1982). This was the paradox of the time: budgetary austerity imposed by right-wing Prime Minister Raymond Barre articulated with real interest rates that remained negative between 1974 and 1979 and allowed ready financing of the public deficit.

with the same amount of force as could have been used in the first instance to boost the economy.

This reminder gives us to understand that what really matters is not the *level* of public spending but the *variation* in it. The multiplier clarifies the consequences of a variation in public spending, that is, it gives us to understand what happens to GDP when spending rises and then stays at the new level. If the rise in public spending is only temporary, the multiplier will work in the opposite direction when spending “returns to normal”.

In the remainder of the paper we use variations in the government budget balance as a proxy for variations in public spending, meaning we ignore here variations in tax revenue. This does not invalidate our findings because tax revenue tended to fall over the period, which may explain the falls in government budget balance seen in Graph 1 above.⁸

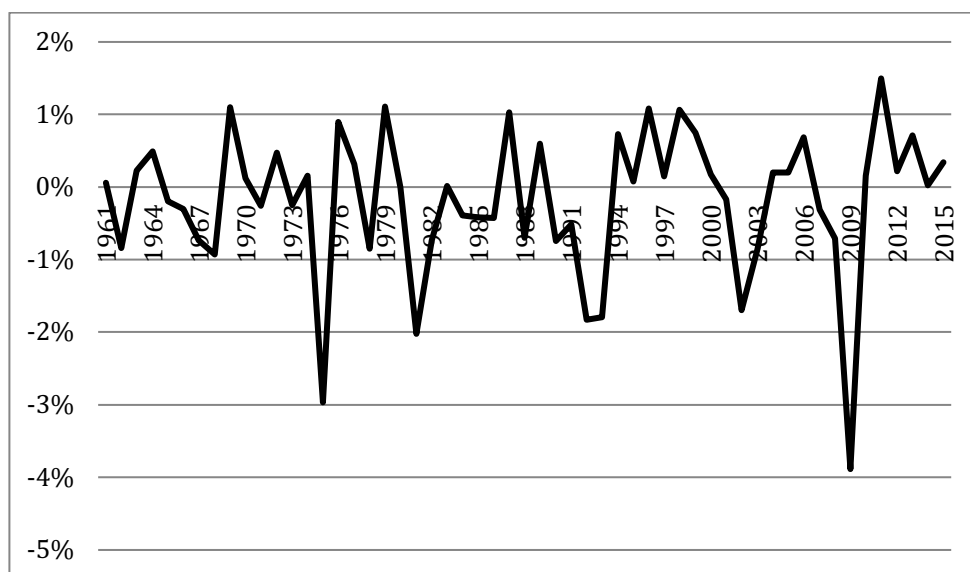
What shall be of concern to us in determining whether a deficit is a stimulus measure is not therefore the level of the government deficit but the variation in it, which indicates the budgetary impetus. It should be remembered that Keynesians are supporters of government deficit only inasmuch as it is a means to a clearly defined end of full employment. There is no need to maintain government deficits if full employment is achieved (Fazzari and Minsky, 1984). Kaldor (1971) calls for complete coordination among the economic policy instruments at the disposal of the authorities; full employment is one of the desirable objectives and he suggests using budgetary policy to achieve it; monetary policy should be used to contain inflation, foreign exchange policy to maintain the balance of payments at equilibrium and an income policy should be introduced to ensure that wages cannot rise faster than productivity on any sustainable basis.⁹ We also could paraphrase Mundell (1962) who claims that one instrument should be used for one purpose and one purpose only. In this paper, we only focus on the unemployment – budgetary policy nexus.

When we look at the level of the French government deficit over the long term, it is easy to understand the short-cut taken by supporters of anti-Keynesian arguments: government deficit has been the rule since 1973 and despite this deepening of the deficit, the unemployment rate rose from 2.3% in 1970 to 9.9% in 2015 (cf. Graph 1). But as just emphasized, the important point in identifying possible Keynesian stimulus measures is not the level of the deficit but the variation in it.

⁸ Further to Jacques Chirac’s denunciation of the budgetary “nest egg” the left-wing Jospin government between 2000 and 2002 undertook to cut taxes by €40 billion, or 2.5 points of GDP. Graph 1 clearly shows a dip in the budgetary balance (which must also be due in part to the economic slowdown from the bursting of the Internet bubble). Another spurt of new reforms in 2006 by the Villepin government (income tax cuts, 60% tax shield, reduction in corporation tax, etc.) docked revenue by €12.4 billion, or 0.7 points of GDP. Once again the deficit deepened, but not because of any economic slowdown.

⁹ Kaldor (1971, p. 3): “If demand management (through fiscal policy) is used to secure the target level of employment, another instrument—which can only be thought of in terms of an incomes policy—is needed to secure the target rate of wage increases; and yet a further instrument—a flexible exchange rate—to secure the target balance of payments.”

Graph 2: Variation in government budget balance as percentage of GDP, France (1961–2015)



Source: European Commission's AMECO data base, calculations and presentation by the present authors.

This graph shows there are indeed some dips from which to identify times when the government deficit rose in connection with a rise in spending (1975, 1981, 1990–1993, 2001–2002, 2008–2009), but it can be observed above all that there were very many years in which the government budget balance improved.

It is important to be aware too that a deepening government deficit is not necessarily synonymous with a Keynesian stimulus. Variations in the budgetary balance take on board the effects of changes in economic circumstances. When growth slows, automatic stabilizers will mechanically lead to a fall in the tax take (because the fiscal base contracts) and a rise in public spending (because a larger proportion of the population will fall below the levels that trigger the payment of welfare benefits). It is entirely possible in the event of a severe economic crisis for the government deficit to worsen without the government having decided to introduce specific measures to support activity. It will be said to be letting the automatic stabilizers come into play. Conversely, in periods of economic recovery, dynamic economic activity will increase fiscal revenue and reduce public spending. The marked falls in the government budget balance in Graph 2 are therefore not necessarily the outcome of intentional Keynesian stimulus policies, just as the peaks in the same graph do not necessarily point to austerity measures by anti-Keynesian governments: these troughs and peaks may be caused by the slowing of economic activity in the first case or by its acceleration in the second.

Apart from the effects of economic circumstances mentioned above, other factors affect the changes in public accounts: to cite but two, variations in monetary conditions and interests rates on public debt, or exceptional measures (nationalizations, privatizations, etc.) taken up in what the national accounting system refers to as *Stocks and Flows Adjustments* (SFA), also produce changes in the pattern of government deficits. So identifying periods of Keynesian stimulus involves closer scrutiny of budgetary impetus. Many studies have sought to identify what they consider to be budgetary “shocks” on samples of countries (e.g. Burriel *et al.*, 2009; Devries *et al.*, 2011; Guajardo *et al.*, 2011; House *et al.*, 2017).¹⁰ Here we confine our analysis to French

¹⁰ Some studies use “narrative” approaches to the analysis of statutes (Romer and Romer, 2010). Others prefer estimations from structural VARs (Blanchard and Perotti, 2002).

stimulus packages. Three can be identified, that of Chirac in 1975, Mauroy (left-wing Prime Minister of President Mitterrand) in 1981–82 and Fillon (right-wing Prime Minister of President Sarkozy) in 2009. Fonteneau and Gubian (1985) claim that the Chirac stimulus amounted to 2.3 points of GDP versus just 1.7 points GDP for the Mauroy stimulus. For the French national audit office, the *Cour des Comptes* (2010), the 2009 stimulus did not exceed 1.1 points of GDP. On the basis of these few points of GDP of budgetary impetus it is difficult to conclude that France has engaged in Keynesian policies continually for 40 years.

Although the dips in Graph 2 are in-synch with the stimulus packages cited above, it is not a suitable method to identify such recovery measures simply by using variations in budgetary balance *ex post facto*. Leão (2013) shows that public accounts can improve further to an expansionary policy because of improved tax revenue made possible by the upturn in activity. Conversely an austerity policy may prove self-destructive, with stringency undermining growth to the extent that the budgetary balance worsens instead of improving: since 2010, the Euro Zone may have been subject at times to this type of dynamic. When it comes down to it, it is no easy task to analyse variations in the government budget balance from the standpoint of government intentions: there is a real distance between the budgetary impetus implemented and the variations in public accounts recorded *ex post*. A whole branch of the literature tries therefore to measure budgetary impulses not by analysing changes in public accounts *ex post* but by way of narrative approaches analysing the texts of the budgetary statutes enacted (e.g. Romer and Romer, 2010; Ramey, 2011). In the remainder of this paper, we no longer seek to identify possible recoveries that might litter our economic history but propose instead a framework indicating what budgetary policies should have been adopted had central government been truly Keynesian.

2. The first rule of budgetary policy: the objective of using production capacities to the full

Although the meticulous examination of public accounts leaves little scope for characterizing French government intervention in the last forty years as Keynesian, a uchronic scenario provides another way of grasping the distance between the exercise of power as actually happened and the policies that should have been implemented if the French government had endorsed a Keynesian strategy. First we propose a rule of economic policy that aims at the full use of production capacities, which would correspond to a minimal Keynesian framework, and we calculate the budgetary balance that would have ensued from such a strategy.

We propose here an estimation of the output gap that could serve as a target for the government. We shall not go into any discussion of the techniques for measuring the output gap used by the big international institutions.¹¹ Our estimate of the output gap will rely on an extremely small number of assumptions and a wholly transparent method. The traditional output gap used by economists is the difference between potential and actual GDP. What might be likened to the New Keynesians' potential GDP is obtained here from the French national statistics office (Insee) data series on the rate of use of production capacities. Schematically, a rate of use may be given by the ratio:

¹¹ Notice incidentally our estimation corresponds to one of the four techniques currently used for estimating the New-Keynesian output gap (cf. OBR, 2017, p. 36).

$$u_e = \frac{Y_e}{Y_{FC}}$$

where u_e is the actual rate of use of production capacities, Y_e the actual GDP level, and Y_{FC} the GDP level that would be achieved if the firms operated at 100% output capacity.

Insee records allow us to go back to 1960 for data on the rate of use of manufacturing industry. The actual rate of use of firms' output capacities informs us as to the intensity of demand compared with the production capacities in place. But since we know the actual levels of GDP for the different years and we also know the rates of use, we can deduce the value of full GDP capacity:

$$Y_{FC} = \frac{Y_e}{u_e}$$

However, the full capacity GDP rates are not a target. Post-Keynesian economists have always emphasized that firms go for a **normal** use of their output capacities such that:

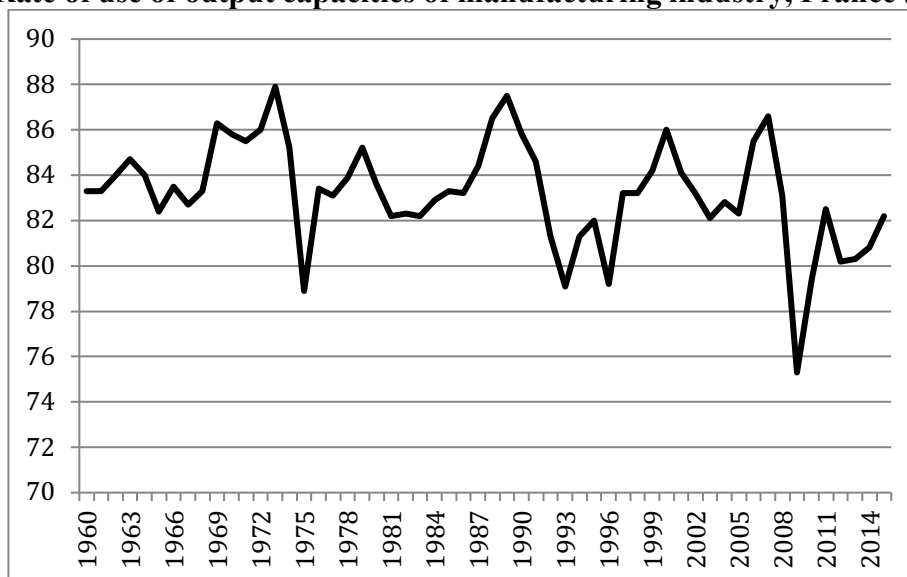
$$u_n = \frac{Y_n}{Y_{FC}}$$

where u_n is the "normal" (or target) rate of use of output capacities, Y_n the "normal" GDP level in the sense that it corresponds to the output level attained when firms work at their target rate.

The objective of firms is not to use their output capacities to the full. They prefer to keep back spare capacity for several reasons (see Lavoie, 2014): this reserve capacity limits the wear-and-tear of equipment that would result from flat-out use and so is reportedly economically preferable; firms also wish to have spare output capacity to cope with any unexpected rise in demand; spare production capacity can also dissuade new competitors from entering the market.

Empirically, as for example suggested by Lavoie *et al.* (2004) or Skott (2012), we evaluate these normal rates of use of production capacity as the mean rate of use for the entire period 1960–2015 for French manufacturing firms. This level stands at 83.2% on average despite large fluctuations with economic circumstances.

Graph 3: Rate of use of output capacities of manufacturing industry, France (1960–2015)



Source: Insee, presentation by present authors.

By determining a normal rate of use of firms' output capacities we can calculate a "normal" GDP for each year, that is, the level of GDP that would enable firms to operate at exactly the level of use of output capacity that suits them.

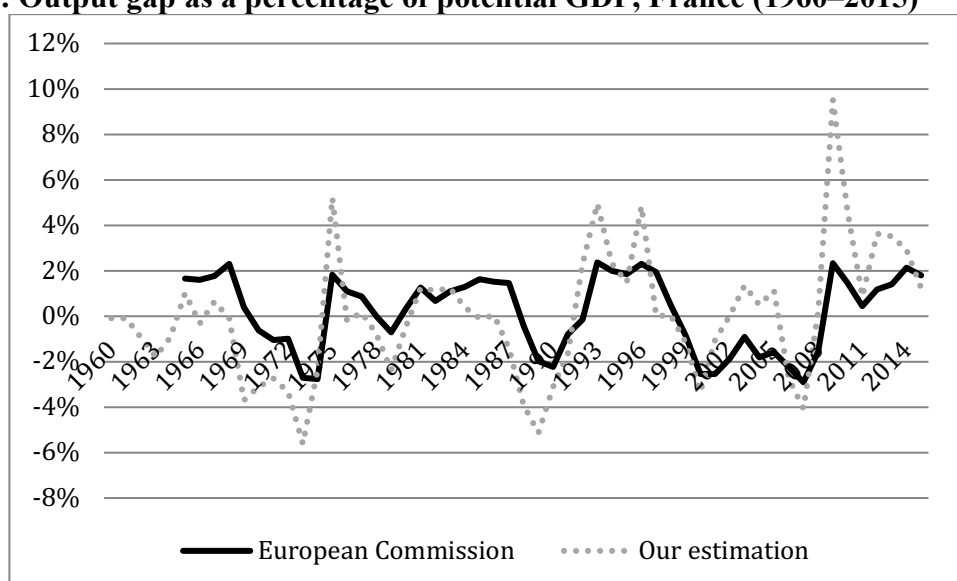
$$Y_n = \frac{Y_e}{u_e} u_n$$

The final stage is to define a production gap, which is in the end close to the New-Keynesian output gap:

$$OG_{NK} = (Y_n - Y_e) = Y_e \left(\frac{u_n - u_e}{u_e} \right)$$

When the output gap is positive the economic circumstances are sluggish compared with the state of output capacity. Conversely when the output gap is negative the economy is overheating with respect to existing production capacities. Our very simple definition of the output gap produces similar results to the European Commission's measuring rod.¹²

Graph 4: Output gap as a percentage of potential GDP, France (1960–2015)



Source: European Commission's AMECO data base, calculations and presentation by the present authors.

Our output gap can pick out the major economic crises in recent history: the peaks of 1975, the early 1990s, the early 2000s and 2009 clearly mark the main phases of economic slowdown in France in recent decades. These episodes of slowed growth are also the times when the authorities must step in ... if they wish to maintain the level of output close to its potential. The output gap indicates the increase in production that can be achieved before coming up against the limit for the normal use of output capacity. For example, for 2009, we estimate an output

¹² There are slight differences between the two indicators, ours being less stable than the European Commission's. One reason for this is that our indicator is constructed from rates of use of output capacity of manufacturing firms, which are more heavily impacted by variations in economic circumstances than GDP (which also includes non-market services output).

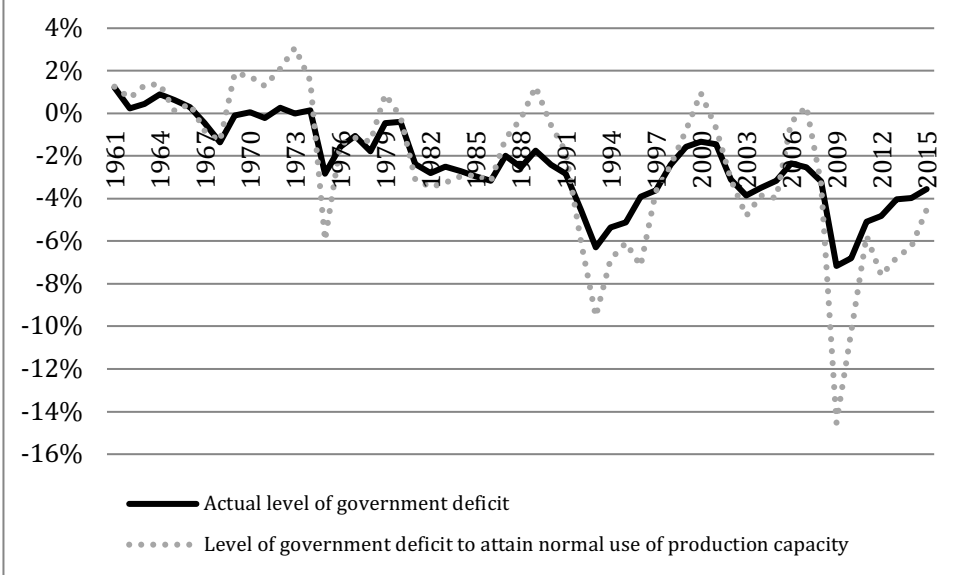
gap of 9.5% with normal GDP. This means that firms were operating well below their target in terms of output capacities; it would take a 9.5% increase in GDP to bring firms to operate at the desired level of their output capacities.

How can such a stimulus be found? When confronted with sluggish demand it is central government that can kick-start the economy by increasing its public deficit. Given the impact of public spending on GDP, we can measure the effort required for the government to close the output gap. The Keynesian multiplier gives us the effect of €1 of public spending on GDP. But since here we are looking for how many euros of public spending are needed to equate to 9.5% of normal GDP, we can determine the scale of the necessary stimulus as below:

$$\Delta G_{NK}^{necessary} = \frac{(Y_n - Y_e)}{k}$$

Of course, Keynesian multiplier estimates have to be used and for each year. Charles *et al.* (2018) produce such estimates which we use again here. By this method we can show the level of public deficit the government should have run if it was trying to target a zero output gap.¹³

Graph 5: Budgetary balance as a percentage of GDP, France (1961–2015)



Source: European Commission’s AMECO data base, calculations and presentation by the present authors.

Although the patterns of the actual and uchronic deficits are similar, they still diverge sufficiently to show that successive governments were not concerned with achieving a zero output gap. When the dotted grey line is below the solid black line, the government in office failed to support the economy enough with a budgetary stimulus, thereby entailing under-use

¹³ We present graphs showing the *level* of public deficit required whereas we calculate *variations* in the deficit required. Our graphs merely add to the actual level of the deficit observed the required variation in public spending which we calculate and which entails an increase in the deficit. It should further be specified that we omit from our calculations partial self-financing of recovery that arises from the stimulus to activity: the increase in public spending leads to increased activity, which increases tax revenues. In actual fact, the public deficit presented above would not be deepened as much as we show. For example, for 2009, the rise in spending needed to close the output gap is 7.4 points GDP, which is reflected by a simulated deficit of 14.5% versus “only” 7.2% in actual fact. But this simulated rise in spending would entail a rise in activity of 10.5 points of GDP, so that by applying the fiscal pressure of 2008, the rise in tax revenues of 6.1% of GDP would self-finance more than two-thirds of the initial recovery effort, with the deficit only rising in the end by 2.1 points of GDP to stand at 9.3%.

of production capacities. This situation arose in the 1975 crisis and above all it has been a continuous pattern since 2008. Successive governments, out of fear of deficits, have produced an insufficient budgetary impetus to close the output gap¹⁴. We are in the paradoxical situation described by Leão (2013): a weak budgetary impetus entails a low level of activity, which in turn sustains the deficit and prevents a reduction in the debt ratio.

When the dotted grey line is above the solid black line the government deficit was larger than needed to attain normal use of output capacities. This does not necessarily imply that the economic situation is characterized by a surge in demand. Over-use of production capacity may be the result of having insufficient production capacity available rather than of buoyant demand. The 1980s reflected this pattern: lack of investment in the preceding years meant production capacity had not been renewed and so strain on the rate of use of production capacity soon arose, even in the absence of any surge in demand. This last example reveals the bias of this strategy of output gap reduction for a would-be Keynesian government: Why seek to narrow the output gap when a zero output gap may perfectly well coincide with a substantial rate of unemployment? The normal use of production capacity is no guarantee of full employment. Yet it is this latter objective that should guide any truly Keynesian government.

3. The second rule of budgetary policy: the pursuit of full employment

Keynes' (1936) principle of effective demand already stated that a situation corresponding to equilibrium from the viewpoint of firms alone could perfectly well go along with massive underemployment of the workforce: firms have seen their expectations of demand, whether good or bad, fulfilled and have no reason to alter their production and/or investment decisions. Yet workers may well find themselves without jobs and with no means of reversing their situation.¹⁵ Here we shall propose a new economic policy rule, then, for any government claiming to be truly Keynesian, in short a post-Keynesian rule: public administrations ought to increase their public deficit until full employment is achieved¹⁶. Again we propose to represent the government deficits that would ensue for the whole of the period.

But first we have to clarify what we mean by full employment. It is contentious to define it purely mathematically by taking a zero unemployment rate as the reference point. Friction on the labour market means a small proportion of the population will be out of work either when between jobs or on finishing their education. This temporary unemployment would seem to be the only acceptable unemployment for a truly Keynesian government. In concrete terms we propose to define this incompressible unemployment at a rate of 5% of the working

¹⁴ So, the Chirac stimulus package of 1975 often qualified as Keynesian, was insufficient to close the output gap.

¹⁵ Including by accepting a cut in nominal wages: this would merely lead to a fall in demand and so in the general level of prices such that real wages and hiring decisions would be unaltered. For New Keynesians, pretending that unemployment is due to price and wage rigidity, while laying claim to Keynes' legacy, is a sham, Keynes himself having said that this avenue of enquiry was a dead-end in chapter 19 of his *General Theory*. Keynes (1939, pp. 42-3) added that real wages are generally constant in the short term or their short-term fluctuations could not explain the level of activity whose fluctuations are greater; it is the reverse relationship that is observed (the level of activity determines real wages, but not in the short term).

¹⁶ Of course, Keynesianism may produce its own headwind effects, both on the economic and political aspects (Kalecki, 1943). As growth goes on, high employment could lead to an increase in wages, then possibly in the wage share, if nominal wages increases are higher than price increases minus productivity changes. As noticed by Marglin and Bhaduri (1990), at the end of the 1970s the real wage increases overcome increases in productivity. This effect led to a "profit squeeze" which encouraged firms to engage an "investor strike" thus contributing to the recession of the 1980s. The increase in unemployment that followed help firms to restore their profit margins. In the French case, these changes in the distribution are analyzed in Husson (2013, p. 892).

population.¹⁷ We can infer from this the “acceptable” number of unemployed corresponding to full employment:

$$UR_{fe} = \frac{U_{fe}}{AP_e} = 5\% \Leftrightarrow U_{fe} = 0,05AP_e \Leftrightarrow N_{fe} = 0,95AP_e$$

where UR_{fe} is the unemployment rate at full employment, U_{fe} the number of unemployed at full employment, AP_e the size of the working population, and N_{fe} the number of people in work at full employment.

The gap between the target number of unemployed (or unemployment rate at full employment) and the actual number of unemployed is the gap to be closed by public intervention. The reduction sought in the unemployment rate by the authorities may be reflected simply by a number of jobs to be created: assuming the activity rate will remain constant in the year in question, 1 less unemployed person means 1 more job. Assuming productivity per job remains constant¹⁸, the extra jobs created determine a rise in GDP that would ensue from the hiring of these additional workers:

$$\Delta N_{PK}^{necessary} = \frac{(N_{fe} - N_e)}{N_e} \Leftrightarrow \Delta Y_{PK}^{necessary} = (\Delta N_{PK}^{necessary}) \frac{Y_e}{N_e}$$

where $\Delta N_{PK}^{necessary}$ is the rise in employment required to attain the employment level at full employment (N_{fe}), N_e the actual number of people in employment, and $\Delta Y_{PK}^{necessary}$ the rise in GDP required to attain full employment.

The final stage is to use the Keynesian multiplier of autonomous demand to determine the size of the increase in public spending to bring about this targeted rise in GDP.

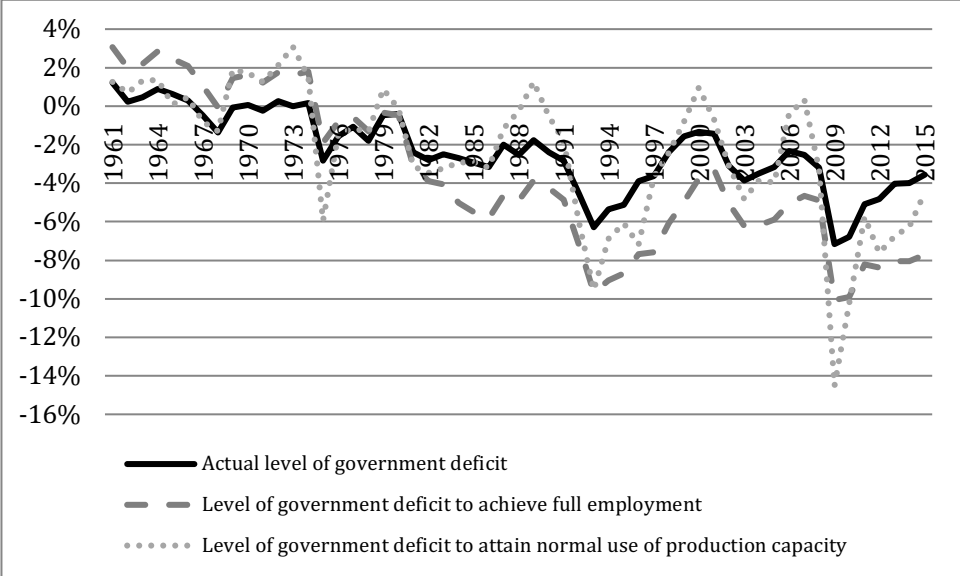
$$\Delta G_{PK}^{necessary} = \frac{\Delta Y_{PK}^{necessary}}{k}$$

We calculate then for the whole period the government deficit levels that would have made it possible to achieve full employment for each year.

¹⁷ We admit this figure is arbitrarily defined, but this level of 5% is often encountered in the literature; for the French case, see for example CAE (2000) or Heyer and Timbeau (2002). In 1971, Kaldor takes the British government of the day’s 3% target as an acceptable figure; Okun (1962) proposes a level of full employment as an unemployment rate of 4%. In a sense, our figure of 5% can be thought high. But establishing a precise definition of what is full employment is a highly difficult task since it eludes the question of job quality and non full-time job. Nowadays, unfortunately, most economists have given up the concept of the full employment unemployment rate. They prefer to rely on estimations for natural rate of unemployment in line with New Keynesian framework, where the natural rate of unemployment changes overtime; this is not the case in our post-Keynesian framework.

¹⁸ We assume a constant productivity to conserve our approach as simple as possible: if we had to include productivity gains or losses with more complex interactions between growth and productivity we would be obliged to build a complex formal macroeconomic model. Links between growth and productivity are hard to model in particular due to Kaldor-Verdoorn effects and rigidities on labour market.

Graph 6: Budgetary balance as percentage of GDP, France (1960–2015)



Source: European Commission’s AMECO data base, calculations and presentation by the present authors.

Unsurprisingly the level of government deficit that allows full employment of the workforce (dashed dark grey line) is higher than the level of government deficit required to allow normal use of production capacities (dotted light grey line). Two exceptions are worth noting, though: the first is related to the fact that until the 1970s the actual unemployment rate was below what we define as the full employment rate (5%), which tends to indicate our post-Keynesian rule is more restrictive than the New-Keynesian rule. The second exception concerns the 2008 crisis when the government deficit enabling normal use of capacities exceeded that for attaining full employment, the reason being that the use of production capacity fell more steeply than the employment level, with firms also adjusting by lowering their level of productivity (by mechanisms of partial unemployment and/or inability to adjust the employment level to keep pace with the change in the level of demand).¹⁹

It is worth making another remark here about the periods when the dotted light grey line is above the solid black line. These periods (early 1970s, late 1980s, late 1990s) were characterized by a government budget balance that turned out to be excessively expansionary if we are to believe the minimalist Keynesian rule.²⁰ With firms operating beyond the normal use of their production capacities, budgetary policy should not stimulate demand because firms will be unable to respond favourably and the stimulus may end up in the short term in imports and/or inflationary tension ... unless firms accept to operate beyond their short-term targeted rate, subsequently increasing their investment effort so as to meet what they judge to be a permanent increase. In which case the budgetary effort to be made by the government to attain full employment would be lower, as firms too would take on the task of stimulating demand through their investment spending. Even if firms should not judge the rise in demand permanent enough to warrant a rise in their investment spending, these particular circumstances in which the normal rate of use of production capacity and full employment come into conflict should not be an incentive for the authorities to give up on the Keynesian objective of full employment. It is simply that this will no longer necessarily be achieved by expansionary budgetary policies but rather by other types of policy such as shorter working hours. Our two budgetary policy

¹⁹ Variations in demand will always be more fluid than variations in employment, *pace* those who are always looking for an ever more liberal labour market.
²⁰ These are also the times when Keynesianism came in for most criticism.

rules (normal use of capacity and full employment) should therefore be read together, emphasizing the need for more complex economic policies than the simple budget lever.

Obviously it could be objected that the post-Keynesian strategy for a return to full employment requires a substantial accumulation of government deficit. It could also be argued that we are promoting a logic based on growth, which is incompatible with the requirements of the ecological transition. We propose some answers to these criticisms in the final section.

4. What form of Keynesianism for tomorrow?

The size of public deficits required to attain full employment may scare those who think governments should be thrifty and/or those who take the ecological transition seriously. Here we propose two economic policies each of which responds in its own way to these reservations: an ecological stimulus plan and a scheme for shorter working hours.

Given the current economic circumstances many international institutions accept the need for a plan to boost demand. Many are concerned about preparing the long term by means of the ecological transition. Beyond all the cant and waffle, an ecological stimulus plan would have a double advantage for the French government seeking to bring about full employment: for one thing, the energy transition would reduce dependence on imported gas and petroleum, which would raise the multiplier value by loosening the traditional external constraint and so strengthen the impact of public action; for another thing, the relocation of activities would make it possible to support activity to create employment while limiting environmental nuisances. Such an ecological plan could favour more labour intensive techniques of production, in particular in agriculture. This issue was already raised by Kalecki (1967) who evokes emerging countries with large labour reserves. In the same vein, Gadrey (2008) underlines that a 'green revolution' could reverse the historic decline in agricultural employment. The author estimates such a revolution could create in France 150.000 jobs.

This policy, admittedly, requires an increase in the budget deficit.²¹ This downturn in public finances does not make the public debt unsustainable for all that, provided it is supported by an accommodating monetary policy. This could take the form of a Central Bank acting as lender of last resort or of the reintroduction of various mechanisms such as the treasury circuit or the floor bonds system (Lemoine, 2016). Let us add too that the bolstering of growth by the ecological transition involves no risk of dangerously upsetting our foreign trade balance. For example, if the government had decided on a stimulus plan for employment and ecological transition in 2012, a budgetary impetus of 3.6 points of GDP would have generated, taking the multiplier value for 2011, a rise of 4.8 points of GDP, enough to attain full employment. This increase in activity would admittedly have entailed a rise in imports of 1.4 points of GDP, forcing the foreign trade deficit to 2.7% of GDP instead of the 1.3% actually observed. But these estimates are a worst-case scenario: for one thing, we have ignored the partial self-financing of the stimulus (2.5 points GDP), which would limit the government deficit; for another we have not included the increased effectiveness of the stimulus made possible by the ecological transition (which would enhance the multiplier value) nor have we included when calculating the foreign trade balance the fall in the propensity to import to be expected of a real ecological transition.

For denigrators of public debt, another strategy for achieving (or maintaining) full employment, without deepening deficits, would be to begin a policy to shorten working

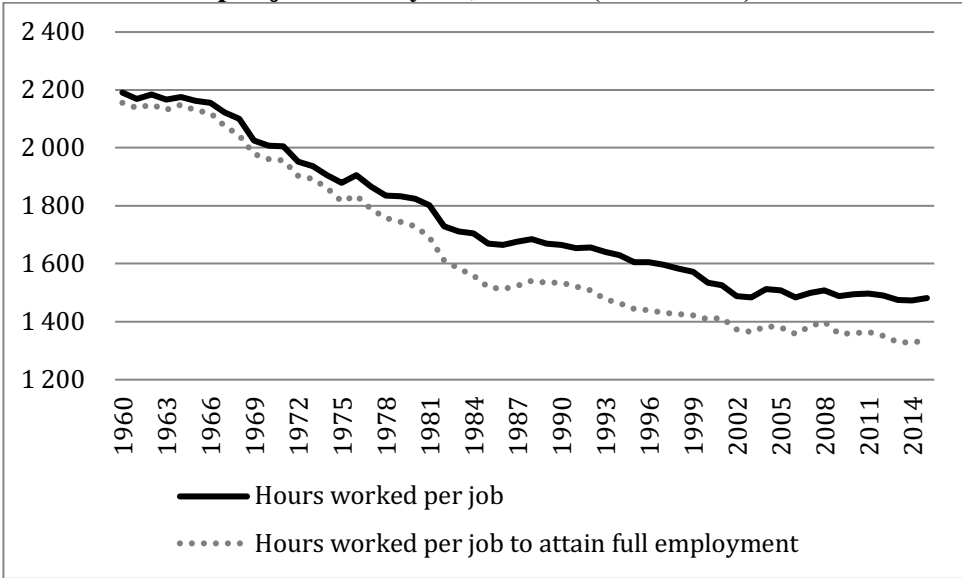
²¹ Unless the authorities decide on determined action against tax exiles.

hours as explained by Keynes in 1945 (pp. 383-4): “the full employment policy by means of investment is only one particular application of an intellectual theorem. You can produce the result just as well by consuming more or working less. Personally I regard investment policy as first aid. In U.S. it almost certainly will do not the trick. Less work is the ultimate solution (a 35 hour week in U.S. would do the trick now). How you mix up the three ingredients of a cure is a matter of taste and experience, i.e. of morals and knowledge”.²²

In France, the introduction of the 35-hour week coincided with unprecedented job creation including if we allow for the internationally favourable context of the time (see Husson, 2013). Even if it is seldom pointed out, shorter working hours are a decidedly Keynesian policy. Keynes (1978) wrote that for the economic future of his grandchildren “three-hour shifts or a fifteen-hour week” could ensure jobs for all while providing the goods and services the community needs. But it can legitimately be asked how much of a reduction in working hours would take us closer to the shores of full employment.

OECD statistics provide useful landmarks for some rapid calculations. The number of hours worked per job since 1950 can be found. Given the number of jobs in the economy, it is possible to deduce the number of hours worked in the year (hours worked times number of jobs). Since, in the previous section, we have determined the level of GDP that would ensure full employment (assuming constant productivity per job) we can easily calculate the reduction in working time per job needed for employment to be equally shared among all workers. For example, for 2014, our statistics indicate that 1473 hours were worked on average per job. Given the level of unemployment observed, this figure would have to be 1328 to ensure full employment (figure arrived at by the ratio of hours worked in the entire economy to working population for the year 2014).²³ Repeating this calculation for the whole of the period 1960–2015 gives the following changes:

Graph 7: Hours worked per job in the year, France (1960–2015)



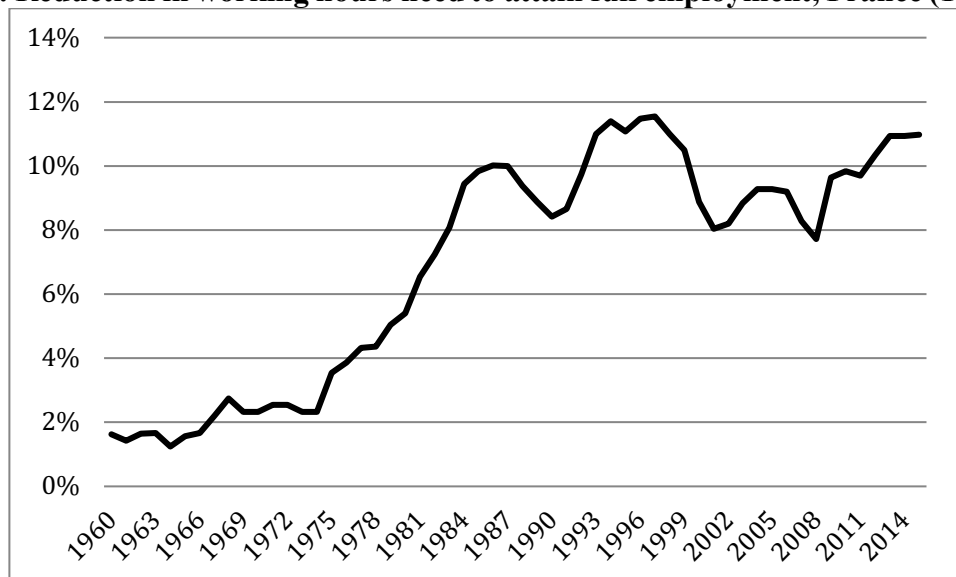
²² We thank one of our referees for providing us this reference.

²³ Here we make our estimates with a target unemployment rate of zero. We have abandoned our 5% target used before to emphasize how great an effect a small reduction in working hours can have on the unemployment level. If we rework our calculations with full employment that tolerates 5% unemployment, at the end of the period (2014 and 2015), a 5.4% cut in working hours brings us to this level of unemployment. It means that the average working week would have to be 35.3 hours.

Source: OECD data base, calculations and presentation by the present authors.

This graph calls for some remarks: first there is a constant fall in the number of hours worked per job; second it seems that the path separating us from full employment (the distance between the two curves) looks quite short. For a better idea still, another measure can be proposed: the rate of variation of the number of hours worked per job needed to attain full employment.

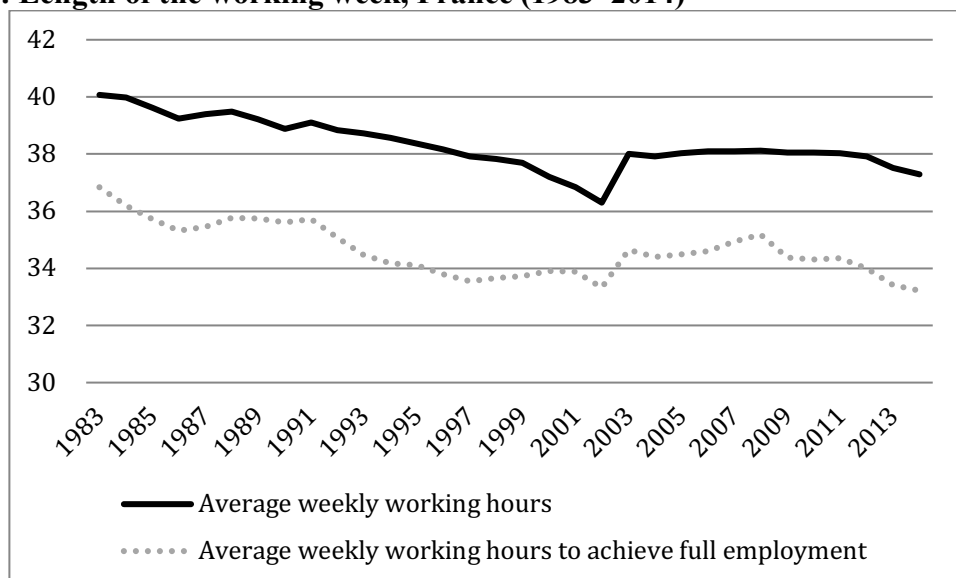
Graph 8: Reduction in working hours need to attain full employment, France (1960–2015)



Source: OECD data base, calculations and presentation by the present authors.

Obviously by construction this curve resembles that for the change in the unemployment rate in France. It shows the scale of the reduction in working hours to be made to achieve full employment based on simple assumptions. A final measure of the phenomenon will flesh out these figures: by using OECD statistic on the length of the working week per job, we have a better idea of what this perspective of shorter working hours has in store, even if the availability of data reduces the extent of our calculations historically.

Graph 9: Length of the working week, France (1983–2014)



Source: OECD data base, calculations and presentation by the present authors.

This graph brings out several important points: the average length of the working week exceeds the statutory 35 hours (overtime); the decade 2000–2010 saw a reversal in the downward trend of the weekly working hours; the working week to attain full employment approaches 32 hours at the end of the period. Ultimately the shorter working week is a particularly valuable solution for achieving or maintaining full employment. Confronted with an anaemic economic situation that some refer to as secular stagnation (Summers, 2016), it would be possible to create jobs without growth by returning to what is also a secular logic of shorter working hours. Long term the continued reduction in work time would be a way to maintain full employment despite productivity gains. In this Keynesianism is perfectly compatible with the requirements of the ecological transition since growth is not necessary to maintain full employment.

Conclusion

We have endeavoured to show that France’s budgetary policy of recent decades cannot be characterized as Keynesian. To arrive at this conclusion, we have compared and contrasted the actual changes in government budget balances with two uchronic scenarios: one in which the government tries each year to use the budget as an arm to allow the normal use of production capacities; another in which budgetary policy stimulates economic activity until full employment is attained. By superimposing the plots, it is possible to see the distance separating budgetary policy from a truly Keynesian strategy: government budget balances should have been deeper if the objective had been full employment. Obviously our scenario can also emphasize the importance of periods when budgetary policy alone was not enough to achieve full employment (early 1970s, late 1980s, late 1990s). In circumstances in which firms make normal use of their production capacities, the extra demand generated by a budgetary stimulus policy may stimulate imports and/or inflation if the rise in demand is not perceived as sustainable and does not impel firms to invest more to try to limit their overuse of their production capacities. We therefore propose implementing shorter working hours in order to achieve full employment despite the strains on the use of production capacities.

In beginning this article we recalled that for Keynes (1936), “The outstanding faults of the economic society in which we live are its failure to provide for full employment and its arbitrary and inequitable distribution of wealth and incomes”. Here we have sought above all to combat one of these two faults – unemployment. By mobilizing the budgetary policy as recommended by Kaldor (1971) and as a possible supplement a policy of shorter working hours, we outline the way forward to achieve full employment. But there are other ways of getting to full employment. In particular a policy to combat inequalities would kill two birds with one stone: first it would attack the second fault with capitalism identified by Keynes; and second the reduction of inequalities would organize a redistribution conducive to economic activity through the interplay of propensities to spend. In the article, we simulated the effects of shortened hours on unemployment with a constant wage per hour. But in a wage-led economy, a reduction in working time could be more effective if it is combined with an increase in the hourly wage. The aggregate demand will strengthen the positive effects on employment of work sharing. But as previously mentioned, analysing effects of distributive policy on activity and on unemployment is beyond the scope of this paper.

True Keynesianism is not limited to budgetary policy but, for our present concern, it cannot be claimed that French budgetary policy in recent decades has been consistently Keynesian. This was the simple point we set out to prove.

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