

## Full Employment as a Possible Objective for EU Policy II. Review of Some Empirical aspects

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**Summary:** A contribution appeared in the previous issue of *Panoeconomicus* reviewed the theoretical arguments brought by Alain Parguez and Jean Gabriel Blik in support of their idea of assigning a full employment objective to European economic policies and their coordination (Blik and Parguez (2007) and Parguez (2007b)). Without pretending at exhaustiveness, this contribution reviews and partly extends the empirical evidence they presented in support of their argument with reference to selected macroeconomic developments in several countries and different historical periods, in particular for the US, Canada, Japan and the EU. It confirms the descriptive power of the circuit and its relevance for the discussion of alternative economic policies, in particular in the field of employment. Together with the previous article, it shows that the circuit can be used to update economic policy thinking, nourishing also the necessary democratic debate amongst policy alternatives.

**Key words:** Unemployment, Capacity utilisation, Circuit, Long-term interest rates, Disequilibrium

**JEL:** D5, E12, H5, H6, E4

### Introduction and background

A previous contribution showed that using the theoretical approach of the monetary circuit as typical of “out of equilibrium” economic theories it is possible to discuss and propose active economic policy measures in the pursuit of objectives of social interest, such as full employment. It is thus natural to look for confirmations of the empirical validity of this approach. Two obvious tests for the theory of the circuit concern the pricing behaviour and the causality between in-

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vestment and savings, which have been discussed in the previous contribution. The test on prices can be carried out with reference to a variant of the mark-up identity, which describes the pricing behaviour of the main social groups involved in the process of money creation and destruction: Government, banks, firms, households and the foreign sector. Investment-savings relationships can be tested through Kalecki's identity and the hierarchy it introduces between the same social groups, in a context where investment drives savings. Some general empirical evidence concerning these two identities is examined below in sections 2 and 3. The same identities are also used by Blik and Parguez (2007) as a tool for interpreting a wide range of economic facts of the recent evolution of the US, Canada, Japan and the EU. Their arguments are discussed and partly extended in sections 4 to 8 below.

## 1. Empirical support for the mark-up identity

Like post-Keynesian and Sraffian approaches, the circuit analysis of inflation integrates mark-up pricing based on the "full-cost principle" (Graziani, 2003 p. 100-105). This type of pricing behaviour has been subject to extensive studies and econometric testing starting from the seminal work of Hall and Hitch (1939) and Kahn (1952), further developed in the post-Keynesian literature by Weintraub (1959 and 1979), Eichner (1973) and Sylos Labini (1961, 1967, 1979, 1991), who used it to test its Sraffian approach to oligopoly theory. It was also applied in a spirit closer to the neo-classical synthesis in the celebrated paper of Eckstein and Fromm (1968). Explicit or implicit variants of mark—up pricing also form the basis for the specification of the inflation-wage dynamics of most large macro-econometric models (see for instance Artus, Deleau, and Malgrange (1986, pp. 91-95)).

To fix ideas, it is useful to remind the version of mark-up equation used by Parguez (2007b), which is:

$$p = \frac{w}{\alpha}(1 + r^*)(1 + \lambda) + \sigma$$

where:

- p are average domestic production prices
- w is the average wage
- $\alpha$  is the average productivity of labour
- w/ $\alpha$  are unit labour costs
- $r^*$  is the target rate of corporate profits
- $\lambda$  is a measure of interest costs and/or banks' margins
- $\sigma$  is the unit cost of "producer disequilibrium", i.e. the unit cost increase associated with a less than full use of capacity utilisation, which can be seen as a measure of the distance from minimum long-run average costs.

With reference to the Canadian economy, Seccareccia (1984) tested several “circuit” variants of the mark-up equation for the period 1957-81, including a possible role for investment in the determination of prices. He took as dependent variable the change in the consumer price index and tested the role of investment through explanatory variables such as the ratio between employment in investment and consumption goods industries, in a “neo-wicksellian” framework that inspired also the theoretical contribution of Parguez (1991). Other explanatory variables included the usual indicators of unit costs, in particular unit labour costs. Seccareccia concluded (pp. 208-9) that “*inflation comes to reflect the cyclical divergences between the flows of investment and savings*”, which “... *in a monetary production economy ... are themselves financed primarily by an endogenous flow of savings*”.

Besides confirming indirectly the circuit, his results also question the stability of the mark-up over time, generally assumed as given in earlier studies. Another empirical complication stems from the divergence between the sign to be expected for the variable of capacity utilisation, sometimes retained as an indicator of “demand pressure”, and having thus an expected positive sign on inflation, and sometimes retained as a supply disequilibrium cost, which implies a negative relation to prices. However, these specific and rather technical points do not undermine the general result that cost-plus pricing behaviour is generally acknowledged to prevail for all sectors of the economy, with the exception of agriculture and raw materials. In these two sectors prices are believed to be mainly influenced by the traditional forces of demand and supply, but speculative movements, that can also bring them far out from the walrasian equilibrium, are poorly understood.

In conclusion, despite debates remain open on some technical questions, it can be retained that in general prices diverge from unit costs in modern industrial economies, i.e. non-walrasian pricing prevails. Together with the dynamics of capital accumulation, this is the main reason why the studies on the long-run properties of large macro-econometric models conclude that the long-term is non-walrasian.<sup>1</sup>

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<sup>1</sup> These studies look at the internal dynamics of models taken as representative of actual economies, at least at the level of the interrelationships existing between observable variables: “... It is clear that the long run of macroeconometric models is not walrasian: it would be advantageous for firms to produce more and for consumers to work more at equilibrium prices; this is blocked by the monopolistic behavior of the agents”. Deleau, Le Van and Malgrange (1991).

## 2. Some empirical tests of Kalecki's identity

Concerning the causality between investment and savings, direct econometric testing started later than that on the price mark-up and presents more difficulties as savings and investment are measured together statistically.<sup>2</sup>

It is reminded that Kalecki's identity can be written:

$$\underbrace{S_e - \bar{I}_e}_{\substack{\text{Enterprises} \\ \text{profits}}} + \underbrace{S_f - \bar{I}_f}_{\substack{\text{BoP current} \\ \text{account surplus}}} \leftarrow \underbrace{\bar{I}_g - S_g}_{\substack{\text{Government} \\ \text{deficit}}} + \underbrace{\bar{I}_h - S_h}_{\substack{\text{Households} \\ \text{financing need}}} - \underbrace{S_b - \bar{I}_b}_{\substack{\text{Banks} \\ \text{profits}}}$$

where S represents saving and  $\bar{I}$  investment. The logic of the circuit implies that investment has a causal effect on savings and there is a hierarchy between the institutional sectors, by which Government, households and banks decisions interact in determining profits, with an indeterminate role for the external sector that could either be causal or caused, depending on the exchange rate regime and the size of country.

Given the difficulties, the causality between investment and savings is sometimes tested indirectly, either in cross-sections of countries and regions, where it is examined jointly with the hypothesis of international capital or regional mobility, or by testing its implications such as the hypothesis of twin deficits or that of the crowding out. Eisner (1995) showed for instance that for the US higher budget deficits generate higher private domestic savings independently from the foreign constraint<sup>3</sup>. Llorca (2005) concluded that the neo-classical case for the crowding out can hold only in two cases: when there is a strong elasticity of private investment to the interest rate or when there is full employment. The empirical evidence does not support strongly any of them.

Developed as a test of the hypothesis of the international mobility of capital, the huge literature on the "Feldstein-Horioka puzzle" can also be interpreted as an indirect validation of the Kaleckian reading of the investment-saving identity. Since in general savings appear to be well correlated with investment in cross-country regressions, this could simply mean that it is indeed determined by investment. For instance, Blecker (1995) concludes his review of the Feldstein-Horioka puzzle by arguing that his analysis "*undermines the case for generalized pro-saving policies as a panacea for accelerating economic growth. Particularly, efforts to reduce budget deficits or to increase personal saving rate would seem to have small or negligible effects on business investment*" (p. 223). This empirical result is obtained with reference to a theoretical

<sup>2</sup> See for instance Moore (2006). Ch. 7 (pp. 156-173) is indeed entitled "Saving is the accounting record of investment".

<sup>3</sup> In particular Chap. 5, "Sense and non sense about the budget deficit", pp. 89-119.

model that remains half way through between mainstream approaches and post-Keynesian ones, as it gives no role to effective demand in the long-term. On this point Marglin (1995) commented that: *“The New-Keynesians, like the neo-classical synthetizers before them, gave up the real fight when they conceded the long-run to the other side, reducing Keynes to a search for reasons why the classical – be it Neo or New- verities do not hold all the time, in the short period as well as in the long. ... as long as we concede the long run we are out of the game – both the theoretical game and the policy game”* (Marglin 1995, p. 232).

For the US, Marglin (1984, Ch. 18) had himself attempted to test Neo-classical, Marxist and Keynesian theories of savings in a book which develops a framework for the application of the three main economic growth theories to the long-run and for their empirical validation. His conclusion was that the neo-classical saving function based on the life-cycle hypothesis explained at best the behaviour of the 1-2% of the US population at the top of the income distribution. This group accounted for a large portion of total household savings, but over the period 1959-1979, household savings represented hardly one quarter of total American productive private savings. Household’s savings accounted for 2.5% of disposable income, against 3.8% for corporates and 2.7% for pension funds, therefore the life-cycle hypothesis explained at best one third of total savings. Marglin concluded: *“Our ignorance is presumably remediable, but not until we free ourselves from the straitjacket of neoclassical theory, which concentrates our attention on the less important, if not the trivial, while failing absolutely to come to grips with essence of the problem”* (p. 433).

Gordon (1997) provided a systematic empirical test of the causality of investment on savings, concluding that: *“it is reasonable to argue, in short, that neoclassical policy analysts are wrong on two counts. First, promoting saving by itself is not especially likely to stimulate investment. Second, public policies promoting productivity growth, with the corollary of objective of stimulating investment, can potentially have substantial effect and should be pursued much more aggressively”*.

Seccareccia (1994) tested econometrically the following variant of Kalecki’s identity for the period 1962-88 in Canada:

$$\pi = (I - S_h^b) + (D - S_h^g) + X_n = \Delta M$$

where:  $\pi$  = Business savings or retained earnings  
I = Flow of investment  
 $S_h^b$  = Portion of households savings that went towards the purchase of corporate bonds and securities  
D = Government deficit  
 $S_h^g$  = Portion of households savings that went towards the purchase of Government bonds

$X_n$  = Net exports

$\Delta M$  = Amount of endogenous money creation that took place during the period in the form of “outside money” created by the central bank to “accommodate” Government’s borrowing requirement.

Seccareccia run regressions for both  $\Delta M_1$  and  $\Delta M$  as dependent variables, taking as explanatory variables the difference between gross fixed capital formation and personal savings, the difference between the Government deficit and household’s acquisition of Government bonds, equal to the purchase of Government securities by the central bank, and net exports. He obtained three statistically significant positive signs, explaining two thirds of the variance of the dependent variable for  $M_1$  and 90% for profits. The results imply a non-rejection of Kalecki’s causality hypothesis. They confirm that household’s savings, whether directed towards the corporate or the Government sector, have a negative impact on profits. Current and lagged values of household’s savings and government deficits were also regressed against each other, showing that past household’s savings determine current government deficit, but not the contrary.

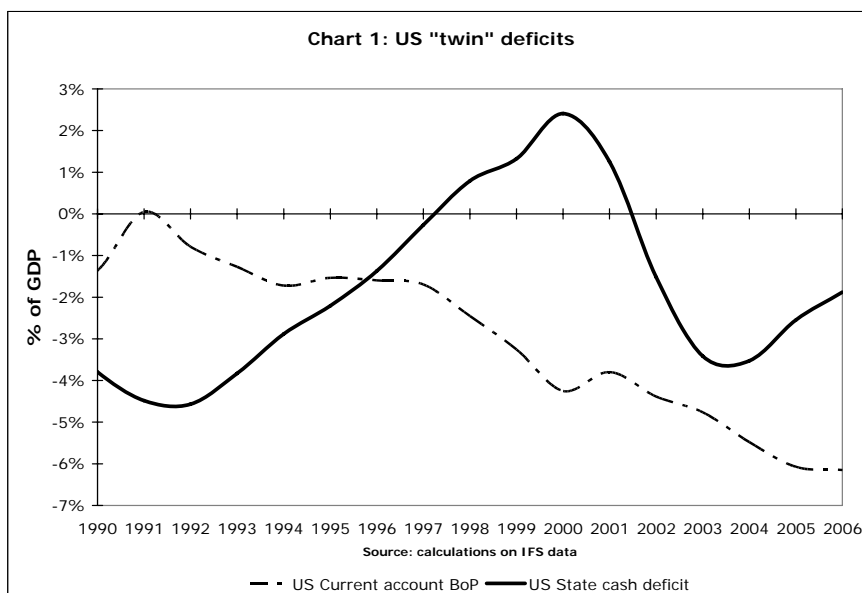
Lavoie and Seccareccia (2004) tested several investment functions for the Canadian manufacturing and industrial sectors for the period 1960-2000 trying to discriminate between the Marxian and Keynesian approaches. They argued that, whereas in the short-run both theories accept the role of effective demand in determining output, the discriminating factor is the long-run, for which Marxists tend to agree with the neo-classicals on the role of scarcity and therefore see demand as determined by supply. In both approaches it is meaningful to estimate an investment function independently from savings, where the dependent variable is the change in the rate of accumulation of capital. This variable is regressed against indicators relating to capacity utilisation, income distribution and activity.

Lavoie and Seccareccia run several tests on the specifications selected for the 4 variants of the two theories they tested, including some encompassing tests and concluded in favour of the “sophisticated Kaleckian version” as the best specification.

### 3. Testing the twin deficit hypothesis for the US

Parguez and Blik (2007) argue that in the US, when the Clinton administration opted for a policy of Government surpluses in the 1990s, the reduction in profits caused by increased Government savings was more than compensated by increased private sector debt. Banks endorsed enterprises and households plans for higher revenues and financed the increase in household debt that supported the

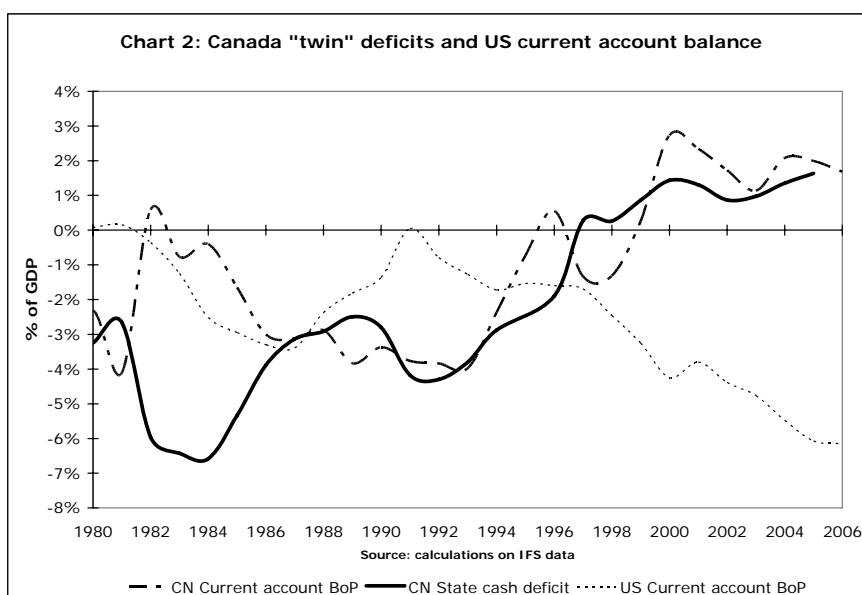
long expansion cycle that followed. For an economy that is sufficiently large to float its exchange rate, this built up of private debt explains also the digging of the current account deficit of the balance of payments. It contrasts with the *twin deficits* explanation of the current account, often used to justify zero-inflation policies and according to which the deficit in payments with non-American residents derives from the State budget imbalance. The *twin deficits* are a straightforward consequence of the neoclassical explanation of investment by savings. The latter does not fit the data for this period because the US current account deficit deteriorated when the budget deficit started to move into a surplus.



Households' confidence, supported by banks, explains why enterprises kept an optimistic view on the economic prospects and therefore maintained employment close to full capacity by increasing their debt.

#### 4. Testing the twin deficits for Canada

A similar development occurred in Canada during the eighties when; as noted by Seccareccia (1994), the budget deficit and the current account had an almost perfect negative correlation until 1994. Starting from the second half of the nineties, the reduction in public debt was largely compensated by the increase in households' debt, while the current account of the balance of payments moved into a surplus, driven by the US current account deficit (see chart 2 below).

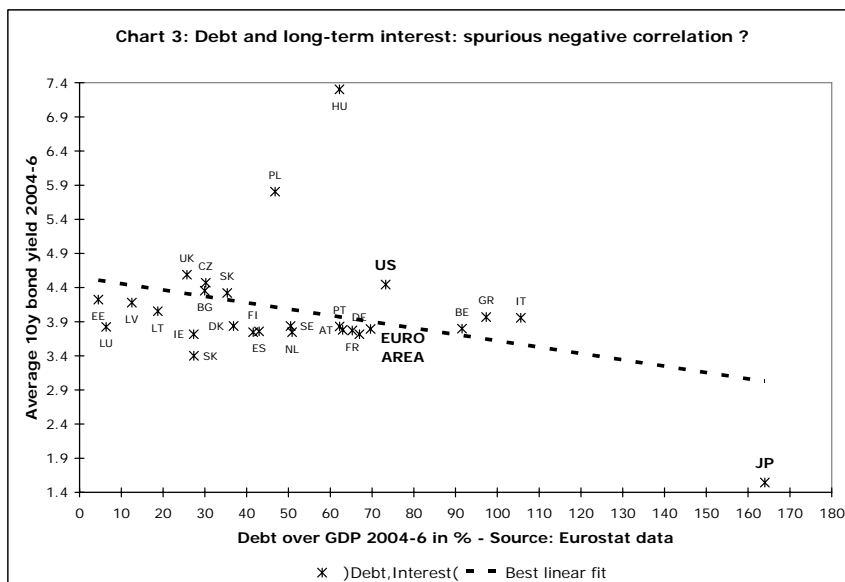


As noted by Seccareccia (2008) the massive public debt decrease that occurred in Canada between 1995 and 2005, from 70% of GDP to 30% of GDP, had its counterpart in a built-up of household's debt of the order of 10% of GDP, with an almost perfect negative correlation between Government and households' net lending in % of GDP. This development rendered the Canadian financial sector more fragile to the current turbulent financial phase.

## 5. Crowding-out in Japan

The case of Japan is peculiar: it clearly cannot be explained with the traditional crowding-out theory, according to which high State deficits and debt put an upward pressure on interest rates, since the highest level of public debt in the industrial world coexists with the lowest level of long-term interest rates (see chart 3).





## 6. The situation in Europe

In Central and Eastern Europe Blik and Parguez see “passive Government deficits” coexisting with growing current account deficits financed by capital inflows and growing household’s indebtedness.

In the “Euro-core” the focus is put on the reduction of the budget deficit, which drives fiscal coordination, and the restrictive orientation of monetary policy, devised to fight inflation and to keep unemployment close to its “*natural rate*” or its “*non-accelerating of inflation*” rate (NAIRU). Fiscal stability targets force “beggar my neighbour” competitive disinflation policies (cf. Fitoussi and Le Cacheux (2007), ch. 4 and 5) nourishing bleak economic prospects for salaries and profits. These constrain enterprises and households expectations, resulting in the end in higher unemployment.

The European unemployment situation is best exemplified by the case of France, which has experienced high and growing rates of unemployment and underemployment in the last thirty years. The underemployment rate is a measure of the portion of the labour force that is “labour rationed”, i.e. that cannot fulfil its consumption targets because it cannot find a suitable job. It includes the officially unemployed, those that earn the minimum wage (“RMistes”), those in early retirement, those following under special retraining programmes and generally all those suffering from exclusion in the labour market. Two striking facts characterise the evolution of the French rate of underemployment in the last

thirty years: its profile has diverged from that of the unemployment rate (contrary to the US where the two variables have moved together) and it has almost continuously increased, to reach more than a third of the labour force.

The traditional explanation for this divergence in the development of unemployment and underemployment in Europe and in the US is based on greater “labour market rigidities” prevailing in Europe. This interpretation results in part from a straightforward application of the IS-LM reading of the *General Theory*, which, as it attempts to bring back the Keynesian contribution under the Walrasian paradigm, explains unemployment by downward wage rate rigidity. Whereas IS-LM, which was in the end rejected by Hicks himself (Hicks (1980)), is an acceptable reduced form for other policy purposes, it does not allow for endogenous involuntary unemployment, which was the problem addressed by Keynes.

On the contrary, based on Kalecki’s identity and on the mark-up equation, the difference in the US and EU underemployment performance appears as being caused by the different use of macroeconomic policy instruments in the two areas: in Europe the need to target continuously a reduction in the budget deficit and control inflation exerts, other things equal, a downward pressure on corporate profits, which in turn reduces effective demand and lowers the level of employment, generating the need for a further cut of the deficit at the next stage of the circuit. This generates a dynamic of lower economic growth and higher unemployment. In the US macroeconomic policy instruments are actively used to govern the business cycle.

This interpretation of the European situation is consistent with the results of Stockhammer (2004, Ch. 4 pp. 113), who tested the NAIRU explanation of unemployment against the post-Keynesian one for the four main European countries (DE, FR, IT and UK) and for the US for the period from 1960 to mid-1990<sup>4</sup>. The NAIRU hypothesis was tested by a regression where the dependent variable was the unemployment rate and the explanatory variables were measuring labour market inflexibility and wage pushed inflation. The Keynesian alternative was tested by a regression where the dependent variable was the growth of private sector employment and the explanatory variables were the rate of accumulation, measured by the rate of growth of the business sector capital stock,

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<sup>4</sup> On a more microeconomic level one can make reference to the numerous studies of Leroy on the Belgian labour market, cf. for instance Leroy (1981a, 1981b, 1983) and Leroy, Godano and Sonnet (198-). The latter examined Belgian geographical labour markets at the NUTS3 level (about 40 *arondissements*) between 1979 and 1981, when the national unemployment rate rose from 3% to 13%. It notably showed that, despite flexibility exists at regional level, the role of wages in explaining inter-regional labour market adjustments is weak. The authors pointed instead to the importance of quantity adjustments, including movements in and out of the labour force, illustrating mechanisms modeled by the rationing literature, but also confirming indirectly the post-Keynesian point that there is in general no inverse relation between labour quantities and wages (cf. par. 3.2 of the previous contribution).

a capacity variable, for which the capital productivity was used as an instrumental measure. Stockhammer concluded that the wage-push variables (unemployment benefits, union density and the tax wedge) did not have the expected effect on unemployment, except for the tax-wedge. On the contrary, the Keynesian role of accumulation on employment growth was confirmed. He therefore concluded that: *“the focus on labour market institutions in combating European unemployment is inappropriate. For example we found no evidence that reducing unemployment benefits reduces unemployment. Demand variables, that according to the Keynesian theory are key even in the long run, on the other hand, should be taken more seriously. Our evidence indicates that the slowdown in accumulation is at least partially responsible for the insufficient creation of new jobs.”* Stockhammer also investigated the causes of the reduced rate of capital accumulation on the basis of an investment equation of the type of those of Lavoie and Seccareccia (2004), where the explanatory variables were capacity accumulation, the profit share, the cost of capital and rentier’s share of non-financial business. He concluded that “financialisation” and “share-holders’ value orientation”, measured notably by rentier’s share of non-financial business, explained the slowdown in accumulation. Accordingly, he proposed to change the orientation of European policy actions, notably in the direction of committing European countries to full employment and growth.

Indeed if one compares the long-term evolution of the main EU continental economies to those of the UK, Japan and the US in the last decades, it is striking to observe that in continental Europe the long-term interest rate has almost continuously exceeded the rate of nominal growth of Gross Domestic Product (see charts 4 in the Annex). The mark-up equation helps understanding why the contractionary policy mix prevailing in Europe generates a positive gap between the long-term nominal interest rate and the rate of increase of nominal GDP<sup>5</sup>. Parguez and Blik reminded that it is Domar (1944) who demonstrated, many years ago, that this gap is the key variable for the control of the debt/GDP ratio. Sylos-Labini (2003) discussed the role of this variable with reference to the financial situation of the American households, whereas Pasinetti (1997 and 2003) examined its implications for the Maastricht stability parameters.

It can be inferred from the analysis above that if full employment would become a common target of European fiscal coordination, then the gap between the rate of GDP growth and long-term interest rates would disappear or change

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<sup>5</sup> If it is natural to think that the real rate of interest is equal to the real rate of annual GDP growth (see for instance Sylos Labini (1948) or Phelps (1966)), it seems also licit to derive from the arguments of Parguez (2007a) and Graziani (1983, 1984 and 2003, ch. 7) that the nominal gap between the two variables results mechanically when the nominal rate of interest is indexed to expected inflation (so-called Fisher rule). This interpretation seems compatible with the circuit analysis of the spread between short and long run interest rates made by Seccareccia (2005).

sign also in the Euro-core area, as it is already the case in the New Member States (see Annex), and this could happen without accelerating inflation.

What else could be done to promote a policy of full-employment in Europe? Parguez and Bliiek propose to accept that the European budget could go into a deficit, notably to finance a European scheme of Social Security. On capital formation they endorse a policy of support for infrastructure and they agree that sound investment could be taken out from the Maastricht ceilings, a rather straightforward extension of the financial leverage principle of corporate finance (see for instance Paganelli (1986) pp. 44-47)). Concerning the composition of capital expenditures, Parguez and Bliiek indicate that beyond infrastructure, education and health, housing should also be supported, as well as research and development. They thus broadly agree with the main expenditure targets of the Lisbon agenda, but point to the need of providing the budgetary means needed to realise them.

## Conclusions and implications

As shown in the previous contribution, the analysis of the circuit provides a simple but solid framework describing what happens out of neo-classical equilibrium, the only situation where active economic policy is really needed. It also illustrates much better the role of money and of the banking sector.

The above contribution shows that this analysis is consistent with a large body of empirical evidence and allows for meaningful policy analyses. In particular, it supports the claim for a more social orientation of European economic policies, calling for the inclusion of full employment amongst their objectives and showing that this does not contradict the pursuit of inflation control.

Although the circuit must probably be further developed before becoming a fully accepted synthesis of “out of equilibrium” approaches, its use for the analysis of alternative forms of active policy interventions brings interesting results, which call already now for a reorientation of European policies.

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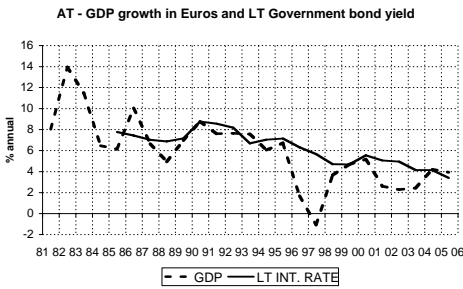
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**Annex – Charts 4**

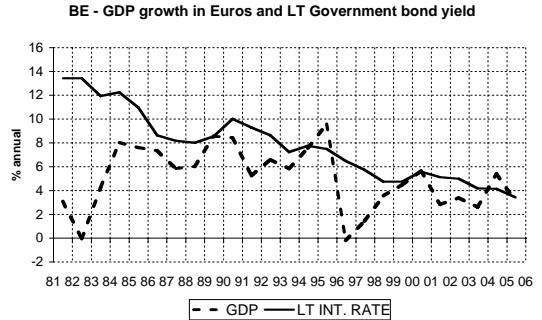
**Nominal GDP growth and annual long-term interest rates in selected countries.**

Source: Eurostat (for EU countries to all extent possible the long-term interest rate retained for Maastricht convergence purposes is retained).

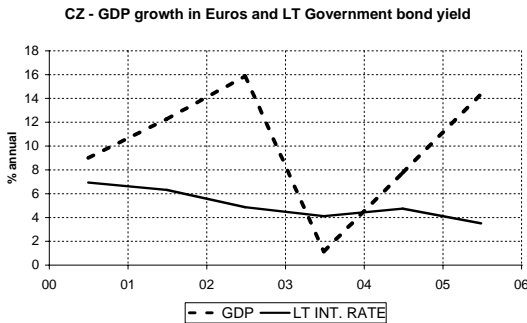
**4.1 Austria**



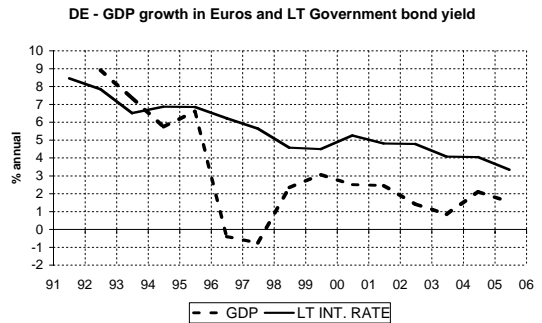
**4.2 Belgium**



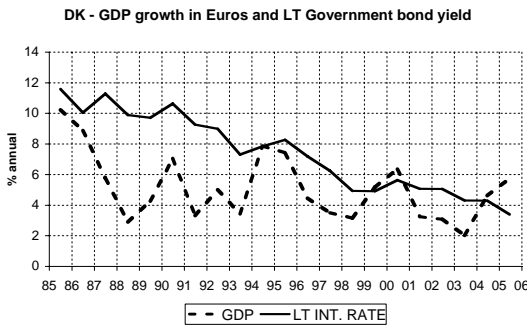
**4.3 Czech Republic**



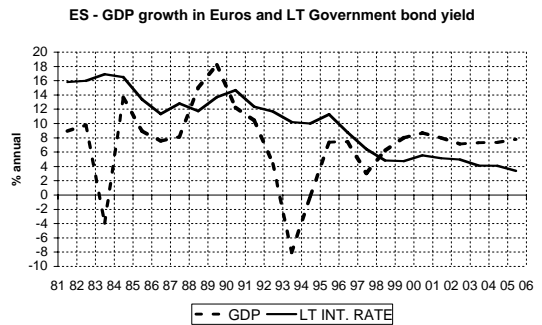
**4.4 Germany**



**4.5 Denmark**

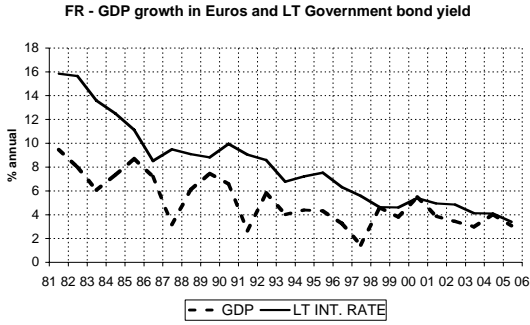


**4.6 Spain**

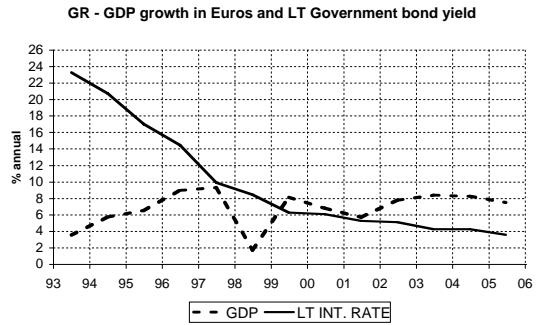




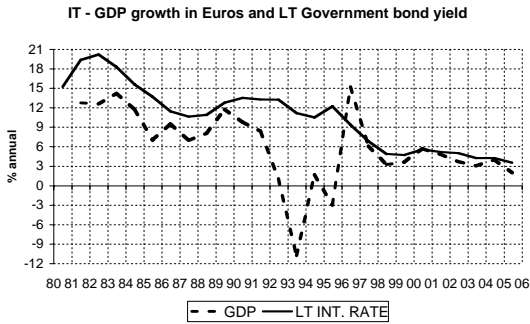
#### 4.7 France



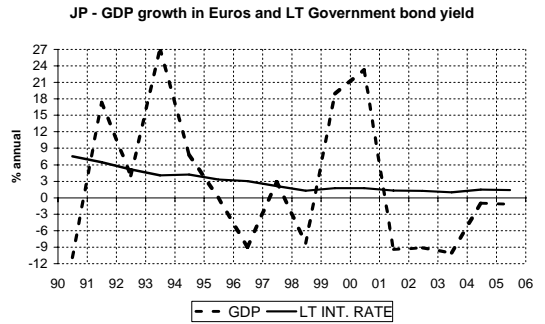
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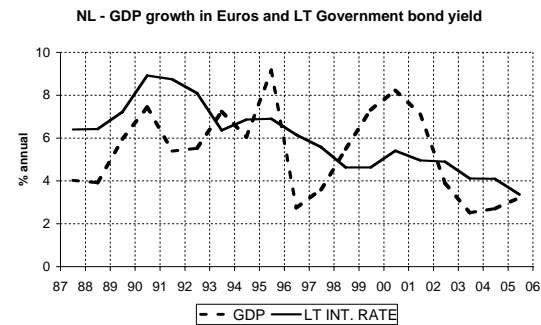
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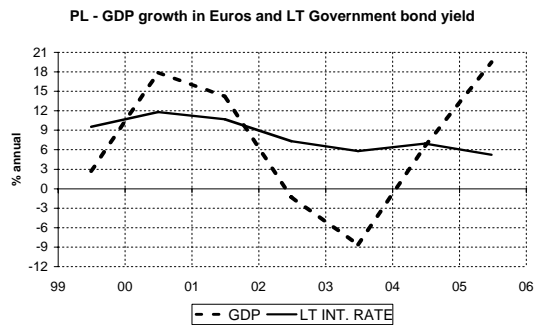
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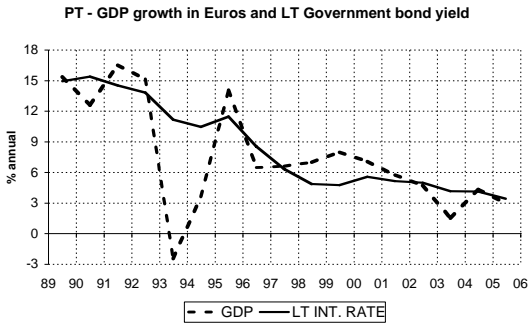
#### 4.11 Netherlands



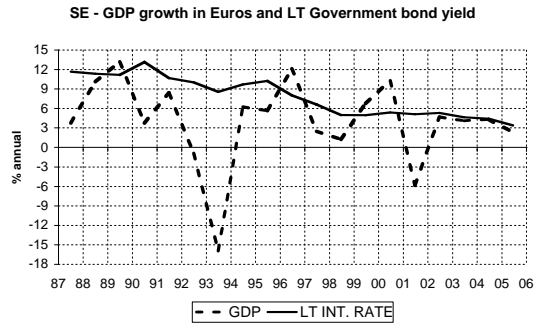
#### 4.12 Poland



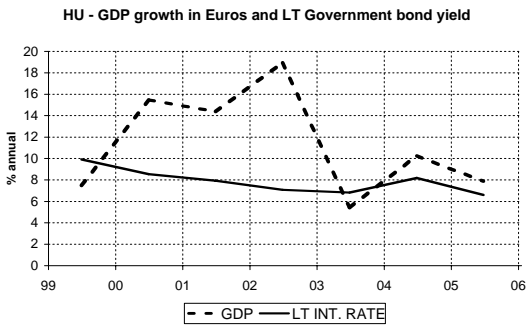
### 4.13 Portugal



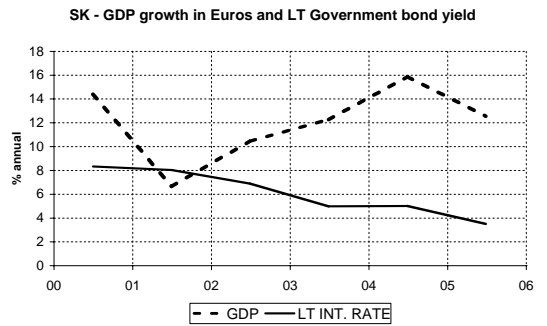
### 4.14 Sweden



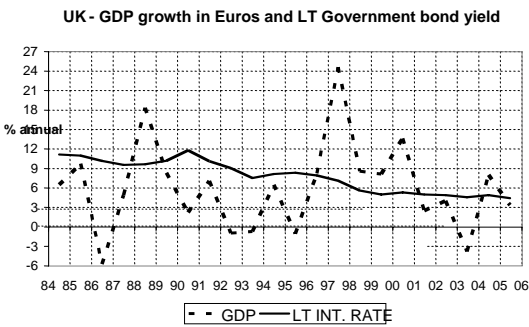
### 4.15 Hungary



### 4.16 Slovakia



### 4.17 United Kingdom



### 4.18 United States

