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The growth performance and prospects in Europe: a Kaldorian approach

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The growth performance and prospects in Europe: a Kaldorian approach

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Abstract. This paper purports to apply the balance of payments constrained-growth model to explain the European growth performance in the last forty years and to discuss the likely prospects for the future. After a formal reconsideration of the long-run and short-run arguments supporting the validity of the Post-Keynesian approach to economic growth, a simplified and an extended version of the basic model are outlined. The application of the model to the European experience shows that the so-called Thirlwall's law performs quite well in explaining facts in all the decades under consideration. The fundamental reasons behind the unsatisfactory recent EU growth experience lie therefore in a decreasing (absolutely and relatively to other advanced countries) exports dynamics and in an increasing imports dependence. On the basis of the existing trends, the prospects for the future appear to be gloomy, unless structural reforms of the productive system are promoted in order to improve the position of Europe in the international division of labour.

Keywords: Growth, Europe, Thirlwall's law.

JEL Classification: O40, O52

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1. Introduction

According to the most recent official estimates, the rate of growth of GDP in Europe in the past year has been limited to 0.7%, and it has been even lower in the Euro area. Thus, for the third consecutive year in the new century, economic growth on the Old Continent has lied well below potential¹, with the inevitable effect of causing unemployment to rise. Moreover the recent growth experience in Europe has been characterized for a continuous deceleration in the pace of economic expansion, which appears at variance with the USA experience, where, after the recession of 2001, the overall economic performance has been satisfactory, with an average growth rate in the last two years of about 2.7%. In discussing the reasons behind the dissimilar growth pattern on the two sides of the Atlantic, most commentators have stressed the role played by the different economic stabilization policies adopted in general and by the budgetary policy stance in particular. While in the USA intervention has been rapid, intense and unconstrained, in Europe anticyclical policies have been slow, weak and limited by the existing institutional arrangements: with reference to fiscal policy, in particular, the Stability and Growth Pact has prevented an expansion of budget deficits in line with the needs. It is interesting to notice, however, that while many analysts have emphasized the slowdown of internal demand as the main cause behind the actual recession in Europe (perhaps tied to the unsatisfactory state of expectations of both households and firms), the fact that exports have only grown at an average annual rate of 2% in the last three years is seldom brought to the fore.

The unsatisfactory economic performance that has so far characterized the new century in Europe is not however a completely new phenomenon, at least in relative terms, both from a temporal and a geographical point of view. Indeed, figure 1 reports the growth performance in Europe in the last 40 years, compared with that of the United

¹ According to the OECD estimates, potential growth in the European Union is around 2.2% (cf. OECD Economic Outlook. Sources and Methods). Curiously enough this is substantially the same rate experienced on average in the 1990's and also the one corresponding to the maximum rate of growth compatible with the balance of payments equilibrium that emerges from the analysis presented in this paper.

States, used as a benchmark. The graph clearly shows that the gap in the growth performance on the two sides of the Atlantic has also been wide in the 1990's, when the average growth rate in Europe has scored only 2.1% (against 3.2%), and even in the 1980's, where the average figures, despite wider fluctuations in the USA, are quite similar (2.3% vs. 3.2%).

The different features of the growth performance in Europe and the United States can be better appreciated if the underlying trends in the actual annual rates are calculated, as in Figure 2². The graph shows a few interesting facts worth of notice: growth in Europe is relatively higher at the beginning of the observation period, mainly owing to the catching up phenomenon, which however appears to be already exhausted by the end of the 1970's³; in the 1980's and mainly in the 1990's the USA show a resurgence in the trend growth rate, while this tendency is rather weak, if not at all absent in Europe; the most recent growth trend in the USA is much higher than in the European Union, as previously commented and as also reflected in the different estimates of the so-called potential growth rate⁴; finally the overall slowdown in the European performance is very substantial, since the average growth rate of the '90's (compared to that of the '60's) is less than half, while in the USA it is only slightly lower.

According to mainstream economics, growth in the long run is explained by supply factors alone, so that the ultimate reasons behind the poor European performance are the rate of change of the labour force and the pace of technological progress. Sometimes, with reference to the 1990's at least, demand side considerations are introduced into the story, emphasizing the role of a series of unfavourable shocks hitting the Old Continent in that decade, some of which were self-inflicted, in the process of achieving the economic convergence required for the beginning of the Monetary Union⁵. Apart from the possible emergence of hysteresis phenomena, maybe amplified by inefficient institutional features, however, demand side considerations are generally overlooked in the theory and practice of growth, so that the ultimate suggestion for

² As suggested in the literature, a Hodrick-Prescott filter has been applied to the original series.

³ Indeed, on average, the annual growth rate of the 1970's has been similar on both sides of the Atlantic (3.2%), so that, just considering ten years' averages, Europe's superior performance is only limited to the 1960's (and of course to the previous decade not considered in the data).

⁴ Again, according to the OECD estimates, potential GDP growth in the USA would be around 3.5%, but other estimates, based on different statistical methods, yield even higher figures.

resuming a more sustained pattern of economic development in Europe is to implement a few but “necessary” labour and product markets structural reforms, enabling free-competition-oriented supply forces to fully display their potential.

This mainstream view of the growth process is challenged by a minority of scholars belonging to the Keynesian tradition, according to which, even in a long run perspective, effective demand behaviour is the engine behind realized economic growth, and supply factors adapt to the actually experienced GDP changes⁶. According to Kaldor’s approach, in particular, the fundamental determinants of a country growth rate are to be sought in the dynamics of the exogenous components of aggregate demand, which, in the case of open economies, are fundamentally constituted of exports⁷. Building on Kaldor’s (and Harrod-Johnson’s) foundations, Thirlwall has proposed a model according to which the growth process of open economies is constrained by the necessity to preserve an equilibrium in the balance of payments, thus deriving a sort of a “law” capable of describing the determinants of the actual growth rates experienced by world economies and the existing differences in international growth performances⁸.

This paper follows the above illustrated Post-Keynesian approach to economic growth and purports to apply it to the experience of the European Union in order to find out whether it can explain the phenomena that were briefly outlined in this introduction. The rest of the paper is organized as follows. Next section reassesses the reasons behind the alleged existence of an external constraint to growth and investigates its true nature. The subsequent paragraph formally develops a model in the Thirlwall tradition designed to analyze the growth performance in Europe. That is done in the next section, where the peculiar features of European growth performance are compared with the theoretical indications derived from the model. Some conclusions drawn from previous analysis, together with a discussion of the possible prospects for the future, appear in the final section the paper.

⁵ Cf., for instance, Blanchard and Wolfers (2000).

⁶ Cf. Setterfield (2002) as an example of this alternative approach.

⁷ The other possible exogenous component of aggregate demand is of course Government expenditure, but according to the now prevailing orthodox principles of public finance, while in the short run anticyclical stabilization policies – and thus deficits – are allowed, Government budgets ought to be balanced in a long run perspective. This theoretical position has been institutionally formalized in Europe by the adoption of the Growth and Stability Pact, aiming at promoting a balanced “structural” budget. In this context public expenditure is no longer exogenous, being constrained by the level of Government receipts.

2. Reasons and nature of an external constraint to growth

The reasons behind the alleged existence of an external constraint to growth, in a perspective not limited to the short run⁹, and the true nature of this constraint can be easily ascertained if one analyzes the consequences, in terms of long term sustainability and short term instability, of a policy aiming at maintaining an overall balance of payments equilibrium by compensating a structural current account disequilibrium by means of capital inflows¹⁰. Since the balance of payment (BP) is composed of the current account (CA) and the capital account (KA) and the sum of the two components must sum up to zero, we may write:

$$(1) \quad BP = CA + KA = 0$$

Now let us suppose that a current account deficit ($CA < 0$) is exactly compensated by an inflow of capital movements from abroad ($KA > 0$); this will lead through time to an accumulation of foreign debt (F). The current account deficit is of course due to a structural excess of imports (M) over exports (X), an excess we may label net imports (NM); but the accumulation of foreign debt will also require interest payments abroad, given by iF , where i is the (nominal) domestic interest rate. Thus the policy we are considering, and defined by expression (1), can be formalized by the following equation:

$$(2) \quad NM + iF = \Delta F .$$

⁸ Cf. Thirlwall (1979), McCombie and Thirlwall (1994), Davidson (1997) and the subsequent contributions to the MiniSymposium on Thirlwall's law published in that issue of the Journal.

⁹ Of course the balance of payments can be in disequilibrium in the short run even for a repeated number of periods. However it is obvious that in a long run perspective an equilibrium must be reached and maintained: if the exchange rate is fixed, this is due to the necessity of holding an adequate level of foreign reserves; if the exchange rate is flexible, the overall equilibrium of the balance of payments is either achieved by adjustments in the exchange rate itself or by a managed floating, if the monetary authorities want to avoid excessive (and perhaps harmful) fluctuations in the market exchange rate.

¹⁰ There are several historical examples of countries where this policy has been followed, namely Mexico and other Latin American countries in the early '80's, Italy in the second half of the '80's and early '90's,

In order to simplify things, let us assume to operate in continuous time, so that DF is replaced by \dot{F} , where \dot{F} is the derivative of foreign debt with respect to time. In order to give a more precise and significant illustration of the sustainability problem¹¹, it is convenient to relate all variables appearing in eq. (2) to the value of nominal income (Y). Using small-case letters to indicate the derived ratios, we have:

$$(3) \quad nm + if = \frac{\dot{F}}{Y}.$$

Now, since by definition we have:

$$(4) \quad \dot{f} = \frac{\dot{F}Y - F\dot{Y}}{Y^2} = \frac{\dot{F}}{Y} - f \frac{\dot{Y}}{Y}$$

if we substitute eq. (3) into (4) and rearrange we get:

$$(5) \quad \dot{f} = nm + if - \frac{\dot{Y}}{Y} f = nm + (r - g)f$$

where $r = i - \mathbf{p}$ is the real rate of interest and $g = \frac{\dot{Y}}{Y} - \mathbf{p}$ is the real rate of growth¹².

Expression (5) is a (linear) first order differential equation that can be used to describe the dynamics of the foreign debt/income ratio through time. It can be easily checked that since net imports are positive, if the rate of interest is greater than the rate of growth ($r > g$) then the ratio f will tend to grow without limits. Only when $r < g$, the ratio will tend to a finite equilibrium value¹³. In the first case ($r > g$) a clear problem of sustainability occurs, since international investors will not be available to let their holdings of foreign debt issued by a single country increase without limits, in order to diversify risk. Thus there will be a superior limit to the amount of foreign debt that a country can accumulate; and this limit could easily be passed even in the most

the South East Asian countries and Argentina in the '90's, just to mention a few. In all cases the policy proved to be unsustainable, ultimately ending in a currency crisis.

¹¹ The analysis of the sustainability problem substantially follows the seminal contribution by Sargent and Wallace (1985).

¹² \mathbf{p} is of course the rate of inflation, that is included both in the nominal interest rate and in the nominal rate of growth of GDP.

favourable second case ($r < g$), if the equilibrium ratio is too high, especially when nm is large and the difference between g and r is low¹⁴. When the upper bound to the foreign debt/income ratio is reached, no more capital inflows can be obtained, so that the policy we are analyzing becomes unsustainable and the country will have to take extraordinary measures to stop the ratio from further increasing¹⁵. In particular if the current account is brought to balance, even in the absence of capital flows the overall balance of payments will be in equilibrium too.

Well before the occurrence of a sustainability problem, however, a policy of compensating current account deficits with capital inflows may give rise to short run financial instability and eventually lead to its abandonment in favour of a balanced current account. This is due to the fact that the two components of the balance of payments have a different nature and thus respond to different determinants. Indeed current account payments and receipts are flows that tend to repeat themselves through time other things being equal; capital movements, on the other hand, are stock changes that must be continuously stimulated and replaced. Capital movements are also highly subjective and volatile, so that their destination can suddenly change if wealth holders' opinions about a country reliability or expectations about the exchange rate or the interest rate behaviour change. When this happens, there is a sudden capital outflow and a currency crisis occurs, compelling the country to adopt again deflationary policy measures in order to reduce imports and re-establish international investors' confidence so as to re-stimulate capital inflows. Of course this kind of financial instability can be avoided if the current account is in equilibrium, since in this case there would be no dependence on foreign capitals to achieve an overall balance of payments equilibrium.

Therefore, both long term considerations of guaranteeing foreign debt sustainability and short term considerations of preventing financial instability lead to the conclusion that in general a current account equilibrium should be maintained through time. This implies that open economies face an external constraint to growth, given by

¹³ This equilibrium value is given by $f^* = \frac{nm}{g-r}$, which will be positive only if $g > r$.

¹⁴ In all actual experiences of countries adopting the policy of compensating a current account deficit with capital inflows, the rate of interest ultimately turned out to be greater than the rate of growth.

¹⁵ These measures will normally consist of a devaluation of the domestic currency and the adoption of restrictive stabilization policies in order to reduce the level of income and thus of imports; in extreme cases a partial or total default on foreign debt might be declared.

the necessity to respect this kind of equilibrium, and that the true nature of the constraint relates to the current account rather than to the balance of payments in its entirety. If the current account, in a medium-long run perspective, has to be kept in equilibrium this will set a superior limit to the growth rate that a country can achieve. The determinants of this limit are investigated in the next section.

3. A basic model of externally constrained growth and some possible extensions

A basic model defining the maximum rate of growth compatible with a balance of payments constraint has been developed by Thirlwall in a series of influential papers¹⁶. In what follows we shall present a simple, slightly modified version of the original model, meant to capture its main essence and capable of being utilized for practical purposes. Let us assume initially that the current account consists of exports and imports of goods and services only (as in the national accounts definition). Then, as we saw in the previous section, the condition that the current account balance should be in equilibrium requires that the value of exports (VX) is equal to the value of imports (VM). We have then:

$$(6) \quad VX = VM.$$

The value of exports corresponds to the product of a price index (p_x) times a volume index (x) and the same thing holds true for imports (so that $VM = p_m m$); furthermore both nominal values should be expressed in the same currency, so that an exchange rate must be used for the necessary conversion. If we suppose that the price of imports is already appropriately expressed in domestic prices, the current account equilibrium will be then defined by the condition:

$$(7) \quad p_x x = p_m m.$$

¹⁶ Again Thirlwall (1979) and McCombie and Thirlwall (1994) provide the basic reference literature.

The ratio between export and import prices defines the value of the so called terms of trade (t). By introducing this definition into eq. (7), we may also write:

$$(8) \quad t x = m .$$

For ease of notation and calculations, let us use the natural logarithms of the previously defined variables. Owing to the log properties, we have then:

$$(9) \quad \log(t) + \log(x) = \log(m) .$$

If we differentiate eq. (9) with respect to time, and recall that the logarithmic time derivative of a variable is equivalent to its proportionate rate of change through time¹⁷, which in continuous time substantially corresponds to the percentage rate of change in discrete time, we may write:

$$(10) \quad \hat{t} + \hat{x} = \hat{m}$$

where the hat above each variable denotes the proportionate or percentage change through time. Finally we recall that, according to its definition, the elasticity of imports with respect to income is the ratio between the proportionate rate of changes of the two variables, so that we have:

$$(11) \quad e_m = \frac{\hat{m}}{\hat{y}} = \frac{\hat{m}}{g}$$

where $\hat{y} = g$ stands for the rate of growth of real income (or GDP). By substituting definition (11) into eq. (10) and rearranging terms, we finally get:

$$(12) \quad g^* = \frac{\hat{x} + \hat{t}}{e_m}$$

¹⁷ It can be reminded in fact that, for instance, $\frac{d(\log(x))}{dt} = \frac{1}{x} \frac{dx}{dt} \cong \hat{x}$.

This is the final expression we were looking for, since it defines the maximum rate of growth of GDP compatible with ever maintaining a current account equilibrium over time. This rate therefore depends on three crucial variables: i) the growth rate of exports; ii) the rate of change of the terms of trade; iii) the income elasticity of imports.

The basic model can be easily extended to take into account the fact that the current account of the balance of payments also includes net income payments and receipts (such as work and capital remunerations, interest payments, etc.) and unilateral transfers (such as donations, international aid, work remittances, etc.). Let us suppose that the net balance of these transfers (which we shall indicate with T) is negative¹⁸, so that we can sum them up to imports to get all current account outflows. Moreover we may also consider the fact that a given country may start from an initial disequilibrium position in the current balance, such as a deficit (D). By definition we have then:

$$(13) \quad D = p_m m + T - p_x x.$$

Let us now express the deficit as a proportion of exports ($d = D / p_x x$) and the net income and unilateral transfers as a proportion of imports ($t = T / p_m m$). Rearranging terms, definition (13) can then be rewritten in the following way:

$$(14) \quad p_x x(I + d) = p_m m(I + t),$$

so that, passing again to logs, differentiating with respect to time and recalling that $\log(I + d) \cong d$ and similarly $\log(I + t) \cong t$, after a few algebraic manipulations we finally get:

$$(15) \quad g^* = \frac{\hat{x} + \hat{t} - \Delta t + \Delta d}{e_m}$$

¹⁸ The basic reason behind this hypothesis is the dominant role of interest rate payments on foreign debt in a heavily indebted country.

where Dt and Dd indicate respectively the possible changes through time in the net transfers ratio and deficit ratio. Thus if these two ratios remain constant we are back to equation (12) of the basic model; if on the other hand a country experiences an increasing burden from net income payments and/or inherits an initial deficit that has perhaps to be gradually eliminated or at least reduced through time, this will necessarily lead to a decrease in the achievable rate of growth¹⁹.

4. An application of the externally constrained-growth model to the European experience

The foregoing analysis can be applied to the European experience to see whether the achieved growth rates might have been externally constrained. In doing so we shall make use of the basic model, thus leaving the influence of the other variables appearing in the extended equation (15) to some more specific comments or remarks.

The basic figures to be examined are reported in table 1, where the time horizon under consideration has been divided into decades²⁰.

Table 1. Actual and constrained growth rates in the European Union

Decades	\hat{x}	\hat{t}	e_m	g^*	g
1960's	9.4	1.2	2.1	5.1	5.1
1970's	6.0	-1.9	1.7	2.3	3.1
1980's	4.7	1.1	2.2	2.7	2.3
1990's	6.5	0	2.9	2.3	2.1

Data source: OECD Statistical Compendium (2002), OECD Historical Statistics.

As it can be checked from the last two columns, in all decades the actual and constrained growth rates are very close to each other, thus justifying the claim that in

¹⁹ It is interesting to notice that the extended solution for the constrained growth model, as expressed by equation (15), clarifies that the analysis can also be applied to countries experiencing current account deficits (or surpluses): if the relative deficit is to remain constant, then the basic model applies; while if a country (like for instance the USA) can rely upon the possibility of increasing its relative deficit over time, this would imply a relaxation of the constraint to growth yielded by the basic model.

general the growth process in Europe has been externally constrained. Some small differences between the two values characterize the experience of the '70's, mainly, and that of the '80's, where the average actual growth rate has been respectively first higher and then lower than the constrained one. This difference may be due to the behaviour and the influence of the terms of trade, that underwent sharp changes in occasion of the two main oil shocks and the subsequent counter-shock: thus in the '70's growth may have been higher than warranted because the first oil shock was initially faced with accommodating policies that allowed current account deficits to appear and persist for some time, while in the '80s the prevailing non accommodating policies and the necessity to reduce the inherited deficits led to growth below potential.

Table 1 also highlights the basic causes behind the reduction in the average growth rate experienced by the European Union since the 1960's, that are to be found both in the reduction of exports dynamics and, mainly, in the increase in the income elasticity of imports. The experience of the 1990's is particularly interesting, since the role of the terms of trade has been neutral and exports growth has shown signs of recovery after the continuous slowdown of the previous decades. Despite that, the constrained growth rate has fallen to its lowest level, owing to the further increase in the income elasticity of imports, which has reached its highest historical level. Figure 3 completes the analysis of the most recent European experience, by showing the actual and constrained growth rates not only for the Union as a whole, but also for all its member countries; as it may be checked, the so-called "Thirlwall's law" fares quite well, and when differences between the two rates emerge, these may be explained by the influence of the additional variables introduced in the extended model, according to equation (15).

Table 2 sheds some light on the behaviour of exports, by comparing the European experience with that of OECD countries and of the world as a whole. As it can be seen, the general dynamics of exports in the decades under consideration is common to all areas, with trade volumes showing a deceleration in the intermediate periods, followed by a recovery in the 1990's. With respect to OECD countries, Europe's performance worsens in the intermediate periods and improves in the latter; with respect to world trade, however, with the exception of the '80's, characterized by a

²⁰ This is actually the time horizon used by Leon-Ledesma (1999) in his application of Thirlwall's law to

marked slowdown in international transactions, mainly due to the problems faced by the least developed countries in that decade, European exports show a marked deterioration in the most recent period, with a historical elasticity falling well behind the normal unit value.

Table 2. Export performance in the European Union

Decades	EU \hat{x} (1)	OECD \hat{x} (2)	World \hat{x} (3)	Elasticity of (1) to (2)	Elasticity of (1) to (3)
1960's	9.4	9.7	9.4	.97	1.00
1970's	6.0	7.5	6.0	.80	1.00
1980's	4.7	6	3.9	.79	1.22
1990's	6.5	7.1	7.7	.92	.84

Data source: OECD Statistical Compendium (2002), OECD Historical Statistics, IMF International Financial Statistics.

If from the analysis of the past one wished to infer some possible implications for the future, it should be kept in mind that historical elasticities, even when referred to rather long periods of time, such as decades, might reflect the effects of changes in international competitiveness. Thus figure 4 shows the behaviour of the European real exchange rate: indeed while in a very long run perspective this variable seems to fluctuate around a central value, the 1970's are characterized by a considerable deterioration in international competitiveness, followed by a mixed dynamics in the '80's and a definite improvement in the '90's. This might help to explain the figures reported in table 2, at least in comparison with the OECD performance, with the exchange rate behaviour determining worse results in the '70's and better ones in the '90's. The weaker performance of the last decade with respect to world trade remains however largely unexplained, even though the figures seem to suggest a scarce capacity of European trade volumes to keep the pace with the most dynamic world areas, shifting towards the Pacific basin.

When exchange rate variations are allowed, in order to make more theoretically founded inferences as to future behaviour, the standard econometric literature suggests estimating the following equations for imports and exports:

$$(16) \quad \hat{x} = \mathbf{e}_x \hat{w} - \mathbf{h}_x \hat{r}$$

$$(17) \quad \hat{m} = \mathbf{e}_m \hat{y} + \mathbf{h}_m \hat{r}$$

where \hat{w} stands for the dynamics of world exports and \hat{r} for that of the real exchange rate²¹. In this case the expression for the constrained growth rate in the basic model would become²²:

$$(18) \quad g^* = \frac{\mathbf{e}_x \hat{w} + \mathbf{t} - (\mathbf{h}_x + \mathbf{h}_m) \hat{r}}{\mathbf{e}_m}.$$

This formulation could then be used to forecast the constrained growth rates in the European Union when appropriate hypotheses about the terms of trade and the real exchange rate dynamics are formulated.

The main results emerging from estimates of equations (16) and (17)²³ are not favourable to Europe: the exports elasticity with respect to trade volumes is constant at 0.9 when OECD exports are considered, while it is only 0.6, even halving its value in the most recent period, when world exports are considered as a scale regressor²⁴. Since the value of the exports elasticity to foreign trade volumes is often thought to reflect non price competitiveness, the gathered econometric evidence seems to suggest the

²¹ In the estimated equations the exchange rate variations are normally lagged one period in order to keep into account the experimented inertia of trade volumes to relative price changes. Also the real exchange rate used for the imports and exports equations are not the same, since the relative prices really relevant for international sales or purchases are different.

²² This expression is substantially equivalent to the original Thirlwall's formulation, where he assumes the real exchange rate to be coincident with the terms of trade.

²³ Estimates of the exports equation are limited to the period following 1970, since real exchange rate data are available only after that date. All estimates have been carried out using the OLS technique and are reported in the appendix.

²⁴ The estimated exports elasticity to world trade volumes would be higher if WTO data were used: indeed their respective values in the entire observation period and in the most recent one would be .7 and .5 (versus .6 and .3 as reported in the text, with reference to IMF data).

existence of unsatisfactory qualitative features of European exports. With regards to imports, instead, their income elasticity appears to be around 2 in the overall period, but it shows a continuous increase through time (as table 1 also hints), ultimately even exceeding a value equal to 3.5 in the most recent period²⁵. Moreover, when the investment ratio is introduced in equation (17) as a further regressor, imports show a high positive dependence on it, with the obvious implication that cyclical upswings will normally lead to a higher than average elasticity.

In the end, if one wanted to use the most recent estimated parameters to forecast the likely constrained growth rate for Europe, assuming that world trade continues to expand at the pace of the '90's and that the terms of trade and the real exchange rate are stable, one would end up with a figure comprised between 0.7% and 1.8%, according to whether the computations are made with reference to the world (IMF)²⁶ or OECD parameters. If on the other hand the historical elasticities recorded in the most recent decade were used (as they appear in tables 1 and 2), the corresponding figures would be 2% and 2.2%. Even in the most favourable case, then, the prospects for economic growth in Europe are gloomy and subordinated both to the bandwagon effect of the United States expansion, as in the past, and to the preservation of international competitiveness, that might be hampered by a potential appreciation of the single European currency.

5. Conclusions

The most recent growth performance in Europe has been rather disappointing: in the first three years of the new century the rate of change of GDP has steadily decelerated and has remained well below potential, thus triggering an increase in unemployment. The US experience, instead, has been characterized by better results: after the deep recession of 2001, recovery has gradually taken place and the growth gap with the Old Continent has widened. Of course this contrast in performance can be partly explained by the different policy stance: in the USA monetary and fiscal policies

²⁵ It is worth recalling, however, that in the most recent period the relevant real exchange rate is no longer significant in the imports equation.

²⁶ If the WTO data were used, the corresponding figure for the constrained-growth rate would be 1.1.

have become quite expansionary to sustain aggregate demand, while in Europe the operation of the Growth and Stability Pact has inhibited the use of a reflationary policy on the budgetary side. The main, even though often unrecognized, important factor behind the recent poor growth performance in Europe, however, lies in the weak dynamics of exports, also thwarted in most recent times by the strengthening of the euro.

In a longer term perspective, it should be recognized that a lower growth performance in Europe is not a new feature of the century that has just begun, since the same experience has characterized the last two decades of the old century as well: particularly in the 1990's the average growth rate in Europe has been about two thirds of the American level. Mainstream economics, in explaining the factors behind economic growth and the related cross-country differences, stresses the importance of supply-side phenomena such as the rate of change of the labour force and the pace of technological progress. In line with this point of view some scholars emphasize the role of the so called "new economy" success in determining the better growth performance of the United States in the 1990's. This explanation, however, is not convincing: the new economy has not lasted so long, after all, and the differences in supply factors behaviour do not seem so strong as to justify the persistent gap in growth rates that has been witnessed. A more promising line of explanation consists in adopting a Post-Keynesian point of view: growth is fundamentally demand determined and ultimately triggered by the dynamics of the exogenous components of aggregate demand and especially of exports; in a long run perspective external demand represent the only true exogenous variable, especially in a world where the acceptance of orthodox finance principles requires the public budget to be balanced. In particular, adopting a Kaldorian approach, it may be claimed that real growth is balance of payments constrained, so that the maximum achievable growth rate depends upon the dynamics of exports, the behaviour of the terms of trade and the level of the imports elasticity with respect to income.

The application of the balance of payments constrained growth model to the European experience shows that its predictions conform quite well to the actual performance. The ultimate causes of the low growth rate in Europe can ultimately be attributed then to an unsatisfactory exports dynamics and to a high level of the income

elasticity of imports. As far as exports are concerned, in most recent times European goods have shown difficulties in keeping the pace with a world trade that is shifting its propulsion centre towards the Pacific area and that seems to rely more and more on non price competition and qualitative features to achieve success in international markets. European exports seem to be characterized by a less than unity elasticity to world (and even OECD) trade, thus supporting the view of a weak position in international specialization. With regards to imports, their high and growing elasticity is substantially in line with other advanced countries' experience and the globalization trends; however econometric analysis also reveals a strong dependence of this parameter upon the investment ratio, so that when there is a business cycle upswing imports tend to grow above average. This in turn might be a symptom of a structural weakness of the productive structure of the European economy to fulfil the needs of capital accumulation.

In the end both the unsatisfactory exports dynamics and the high level of the income elasticity of imports can be traced to the structural features of the European economies, perhaps inadequate to the needs of a rapidly changing world. The key to a successful growth performance lies then in the capacity to change the productive structure and adapt it to the required international standards. Therefore the conclusion might be drawn that, in order to grow faster, structural reforms in Europe are necessary; but these are not of the kind mainstream orthodoxy commonly suggests, since they should be mainly concerned with phenomena like innovation and industrial policy, rather than focussing on the pension system or the labour market.

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Fig. 1. Half a century of growth performance on the two sides of the Atlantic

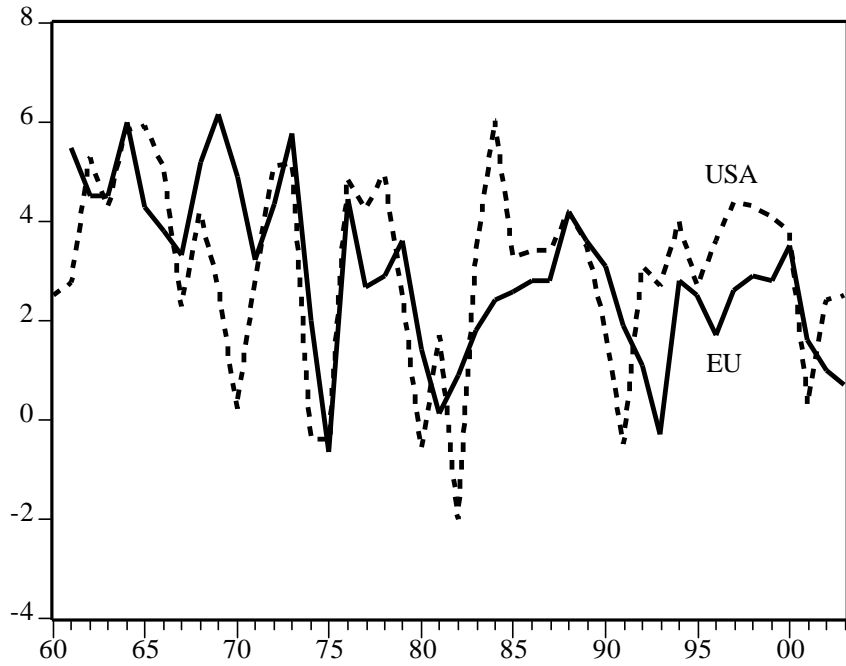


Fig. 2. The underlying trends in growth rates: Europe vs. the USA

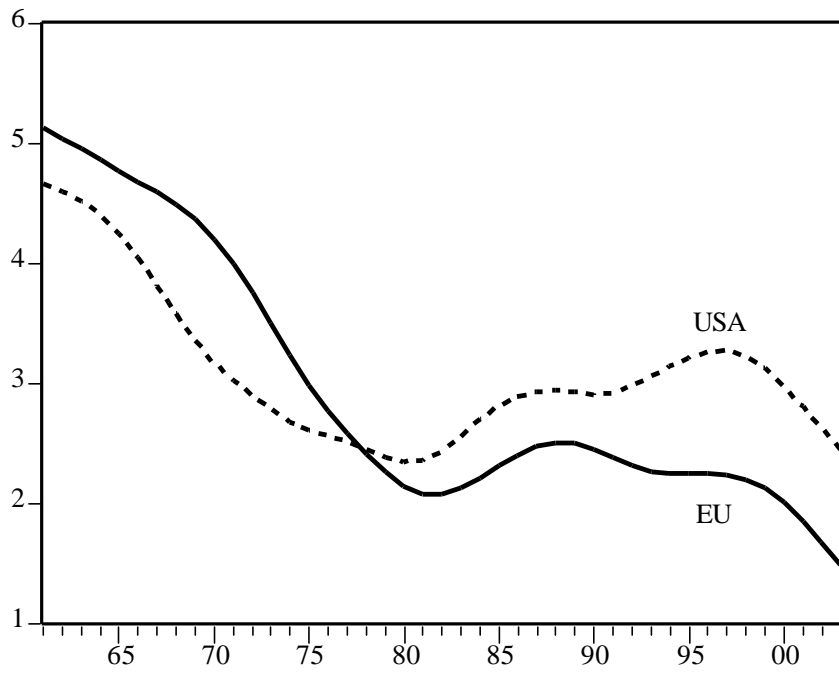


Fig. 3. Actual and constrained growth rates in the EU: 1990-2002

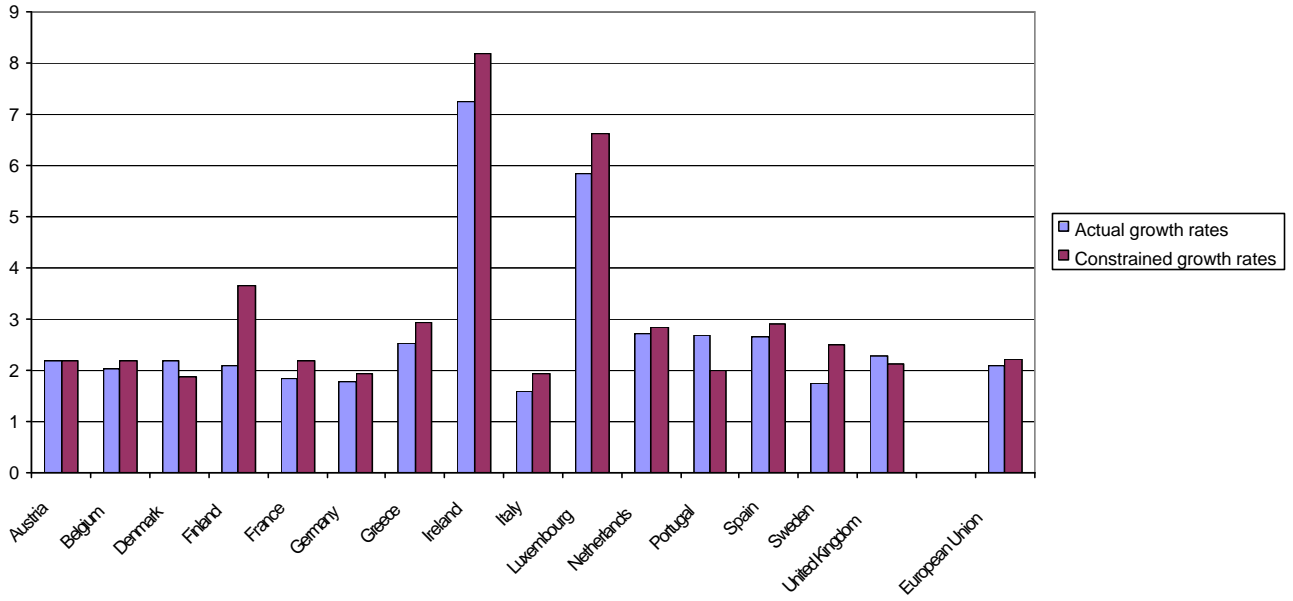
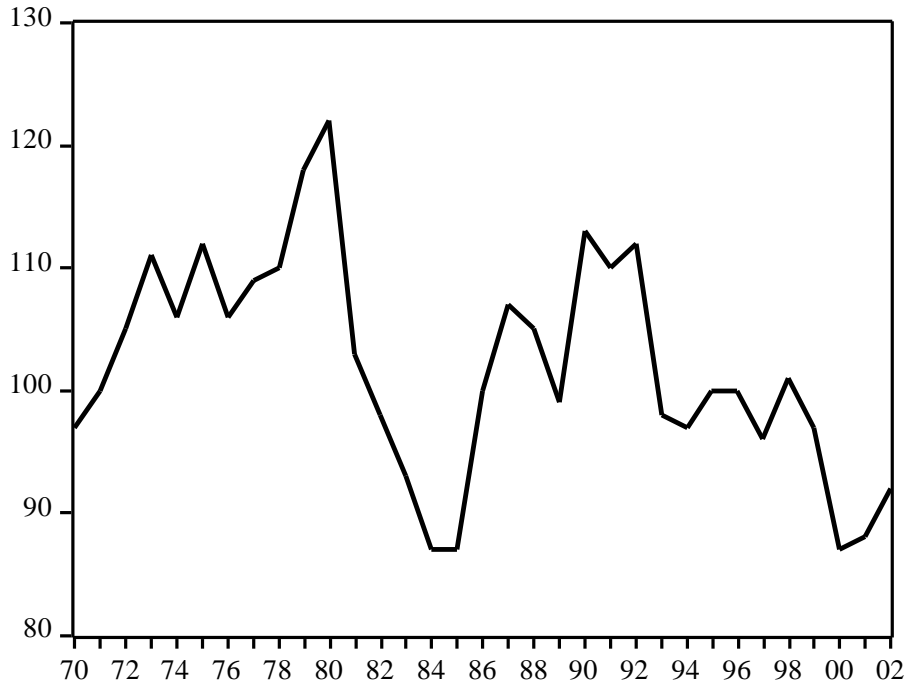


Fig.4. The dynamics of the real exchange rate in the European Union: 1970-2002



Appendix. Estimates of the exports and imports equations

A1) Exports function – entire observation period (OECD exports as a scale variable)

Dependent Variable: D(LOG(EXPEU))

Method: Least Squares

Sample(adjusted): 1972 2001

Included observations: 30 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.004035	0.006098	-0.661650	0.5138
D(LOG(EXPOECD))	0.891880	0.082401	10.82372	0.0000
D(LOG(RERXEU(-1)))	-0.119389	0.039798	-2.999875	0.0057
R-squared	0.812743	F-statistic		58.59341
Adjusted R-squared	0.798872	Prob(F-statistic)		0.000000
S.E. of regression	0.014495	Durbin-Watson stat		2.199721

A2) Exports function – more recent observation period (OECD exports as a scale variable)

Dependent Variable: D(LOG(EXPEU))

Sample: 1990 2001

Included observations: 12

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.003734	0.008601	0.434089	0.6744
D(LOG(EXPOECD))	0.864354	0.122136	7.076954	0.0001
D(LOG(RERXEU(-1)))	-0.117111	0.047766	-2.451773	0.0366
R-squared	0.894208	F-statistic		38.03644
Adjusted R-squared	0.870699	Prob(F-statistic)		0.000041
S.E. of regression	0.010624	Durbin-Watson stat		1.215557

A3) Exports function – entire observation period (IMF world exports as a scale variable)

Dependent Variable: D(LOG(EXPEU))

Method: Least Squares

Sample(adjusted): 1972 2001

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.021052	0.006339	3.321023	0.0026
D(LOG(EXPW))	0.630429	0.093828	6.718977	0.0000
D(LOG(RERXEU(-1)))	-0.107662	0.056336	-1.911080	0.0667
R-squared	0.625840	F-statistic		22.58082
Adjusted R-squared	0.598124	Prob(F-statistic)		0.000002
S.E. of regression	0.020489	Durbin-Watson stat		1.806621

A4) Exports function – more recent observation period (IMF world exports as a scale variable)

Dependent Variable: D(LOG(EXPEU))
Method: Least Squares
Sample: 1990 2001
Included observations: 12

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.038596	0.015083	2.558980	0.0307
D(LOG(EXPW))	0.333055	0.203608	1.635764	0.1363
D(LOG(RERXEU(-1)))	-0.215223	0.101705	-2.116147	0.0634
R-squared	0.464657	F-statistic		3.905824
Adjusted R-squared	0.345692	Prob(F-statistic)		0.060096
S.E. of regression	0.023900	Durbin-Watson stat		1.781298

A5) Exports function – entire observation period (WTO world exports as a scale variable)

Dependent Variable: D(LOG(EXPEU))
Method: Least Squares
Sample(adjusted): 1972 2001
Included observations: 30 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.020854	0.005000	4.171028	0.0003
D(LOG(EXPWTO))	0.717568	0.081330	8.822894	0.0000
D(LOG(RERXEU(-1)))	-0.135721	0.047353	-2.866164	0.0080
R-squared	0.742534	F-statistic		38.93407
Adjusted R-squared	0.723462	Prob(F-statistic)		0.000000
S.E. of regression	0.016997	Durbin-Watson stat		1.400089

A6) Exports function – most recent observation period (WTO world exports as a scale variable)

Dependent Variable: D(LOG(EXPEU))
Method: Least Squares
Sample: 1990 2001
Included observations: 12

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.032949	0.011346	2.903945	0.0175
D(LOG(EXPWTO))	0.507203	0.179523	2.825278	0.0199
D(LOG(RERXEU(-1)))	-0.211876	0.084249	-2.514877	0.0330
R-squared	0.631937	F-statistic		7.726170
Adjusted R-squared	0.550145	Prob(F-statistic)		0.011134
S.E. of regression	0.019817	Durbin-Watson stat		1.382293

A7) Imports function – entire observation period

Dependent Variable: D(LOG(IMPEU))

Method: Least Squares

Sample(adjusted): 1962 2001

Included observations: 40 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.003059	0.009008	0.339628	0.7361
D(LOG(GDPEU))	1.984169	0.277349	7.154064	0.0000
D(LOG(RERMEU(-1)))	0.192237	0.084274	2.281094	0.0284
R-squared	0.675996	F-statistic		38.59805
Adjusted R-squared	0.658482	Prob(F-statistic)		0.000000
S.E. of regression	0.026845	Durbin-Watson stat		2.123239

A8) Imports function – entire observation period (investment/GDP ratio as an additional regressor)

Dependent Variable: D(LOG(IMPEU))

Method: Least Squares

Sample(adjusted): 1962 2001

Included observations: 40 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.014735	0.007937	1.856396	0.0716
D(LOG(GDPEU))	1.616157	0.245095	6.594012	0.0000
D(LOG(RERMEU(-1)))	0.134629	0.070988	1.896512	0.0659
D(INVGDP RATIOEU)	0.031884	0.007491	4.256078	0.0001
R-squared	0.784453	F-statistic		43.67236
Adjusted R-squared	0.766491	Prob(F-statistic)		0.000000
S.E. of regression	0.022197	Durbin-Watson stat		2.343946

A9) Imports function – most recent observation period

Dependent Variable: D(LOG(IMPEU))

Method: Least Squares

Sample: 1990 2001

Included observations: 12

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.012988	0.011856	-1.095462	0.2990
D(LOG(GDPEU))	3.568174	0.531087	6.718624	0.0001
R-squared	0.818643	F-statistic		45.13991
Adjusted R-squared	0.800507	Prob(F-statistic)		0.000052
S.E. of regression	0.016568	Durbin-Watson stat		2.662078

A10) Imports function – most recent observation period (investment/GDP ratio as an additional regressor)

Dependent Variable: D(LOG(IMPEU))

Method: Least Squares

Sample: 1990 2001

Included observations: 12

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.003711	0.014023	0.264652	0.7972
D(LOG(GDPEU))	2.662554	0.687093	3.875103	0.0038
D(INVGDP RATIOEU)	0.023715	0.012934	1.833611	0.0999
R-squared	0.867967	F-statistic		29.58234
Adjusted R-squared	0.838626	Prob(F-statistic)		0.000110
S.E. of regression	0.014901	Durbin-Watson stat		2.618813

List of variables:

EXPEU = EU exports

EXPOECD = OECD exports

EXPW = World exports (IMF)

EXPWTO = World exports (WTO)

RERXEU = EU (exports) real exchange rate

IMPEU = EU imports

GDPEU = EU GDP

RERMEU = EU (imports) real exchange rate (ratio between domestic and import prices)

INVGDP RATIOEU = EU ratio between gross capital expenditure and GDP

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Università degli studi di Pavia**

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