Export-led growth or growth-led exports?

Western Europe in the "golden age"

by Andrea Boltho[*]

Abstract

It is generally accepted that Western Europe's exceptional economic performance in the so-called "Golden Age" (1950-73) was primarily due to a catch-up process as countries combined their surplus labour with imported American technology to (partially) close the gap in per capita incomes with the United States. The evidence supporting this hypothesis is very strong. It does not, however, explain all of the post-war experience. Several European countries performed better (or worse) than might have been expected on the basis of catch-up alone. To explain such discrepancies, some authors have stressed the importance of exports rising at above average rates and, via multiplier and accelerator effects, generating a virtuous circle of reinforcing growth. The paper investigates this issue. It eschews formal "Granger causality" tests which, more usually than not, hide rather than reveal information about a country's experience and relies instead on three less formal approaches: i) A look at exchange rate developments to see whether persistent undervaluation was present, thereby benefiting particular countries; ii) An examination of export price and quantity changes to try and detect whether shocks came from the demand or the supply side; iii) An investigation of the commodity and geographic composition of exports to assess whether some countries benefited from a favourable pattern of specialization. On balance, there seems to be little evidence for the export-led growth hypothesis: only Germany stands out as a likely exception to this general rule.
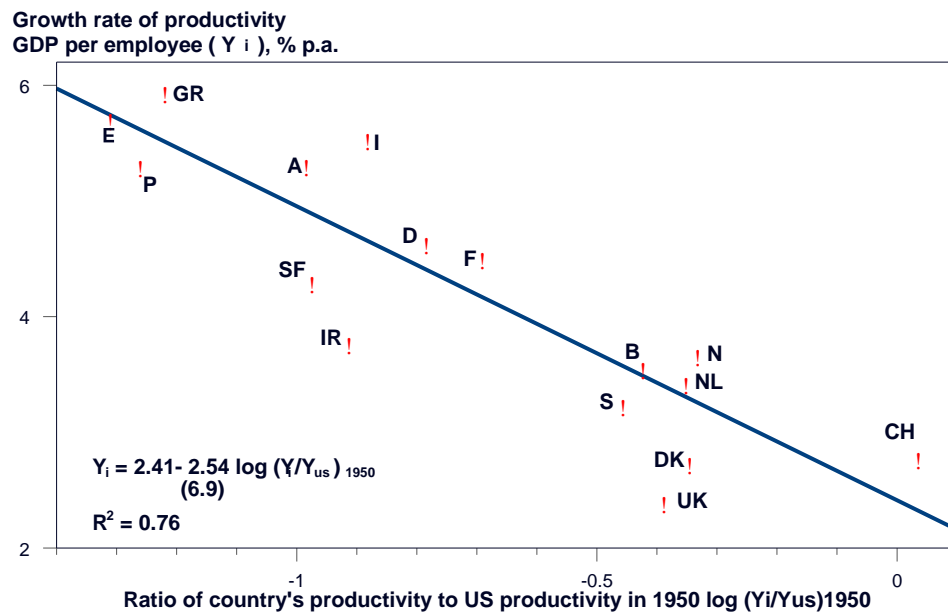
1. Introduction

One remarkable economic feature of the 20th century was the exceptional growth of Western Europe (and Japan) between the early 1950s and the early 1970s. This period has often been labelled the "Golden Age", in contrast to the mediocre growth performances of the decades that preceded and followed it. Most explanations of why such a growth explosion occurred stress the importance of catch-up, as Europe's relatively developed economies combined their surplus labour with technologies that had been pioneered in the United States in the first half of the century (Maddison, 1964; Kindleberger 1967, Abramovitz, 1989). This led to high investment rates as well as to rapid growth of both employment and private consumption. Additional inputs into the explanation have stressed the importance of a stable international environment and of

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rapid trade liberalization (Maddison, 1982), of domestic institutions supporting economic growth (Eichengreen, 2007) and even, if more tentatively, of the successful operation of demand management in smoothing economic cycles and inspiring confidence in continued expansion (Boltho, 1982).

Fig.1 Convergence - 1950-1973

**Growth rate of productivity
GDP per employee (Y$_i$), % p.a.**

$$Y_i = 2.41 - 2.54 \log (Y_i/Y_{us})_{1950}$$
$$(6.9)$$
$$R^2 = 0.76$$

Ratio of country's productivity to US productivity in 1950 log (Yi/Yus)1950

Source: The Conference Board, "Total Economy Database" (November 2017 release).

The econometric evidence in support of a catch-up explanation is robust. Limiting the sample to Western Europe and to the period 1950-73, even the simplest of specifications manages to "explain" nearly 70 per cent of the variance in the GDP per capita growth rates of 16 countries. For productivity growth, over the same period, the results are even stronger, with an adjusted $\bar{R}^2$ coefficient above 0.75 (Figure 1). Such a cross-section approach, however, does not, allow for individual economies' idiosyncratic behaviour. Less formalized investigations have thus emerged which have stressed other features specific to particular countries or periods. Thus, reasons for Britain's relatively slow growth have been attributed to a variety of reasons, going from too large a public sector (Bacon and Eltis, 1976), to endemic problems with industrial relations (Cairncross, 1992), to a long-run squeeze on profits induced by labour militancy (Glynn and Sutcliffe, 1972), or even to the operation of "stop-go" policies (Surrey, 1982);

reasons for Germany's very rapid growth to the destruction wrought by World War II or to the reforms introduced during the reconstruction period which ushered in the *Soziale Marktwirtschaft* (Hennings, 1982; Abelshauser, 2004), etc. One particular approach, following Beckerman's pioneering work (Beckerman, 1962), has stressed the leading role of exports in stimulating economic growth. And it is true that export growth over the 1950-73 years was more rapid than that of any other final domestic demand component in 14 out of 16 West European countries.[1]

The expression "export-led growth" has, thus, become very popular, suggesting, as it does, an almost painless road to prosperity which can be followed by developed and developing economies alike. Yet, despite its popularity, investigations as to whether export-led growth actually occurred in the advanced economies (as opposed to the developing ones) seem to be both relatively scarce and fairly inconclusive. This brief paper will consider whether evidence for the hypothesis can be found for Western Europe in the 1950s and 1960s. Section I looks at various possible approaches, Section II examines some tentative results. The Conclusions, unsurprisingly, attempt to conclude.

2. Approach

Three major approaches have looked at the interactions between export and GDP growth. The oldest one goes back to Marshall who argued that for economic progress to occur a country needed*, inter alia*, 'access … to markets in which it can sell those things of which it has a superfluity' and added: 'The importance of this last condition is often underrated; but it stands out prominently when we look at the history of new countries' (Marshall, 1956, p.556). What Marshall had in mind, of course, was the experience of the United States and of the British Dominions, areas blessed by the presence of vast natural resources, which benefited from the growth of European demand for food and raw materials in the 19th Century. This approach has been formalized in so-called "vent for surplus" models (Caves, 1965), but is one that is hardy applicable to the developed West European countries which are considered here.

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[1] The only exceptions were the two slowest growing countries, the United Kingdom and Ireland, in both of which gross fixed capital formation grew somewhat faster over the period than did exports.

A modern reformulation of the Marshall thesis, still stressing the demand side, would argue that a favourable exchange rate, or an auspicious specialization in products in high demand on the world market, or geographic proximity to countries growing very rapidly, could boost export demand and profitability, as well as generating a trade surplus. This would relieve balance of payments constraints (still widespread in the Europe of the 1950s and 1960s) and allow imports of needed capital equipment. More importantly, buoyant exports would set in motion multiplier and accelerator effects at home which would raise demand and promote investment; economies of scale would be exploited, generating further gains in competitiveness, and thereby launching a virtuous circle. These growth promoting forces would be strengthened, in a world of fixed exchange rates as, by and large, was that of the "Golden Age", by the rising confidence which a favourable balance of payments position would inspire in economic agents. Nor would the monetary consequences of continuing external surpluses undo this mechanism since capital controls and sterilization policies would limit any rise in the money supply and hence in domestic inflation.[2]

In an alternative view, however, it is the supply side that receives pride of place. Exports succeed in the world because domestic growth is rapid, new products are put on the market in response to buoyant internal demand, economies of scale are achieved and external competitiveness improves: thus, a country's exports grow rapidly because of 'the innovative ability and adaptive capacity of its manufacturers' (Kaldor, 1981, p.603); and/or because 'fast growing countries expand their share of world markets … by expanding the range of goods that they produce' (Krugman, 1989, p.1039). Trade, according to these views, is not the primary engine of growth, but its "handmaiden" (Kravis, 1970). Growth is not "export-led". Instead it is exports that are "growth-led".[3]

The most common approach to look for the presence or absence of export-led growth has been that of applying Granger-causality tests to time series. A large number of studies have applied this methodology to the data of many developing countries and of a few staple-exporting OECD countries such as Australia or Canada (see, for

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[2] This set of conditions, of course, proved to be only temporary. With the passage of time capital controls were gradually eroded and Bretton Woods collapsed in the early 1970s largely because of the monetary consequences of rising German balance of payments surpluses on German money supply and inflation.

[3] The present writer thought he had been the first to use this expression in the mid-1970s (Boltho, 1976) (and was very pleased with himself). Since then, however, he discovered that it had already been coined by another author (Lubitz, 1973).

instance: Bodman, 1996). Overall results are mixed, with plenty of examples of countries whose experience fits the hypothesis and, equally, numerous examples of the opposite. A particularly thorough study sceptically concludes that '… extreme care should be exercised when interpreting much of the applied research on the export-led growth hypothesis' (Giles and Williams, 2000). Two meta-analyses (Mookerjee, 2006; Sannassee *et al.*, 2014) surveying 76 and 447 studies respectively provide a broadly favourable response for developing countries – either manufactured exports or total exports tend to lead, more usually than not, to higher overall growth in emerging economies, particularly in those that are most developed.

Surprisingly perhaps, there are fewer investigations of this kind for the industrialized West European countries considered in this paper and even here the few that are available have often explored the experience of slightly less advanced economies such as those of Greece, Ireland or Portugal (e.g: Panas and Vamvoukas, 2002; Fountas, 2000; Oxley, 1993), with causality running from exports to output in Ireland over the years 1981-94, but reverse causality, from output to exports, present in Greece (1948-97) and Portugal (over the very long 1871-1985 period).

For the more developed countries the fairly generalized conclusion is that such tests have seldom succeeded in proving the hypothesis. Over the long 1950-85 or 1950-90 time spans two studies have found either no causal relationship at all going from exports to GDP for any of 13 industrialized countries of Western Europe (Afxentiou and Serletis, 1991), or only limited evidence for some, depending on specifications (Riezman and Whiteman, 1996), while weak evidence for export-led growth was found for Italy (1951-2004) (Pistoresi and Rinaldi, 2012). For more recent periods, the results obtained are less negative, but even here positive results in some cases are then contradicted by negative ones in others. For the years 1960-87, for instance, exports seem to lead GDP growth in Germany (Sharma *et al.*, 1991) and manufacturing productivity growth in Germany and the UK (Marin, 1992); similarly, Belgium, Denmark, Italy, Spain and Sweden appear to fit the hypothesis in the period 1960-97 (Konya, 2006), Spain in the years 1959-99 (Balaguer and Cantavella-Jorda, 2001), Finland in 1965-85 (Pomponio, 1996), France and Germany in 1970-87 (Kugler, 1991) and Italy in the years 1975-97 (Yamada, 1998). At the same time, however, there are negative results for Switzerland and the UK (1960-97) (Konya, 2006) (confirmed by

Kugler (1991) for 1970-87), Italy (1960-87) (Sharma *et al*, 1991) and again for 1960-92 (Anwer and Sampath, 2000), Austria (1965-85) (Kunst and Marin, 1989), Austria, Denmark, Germany, France, Italy and Norway (1965-85) (Pomponio, 1996) and France and the UK (1975-97) (Yamada, 1998). Some of these contradictory results can, no doubt, be explained by different time spans and different estimation techniques.

Overall, a tentative conclusion from these studies would be that exports were not the primary engine of growth in post-war Western Europe. It should be remembered, however, that this literature follows a mechanical and a-theoretical approach which, in the author's view, more usually than not hides rather than reveals information about a country's experience. Finding, for instance, that exports "Granger caused" economic growth in a particular economy, tells us little as to why this happened. Was it domestic productivity growth that, by improving competitiveness, led to market gains abroad, or was it surging foreign demand for the country's exportables, which began a favourable multiplier process at home? From both an analytical and a policy point of view, it is questions such as these that would seem to be of interest.

The approach that will therefore be followed is much more down to earth (some would, no doubt, call it pedestrian) and draws from previous work carried out on Japan (Boltho, 1976 and 1996). The starting point for the analysis is the assumption that for export-led growth to be feasible a developed OECD country must enjoy a competitive advantage over rival economies in some branch or other of manufacturing that lasts for a number of years if not decades. One pre-condition for such a competitive advantage to be durable is the presence of fixed, or quasi-fixed, exchange rates. In their absence, currency appreciation, induced by export successes, could quickly erode whatever advantage a country possessed. The Bretton Woods era of quasi-fixed nominal exchange rates between the OECD countries provides an obvious testing ground.[4] A second pre-condition is the presence of spare resources since, in their absence, inflation would eliminate the initial advantage. Here too, the "Golden Age" experience suggests that in most West European countries relatively elastic labour supplies and the rapid growth of the capital stock (consequent on high rates of investment) ensured sufficient levels of

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[4] It could be argued that what matters for international competitiveness is the real, not the nominal, exchange rate. But real exchange rates too were virtually fixed in the Bretton Woods era given that inflation rates differed little across the OECD area, at least until the late 1960s.

capacity (the only major exception was probably the United Kingdom) (Kindleberger, 1967).

Finally, a climate of free trade would also seem to be indispensable for export-led growth to be possible. Should trade be hampered by high tariffs and/or quantitative restrictions (as it had been in the 1930s), exports could hardly be expected to grow rapidly. The "Golden Age" seems to fit the requirement of broadly free trade in Western Europe. Six rounds of GATT negotiations of tariff reductions between 1948 and 1972, the creation of a Common Market between the six founding members of the future European Union in 1959, as well as the liberalizing work of the OEEC, which dismantled quantitative barriers to imports, all made for economies that were rapidly opening to world trade. Tariffs on manufactured goods were cut from 'an average level of 40 per cent in 1947 to 6 and 8 per cent for most industrial countries' by 1974 (World Bank, 1987, p.134).[5] More importantly, the OEEC Code for Trade Liberalisation helped in eliminating the numerous bilateral agreements and quantitative restrictions on trade that prevailed in the early post-war years. Already by 1955, some three-quarters of intra-European trade in manufactures had been freed from quotas (Asbeek Brusse, 1997). By 1960, 'non-agricultural quantitative restrictions had virtually disappeared in Western Europe' (Maddison, 1964, p.167).

Results will be presented for three simple tests, all of which involve an element of qualitative appreciation. The time period spans the years 1950 to 1973, even if data availability sometimes limits the analysis to shorter periods. The country coverage tries to encompass all the relatively industrialized Western European economies (including Spain), but usually ignores the experiences of Greece, Ireland and Portugal (as well as of Iceland and Luxembourg).

The first of the three tests considers the level of the exchange rate as an obvious channel of transmission that could have favoured export-led growth. It will be remembered that at the outset of the "Golden Age", in September 1949, many European countries devalued against the dollar. If at that time particular currencies had been pegged at very competitive rates vis-à-vis the United States, this could, in a virtually fixed exchange rate regime, have started a virtuous and reinforcing circle of

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[5] It is true that more recent work has downgraded this reduction from some 22 to perhaps 10-12 per cent over the same period (for total trade, however, not for trade in manufactures) (Bown and Irwin, 2015). This would still be a significant decline.

rising exports, investment and growth, given the importance of the American market and the pre-eminence of the dollar in international transactions, particularly in the 1950s.

The second test is even simpler: it lets the data speak for themselves. The test was originally suggested by Caves: 'Relatively simple price-quantity data should often suffice to show whether the growth of exports conveys a foreign disturbance to the economy or rather results from the expansion of domestic capacity. If disturbances arise predominantly from external demand, price and quantity changes should be positively correlated, if the disturbances arise from shifts in domestic supply, the correlation would be negative' (Caves, 1971, pp.426-27).

The third test focuses instead on a country's initial export specialization pattern. Should an economy at the outset of the period have been producing goods and/or selling to markets that subsequently experienced rapid growth, this would, *caeteris paribus*, have facilitated an export-led stimulus since buoyant demand abroad would have provided the trigger.

3. Results

Exchange rate considerations are addressed in Table 1 which presents estimates of Western Europe's competitiveness vis-à-vis the United States in 1950. Two dimensions of the real exchange rate are shown (both expressed in relative terms): one looks at the evolution of the GDP deflator between 1938 and 1950, the other at the change in wholesale prices over the same period.

The late 1930s exchange rates here taken as a basis were probably not equilibrium ones, but may not have been too distorted either. According to Nurkse, for instance: 'At the end of 1936 … exchange relationships between the principal free currencies were not widely different from what they had been in 1930' (League of Nations, 1944, p.129), while Kindleberger suggests that the 1937 exchange rates were 'broadly back to the 1929 pattern' (Kindleberger, 1986, p.269). This pattern, in turn, bar the overvaluation of the pound, seemed a reasonably stable one (Lewis, 1949).

Table 1: indicators of Western European competitiveness relative to the United States

| | Relative competitiveness (1938 = 100) | |
	GDP deflator	Wholesale prices
Germany	53	51
France	100	99
Italy	81	73
U.K.	64	73
Spain	90	102
Austria	37	43
Belgium	118	113
Denmark	80	88
Finland	120	111
Netherlands	66	77
Norway	64	59
Sweden	74	79
Switzerland	96	102
Greece	175	114
Ireland	59	70
Portugal	94	99

Sources: Department of Commerce, Historical Statistics of the United States, Part 1, 1975; Hjerppe (1989); IMF, International Financial Statistics (Supplement to 1967/68 issue); League of Nations, Statistical Yearbook, 1940/41; Mitchell (1975); OEEC, Statistics of National Product and Expenditure, 1938 and 1947 to 1955; Prados de la Escosura (2003); UNSTATS, International Trade Statistics, 1900-1960.

The resulting estimates of relative competitiveness, which, on the whole, match those made by other researchers (e.g., Triffin, 1957; Armstrong *et al.*, 1991), show a mixed picture. Austria and Germany look very competitive, Belgium, Finland and, especially, Greece less so.[6] These comparisons, by the way, probably overstate Europe's competitive advantage vis-à-vis America since they measure only price variables. They thus ignore the important issue of non-price competitiveness, an area in which the United States (but possibly also non-belligerent countries such as Sweden and Switzerland) almost certainly held a significant advantage. There is, unfortunately, no obvious way in which such considerations can be integrated into the analysis.

Do the relative price indicators shown in the table suggest that competitiveness in 1950 was sufficiently high to generate an upsurge in exports which would, in turn, have led to an acceleration of the growth process? One, very simple way to test for this hypothesis would be to add the competitiveness variable to the regression on catch-up shown above in Figure 1. It turns out that, be it for GDP per capita or for productivity

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[6] It should be noted that Greece devalued the drachma by 100 per cent in April 1953.

growth, this procedure adds nothing. The coefficients on the starting point (1950) variable, which shows the scope for catch-up, remain statistically highly significant, the coefficients on either of the two competitiveness variables, on the other hand, are never significant (for an example, see Table 2).

Table 2: catch-up and competitiveness

| | Dependent variable : $[\ln Y/N_{i,t}+_T -\ln Y/N_{i,t}]/T$ | | | | |
	1950-1973		1950-1960		
Const.	2.57 (9.8)	2.56 (4.1)	2.78 (6.2)	5.13 (5.5)	4.86 (6.3)
Ln (Y/Ni/Y/Nus)* $_{1950}$	-2.30 (6.8)	-2.55 (6.7)	-1.30 (2.2)	-1.46 (2.5)	-1.37 (2.9)
WPI $_{i\ 1950}$		-0.00 (0.3)		-0.03 (2.9)	-0.03 (3.8)
Resid.constr.*					0.11 (2.7)
n	18	16	18	16	16
$\overline{R}^2$	0.73	0.74	0.19	0.42	0.61

Note: t-ratios in brackets.

* Output per employee in per cent of US level.

** Wholesale prices relative to the US in 1950.

*** Trend growth rate of investment in residential construction, 1950-60.

Sources: The Conference Board, "Total Economy Database" (November 2017 release) for productivity; sources cited in Table 1 for relative wholesale prices; OECD, National Accounts of OECD Countries, 1950-1968, OEEC, Statistics of National Product and Expenditure, 1938 and 1947 to 1955 and Anuario estadístico de España; Estatística industrial (Portugal), Historische Statistik der Schweiz on line, Statistical Abstract of Ireland (various issues) for residential construction.

It could be argued, however, that a competitive advantage acquired vis-à-vis the United States in 1950 need not remain a major growth-stimulating factor for a quarter century during which Europe diversified its economies and trade patterns. For one thing, the very rapid growth of intra-European trade would have diminished the importance of sales to the US, the country against which the competitive advantage is being measured. For another, domestic inflation, often somewhat higher than American inflation, would have gradually eroded the initial competitiveness. Indeed, by 1955 already 10 out of the 16 countries shown in Table 1 had seen an erosion of at least 10 per cent from the 1950 level of their wholesale prices relative to those of the US. Thus, it may make more sense to limit the analysis to the first decade of the period.

Doing this, changes the outcome. Over the years 1950-60, the catch-up explanation for growth loses some of its explanatory power, but the competitiveness variable does become statistically significant (Table 2). Results improve further if a second (largely exogenous) variable is added: the (trend) growth rate of residential construction over the decade.[7] House building is, admittedly, in some ways at least, endogenous to the catch-up process (think of the dwellings needed by immigrants from the countryside), but, especially in the 1950s, a good deal of it was carried out just to make good war-time destruction.[8] As they stand, the results would seem to lend some support to the idea that the devaluations of 1949 and the resulting exchange rates contributed to the explanation of the growth experience of Western Europe, at least in the 1950s, though probably not through the whole of the "Golden Age".

A cursory look at the data in Table 1 would suggest that positive growth effects might have operated in Germany and Austria in particular, but also, perhaps, in Norway and some other countries. Interestingly, the two slowest growing European economies in the period (the UK and Ireland) seemed to have also had a relatively competitive exchange rate vis-à-vis the US. Indeed they both recorded some of the most rapid export growth rates to North America (together with Germany, France and Italy). Yet, it would be difficult to argue that either Britain or Ireland showed signs of export-led growth. If anything, most of the literature on the British experience of the period bemoans the absence of such a mechanism. This clearly shows the limits of the approach: a competitive exchange rate at the outset may have been a necessary condition for subsequent export-led successes; it clearly was not a sufficient one.

Results for the simple test proposed by Caves (1971) and described above are shown in Table 3. The table presents changes in export volumes over the whole 1950-73 period. These were, of course, positive for all countries and often hugely so. The same is broadly true of export prices which, in absolute terms, also rose everywhere (with the exception of Italy and Spain in the 1950s). What is of interest is the behaviour

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[7] It should be borne in mind that the availability of annual national accounts statistics detailing the growth of residential construction in the 1950s is patchy. Hence a few of the data used for this variable in the regression shown in Column 5 of Table 2 had to be estimated with the help of other indicators (e.g. information on total construction investment or on the number of dwellings built).

[8] The United Nations Economic Commission for Europe estimated that the shortfall in housing caused by war destruction and absence of building during the years of conflict amounted to at least 15 per cent of the West European housing stock (UNECE, 1953).

of relative prices. The table compares the growth of a country's export unit values over the 1950-60 and 1960-73 sub-periods with those of competitor countries (proxied, for simplicity, by the evolution of export unit values for the whole of the OECD area).[9] Results are mixed. For most countries the differences are relatively small and, therefore, insufficient to reach any strong conclusions. Four countries, however, stand out: Italy and Spain on the one hand, Germany and Sweden on the other. In Italy, and even more so in Spain, relative export prices fell sharply, particularly in the 1950s; by contrast, in Germany and, to a lesser extent, in Sweden they rose.

Table 3: price and quantity shifts, 1950-1973 (average annual percentage changes)

	Export volume growth 1950-1973	Export unit values relative to competitors*	
		1950-1960	**1960-1973**
Germany	11.4	1.8	1.7
France	8.3	-0.2	0.2
Italy	12.0	-2.1	-0.9
U.K.	4.0	1.2	-0.6
Spain	12.5	-7.3	-0.1
Austria	10.4	-0.4	-0.6
Belgium	9.5	-0.6	-0.4
Denmark	7.2	0.3	0.2
Finland	6.8	1.4	-0.1
Netherlands	10.4	-0.5	-0.2
Norway	8.2	0.8	-0.3
Sweden	6.7	2.1	0.4
Switzerland	7.4	-1.5	1.9
Greece	10.4	-0.8	-0.4
Ireland	7.2	0.3	0.6
Portugal	7.2	-0.3	0.8
OECD Area	7.9	…	…

* Proxied by the unit values of OECD exports.

Sources: IMF, International Financial Statistics (1980 Yearbook); OEEC, Statistics of National Product and Expenditure, 1938 and 1947 to 1955; OECD National Accounts of OECD Countries, 1950-1979, Vol.I; Statistical Yearbook of Sweden.

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[9] Relative to domestic wholesale prices (a comparison not shown in the table) export prices usually fell significantly. This is hardly surprising. For one thing competitive pressures on the world market are likely to be stronger than on the domestic market. For another, countries tend to specialize in things they are good at producing. Hence, productivity growth in exportable production was almost certainly above average in the sample of countries here considered.

Following the logic of the Caves test, the experience of the two Mediterranean countries would suggest that export growth was led by domestic supply. This is not implausible.

Both countries had above average scope for catching up and were experiencing rapid productivity growth over the period with investment, in Italy for instance, growing at double digit rates in the 1950s (the only West European country in which this happened). This must have helped in laying the ground for a supply-led effort. A more detailed investigation for Italy broadly confirms that the country's experience does not fit the export-led model. (Ciocca *et al.*, 1975).[10] And the same conclusion is reached, if more tentatively, for Spain (Merigo, 1982).[11]

The German and Swedish evidence, on the other hand, points in the opposite direction. For both countries quantities and (relative) prices unambiguously rose over the period. Indeed Germany is also the only country in which export unit values rose substantially faster than domestic wholesale prices (at least in the 1950s). Following again the logic of the Caves test, this would *prima facie* indicate an export-led expansion. A number of analysts have, indeed, concluded that this was the case for Germany, a major reason being the country's specialization in investment goods. These enjoyed a very rapid growth of demand in Western Europe during the "Golden Age" thus providing Germany with buoyant markets on which it was probably a price-maker (Michalski, 1970; Giersch *et al.*, 1992). The Swedish case seems to have been less studied, though some hints can be found in the literature (e.g. Schön, 2008). Here too a specialization in the production of investment goods may well have had similarly favourable effects on foreign demand and hence on growth. And a similar specialization in machinery and equipment could have contributed to Switzerland's experience in the 1960s, a period in which the country's export volumes and their relative prices rose rapidly.

A rough summary of the evidence presented in Table 3 would thus conclude that, on the basis of the test proposed by Caves, the export-led hypothesis does not seem to

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[10] This view, however, is not unanimous and there are contrary opinions (e.g.: Stern 1967, Graziani, 1998, Pistoresi and Rinaldi, 2012).

[11] This conclusion, by the way, seems to fit the broad conclusions reached by the Granger causality tests carried out for Greece and Portugal and mentioned above, both of which tentatively suggest that reverse causality (i.e. from growth to exports) was in place in these countries.

be confirmed for most of the 16 countries there shown. It is really only for Germany and Sweden that the argument can be sustained. And for Germany, in particular, this conclusion is buttressed by the relative price indicator shown in Table 1 which strongly suggests that, from the outset, the country looked very competitive on the world market.

Table 4 turns to the third test and hence to the potential growth of demand for a country's exports. Use was made of a detailed study of exports of manufactures for the period 1950-71 (Batchelor *et al.*, 1980).

Table 4: trade in manufactures, 1950-1971 (average annual percentage changes)

	Difference between annual growth of export markets in manufactures and world trade growth in manufactures[*]		
	1950-63	**1955-63**	**1963-71**
Germany	1.6	1.2	-0.1
France	-0.2	-0.2	-0.2
Italy	0.2	0.2	0
U.K.	-0.8	-1.0	-0.7
Spain			-0.4
Austria		0.9	-0.3
Belgium		1.4	-0.4
Denmark		1.4	-1.2
Netherlands		1.8	0.5
Norway		0.4	-1.0
Sweden		0.5	-0.9
Switzerland			0.2

* Proxied by the growth of exports of manufactures of the 11 leading exporter countries.

Sources: Batchelor et al. (1980); OEEC, Statistical Bulletins, Foreign Trade, Series 4; OECD, Trade by Commodities, Series B and C.

This work covers the eleven largest exporters of manufactures, distinguishes six major commodity groups and eight major geographical areas, and presents the data in constant prices. Full statistics are provided for France, Germany and the UK (as well as for Canada, Japan and the United States). Italy, Belgium, the Netherlands, Sweden and Switzerland are combined in a total for "Other Western Europe". For these latter five countries detailed export data in current prices from 1955 were assembled and deflated with the unit value index for the "Other Western Europe" total given in the original

source.[12] This is clearly a simplification, since it is unlikely that countries as diverse as Switzerland or Italy would have charged the same prices on the world market, especially in the 1950s, but it is unlikely that any bias so introduced would be sufficiently large to invalidate the broad conclusions reached below.

The results shown in the first two columns suggest that several West European countries were relatively well placed on world markets in the 1950s. Germany, again, but also the Netherlands and, possibly, Belgium and Denmark all benefited from above average market growth. In the second half of the period (1963-71) however, these advantages seem to disappear. Market growth in manufactures is lower for virtually every economy shown in the Table than is world trade growth in manufactures. Only the Netherlands and Switzerland are (very) partial exceptions to this rule.

4. Conclusions

This brief paper has proposed three very simple, but also intuitive, tests for the idea that Western Europe's growth in the "Golden Age" was driven by exports. It is clear that no strong conclusions can be derived from such an approach. Broadly, however, the tentative results provide little support for the hypothesis. It would seem to be hardly applicable to the 1960s, a decade in which the competitive advantage that Europe had gained at the time of the 1949 devaluations vis-à-vis the dollar, had, at least in part, been eroded (and was, in any case, less relevant given the expansion in intra-European trade). It could, however, throw some light on the experience of the 1950s. For most West European countries the decade was one of a relatively competitive exchange rate, at least vis-à-vis the United States. This allowed Europe to avail itself of that country's absence of a balance of payments constraint and relatively rapid growth of imports.[13] This must have contributed to growth (as suggested by the results of Table 2), but would it have been sufficient to launch a self-sustaining growth process?

Looking at individual countries, Germany would seem to stand out. All three of the tests here proposed point in the direction of export-led growth, and this is

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[12] The availability of data for 1950 was, unfortunately, very limited and the analysis for the full period is thus restricted to only four countries.

[13] For Western Europe as a whole exports to the US grew significantly faster than total exports between 1950 and 1960. This, however, was not the case for every single country. The Netherlands, Norway and Switzerland are the major exceptions.

particularly true of the 1950s, a decade for which the catch-up hypothesis provides only a partial explanation.[14] The country acquired a competitive exchange rate in 1949 that was hardly eroded until the DM revaluation of 1969. Its relative export prices rose throughout the period, indirectly suggesting the presence of strong external demand for its goods, an impression confirmed by the very favourable commodity/geographic composition of its sales on world markets. Indeed, it could be argued that Germany's reliance on exports to raise its growth rate has continued in the post-1973 world. Several of its more recent upswings and/or periods of above average European growth have been characterised by upsurges in exports, most noticeably over the last decade.

There were, of course, other reasons for Germany's growth in the Golden Age. Investment stands out, and, in particular, investment in machinery and equipment which rose by nearly 8 per cent per annum between 1950 and 1973. But then investment itself must, in part, have been stimulated by rising exports, just as buoyant exports were made in part possible by high levels of investment. As was aptly put in the context of Europe's Golden Age: '… interpretations of Europe's growth as investment-led and export-led are two sides of the same coin' (Eichengreen, 2007, p.39).

At the opposite end of Germany lies Italy for which evidence on export-led growth is scarce. Yes, the 1949 exchange rate was a competitive one, but Italy's specialization was in goods that were not really in buoyant demand on world markets. That Italy's exports succeeded was in large measure due to its rapid domestic productivity growth and continuing domestic-led shift into higher value-added products. And the same conclusion would seem to broadly hold for France and Spain (even if for the latter country data availability is somewhat scanty). As for the other major economy, the U.K., export-led growth was a mirage, partly because of the rapid erosion of its 1949 competitive advantage, partly because of the concentration of its sales over a long period on slowly growing Commonwealth markets. The 1967 devaluation did have some favourable effects on the economy (Artus, 1975), but these were hardly sufficient to propel its growth onto a different trajectory.

Of the smaller countries, the Netherlands and Sweden come closest to fitting the model. They were both competitive at the outset (Table 1), with Sweden apparently

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[14] In the catch-up equation shown in Column 3 of Table 2 for instance, the largest positive residual between actual and estimated growth is the one for Germany.

enjoying some pricing power on the world market (Table 3), and the Netherlands benefiting from relatively rapid growth in its main markets in both of the sub-periods shown in Table 4. The evidence put forward for the other countries suggests that while some of the conditions for export-led growth may have been present, at least in the 1950s, others were clearly not. The verdict is, thus, broadly negative.

The overall conclusion, therefore, matches the broad conclusion that the existing (and more technical) literature had already reached, at least as far as industrialized countries are concerned. Phases of export-led growth during cyclical upswing were almost certainly present in most Western European countries during the period here looked at. Longer-run spells of above average growth pulled by foreign demand are, on the other hand, very difficult to detect, with the probable exception of Germany and the possible exceptions of the Netherlands and Sweden. Western Europe's growth in the "Golden Age" was largely a domestic supply-led phenomenon.

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