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Howes, Candace and Singh, Ajit

Connecticut College, USA, University of Cambridge, UK

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National Competitiveness, Dynamics of Adjustment, and Long Term Economic Growth: Conceptual, Empirical, and Policy Issues

Candace Howes and Ajit Singh

ABSTRACT

Although the concept of national competitiveness is widely used by policy makers at both the national and international levels, it has been the object of trenchant criticism in a series of influential contributions by Professor Krugman. He regards it as a meaningless concept and in the hands of naïve policy makers "a dangerous obsession" with harmful consequences. This paper challenges Professor Krugman's critique and suggests that its validity depends on a rather limited economic model whose assumptions are greatly at variance with the real world. The paper shows the analytical validity and usefulness of the concept specifically in relation to the UK and the US economies.

National Competitiveness, Dynamics of Adjustment, and Long Term Economic Growth: Conceptual, Empirical, and Policy Issues¹

I. Introduction: Does Competitiveness Matter?

The governments across the world, whether of rich or poor countries are exhorted by international organizations to raise their national competitiveness so as to be able to compete more effectively in the international economy. However, notwithstanding its wide spread usage by international as well as national policy makers, the concept of "national competitiveness" has not found favour with a number of leading economists. In his highly influential and trenchant critique, Krugman (1994, 1996) has argued that "national competitiveness" is a "meaningless concept". Worse, he suggests, that it is a "dangerous obsession" with harmful policy consequences. "Thinking in terms of competitiveness": Krugman (1992) writes, "leads, directly or indirectly, to bad economic policies on a wide range of issues".

Similarly, a leading student of human capital in economic development, Behreman (1997) suggests that in terms of standard Ricardian theory of comparative advantage the term International competitiveness "is an oxymoron - every country has comparative advantage in production of some goods and services." (Pg .33) He notes, however, that this term has become a standard expression for being competitive (a net exporter) in international markets in certain goods and services that are thought to be of particular interest, perhaps because they are viewed as "modern", more productive or as leading to on-going productivity growth (for example through positive externalities.) Krugman's critique is particularly directed at policy makers in the Clinton Administration in the US, a group he regards as

¹A revised version of this paper will appear as Chapter 1 in C. Howes and A. Singh (eds) Competitiveness Matters: Industry and Economic Performance in the US, University of Michigan Press, Ann Arbor, USA, forthcoming.

"pop internationalists." With "pop internationalism" he associates the idea that the ills of the US economy (until recently) - eroding real wages, stagnating living standards, rising inequality and unemployment - are the consequence of a major erosion of the industrial base due to international competition. Pop internationalists, according to Krugman, reason that the economic ills of the US will be remedied only when the US has regained a productivity edge over its international rivals. But it is folly, Krugman claims, to think that the notion of competitiveness is in any way meaningful when applied to a nation.

In view of the cogency and wide influence of Krugman's critique of national competitiveness, it is important to carefully examine Krugman's arguments. This is the main object of this essay. It will be argued here that contrary to Krugman, there is indeed a meaningful and sensible concept of national competitiveness, which provides important insights into the relationship between trade, employment and standard of living, both in the short and long runs. Such a concept also has useful policy implications.

This paper is organised as follows. Section 2 sets out the main elements - conceptual, empirical and policy-related- of Krugman's thesis on the subject. Section 3 provides a general analytical and empirical critique of the thesis. It will be suggested there that although Krugman's criticisms of the national competitiveness concept are valid within the assumptions of his own model, these assumptions do not adequately reflect the real world. Krugman suggests that his thesis is particularly applicable to advanced countries : "while competitiveness problems could arise in principle, as a practical, empirical matter, the major nations of the world are not to any significant degree in economic competition with each other." (Pg. 35). This contention will be contested in section 4, by considering the specific case of the lack of international competitiveness of British industry. As Krugman's particular concern is the US economy, Section 5 will discuss at some length how the concept of national competitiveness can usefully be applied to that economy. Section 6 concludes.

II. Krugman: Competitiveness Does Not Matter

Krugman is of course correct to argue that the competitiveness of a nation is conceptually different from that of a corporation. Certainly, if a corporation is uncompetitive, its market position is likely to be unsustainable, forcing it into bankruptcy. There is no similar analog for a country. Even if the balance of payments position is unsustainable, even in the event of financial collapse, countries - unlike the banks and corporations that may hold their debt - do not cease to exist or go into bankruptcy.

Nor would we challenge Krugman's argument that trade deficits and surpluses are an inappropriate measure of the competitiveness of a country. While a trade deficit may follow from the weak performance of a country's tradable goods sector, it may also be the consequence of a large inflow of foreign investment which is equated with competitive strength. A trade surplus, too, sends an ambiguous signal. It may be due to a low level of national economic activity or to strong export performance.

However, some scholars, understanding full well that the trade balance is not a good measure of competitiveness, have offered an alternative formulation of national competitiveness that is more difficult for Krugman to challenge. Tyson (1992) defines competitiveness as the "ability to produce goods and services that meet the test of international competition, while our citizens enjoy a standard of living that is both rising and sustainable." Tyson's formulation implies that a competitive country is one that is able to produce tradable goods that are in sufficient demand both domestically and in international markets such that trade will be in balance without the country's having to resort to continual depreciation of its currency or to operating at a level of activity below the full potential of the economy .

To this definition of competitiveness, Krugman offers two objections. The first is that for a relatively closed economy such as the U.S. was in the 1950s, trade is so small relative to GNP that even if a steady currency depreciation is required to balance trade, the effect on the purchasing capacity of the

country's citizens would be negligible. Under the conditions of a relatively closed economy, the standard of living is almost entirely a function of the rate of growth of domestic productivity, not productivity growth relative to competitors.

He admits that if trade were a large part of GNP any currency devaluation to maintain balanced trade could, in principle, have a depressive effect on the rate of growth of real incomes. However, in actual fact, he argues, since U.S. exports are only 10 percent of GNP, relative price adjustments through the exchange rate cannot have a significant effect on overall purchasing power.

Krugman suggests that his critique of the concept of national competitiveness is empirical and is applicable to advanced economies. He writes: " While competitiveness problems could arise in principle, as a practical, empirical matter, the major nations of the world are not to any significant degree in economic competition with each other."(p.35) Krugman does not discuss specifically whether or not the concept of national competitiveness is useful in relation to developing countries. However, a clear implication of his analysis is that the concept is likely to be much more applicable to such countries as they are typically more open and less diversified and therefore more subject to terms of trade shocks.

Thus in Krugman's view, the economic problems of industrial countries - unemployment, deindustrialization, slow growth rates of per capita incomes - cannot be attributed to an uncompetitive position in the rivalry between countries (contrary to what the pop internationalists suggest). Weak performance is due to problems internal to the economies - slow productivity growth, the natural tendency in advanced industrial economies for employment to grow faster in services than manufacturing, and problems associated with regulation, social welfare and monetary restraint.

To these analytical and empirical objections to the concept of competitiveness, Krugman adds important normative strictures. He regards the attention paid to international competitiveness by policy makers and international organizations as a dangerous obsession. This is because he believes that policy

makers wrongly tend to view economic interactions between countries as a zero-sum rather than a positive sum game. Such essentially mercantilist misconceptions about the role of trade can, in his view, lead ultimately to protectionism, or worse policies.

In his 1994 contribution to the debate, Krugman accepts that strategic trade theory weakens the analytical case for free trade. However, he suggests that even in a world of imperfect competition and increasing returns to scale, the gains a country may reap from strategic restraints on trade are empirically very small. These gains in his view are far outweighed by the dangers the country runs of retaliation, protectionism and ultimately trade wars. Hence, he suggests abandonment of the “competitive metaphor” and the “rhetoric of competitiveness” by world leaders, policy makers and some misguided economists.ⁱ

III. The Limitations of the Krugman Thesis

Underlying Krugman’s critique of the concept of national competitiveness is a standard neoclassical model in which the effects of trade on a country’s standard of living manifest themselves mainly through changes in the terms of trade brought about by the equilibrating adjustments of exchange rates.ⁱⁱ Because complete wage price flexibility is assumed, and because demand for traded goods is assumed to be perfectly elastic at world prices, balance of payments disequilibria, including those which may arise between countries due to differences in rates of productivity growth, can be smoothly resolved by exchange rate adjustments. Under neoclassical assumptions then, differences in relative productivity growth and the trade imbalances that may follow cannot have any effect on demand, output, employment or inflation.

However, in the real world of incomplete wage/price flexibility, the adjustment process may be far from smooth. It may entail leapfrogging inflation and considerable adjustment in quantities, i.e., in real output and employment. These difficulties may be illustrated by considering the experience of an

advanced country (the UK in the mid 1970s). Following the first oil price shock in 1973-74, the UK economy, which was not then a major producer and exporter of oil, suffered an adverse movement in its terms of trade due to the OPEC oil price increase. The size of the shock was estimated to have amounted to about 4 percent of GDP. Instead of a smooth adjustment of the economy through movements in the exchange rates, there was a protracted process which involved redistributive struggles between various social groups over the diminished national pie. The net result was a doubling of the rate of unemployment, a quadrupling of the rate of inflation, a full blown financial crisis and ultimately the humiliation for an advanced industrial country of being forced to accept an IMF rescue package, before internal and external equilibria could be restored.ⁱⁱⁱ Thus even a relatively small terms of trade shock can even in an advanced country have serious repercussions for an economy, depending on the dynamics of the adjustment process. The validity of Krugman's analysis of national competitiveness requires an abstraction from such labor market dynamics.

There is a further more serious problem with the Krugman model of equilibrating adjustment between countries through prices, i.e., changes in exchange rates. This arises not so much from the abstractions made with respect to the labor market dynamics but, importantly, it is caused by the neglect of certain essential features of the contemporary product markets. In a wide range of manufactured products these markets are characterized by oligopolistic structures. This leads to a situation that competition now takes place to a considerable extent on the basis of non-price factors such as quality, marketing, design, reliability and service .

This aspect of international trade is related to the empirical paradox originally observed by Kaldor (1978). He found that for countries like Germany and Japan which increased their share of world markets in manufactures in the 1960's and the early 1970's, prices and costs relative to other countries (expressed in a common currency) rose rather than declined. On the other hand, the share of the UK and

the U.S. in the world exports of manufactured goods fell despite the fact that their prices and costs relative to other countries were decreasing. Fagerberg (1996, Table 1) has updated Kaldor's original analysis for the years 1963 - 1975 to the period 1978-94; he has also extended it to include twelve leading countries for manufactured exports. He finds a positive relationship still exists between world market share and relative unit labor costs.^{iv} It is notable that the East Asian NICs, which have gained large increases in market share, have recorded rising relative unit labor costs. From a neo-classical perspective, there would appear then to be a generally perverse relationship between a country's world market share and its relative prices. On the other hand, Fagerberg also observed, seemingly consistent with neoclassical theory, a positive correlation between a country's rate of productivity growth and its change in world market share. An important explanation for these observed phenomena lies partly in the fact mentioned earlier, i.e. the increasing role of technology and other non-price factors in international trade. The reason for the positive association between productivity growth and market share is that countries with high rates of productivity growth also have high rates of investment and output growth. Such countries thereby achieve faster turnover of machines, faster technical progress (to the extent that technical progress is "embodied" in new capital goods), greater learning by doing and quicker development of new products.^v As a consequence, as Kaldor (1981, 603) observed: "[B]asically in a growing world economy the growth of exports is mainly to be explained by the income elasticity of demand of foreign countries for a country's products; but it is a matter of the innovative ability and adaptive capacity of its manufacturers whether this income elasticity will tend to be relatively large or small."

Kaldor's emphasis on technological development as the key "non price" factor in international competition also finds confirmation in the data on R&D analyzed Fagerberg. He shows there is a

significant positive relationship between the change in a country's R&D as a share of GDP and growth in its world market share.^{vi}

Empirically then, market share growth is better explained by relative productivity growth (and the associated growth of investment) than by falling relative unit labor costs. These analytical and empirical findings, when coupled with the concept of cumulative causation, have serious implications for the Krugman analysis. It will be recalled that one of Krugman's main points is to suggest that a nation's standard of living is determined by its own long-term productivity growth rather than its productivity growth relative to others (subject to a terms of trade effect discussed earlier). However if countries' relative productivity growth is an indicator of their relative non-price competitiveness, it means that a country with relatively slow productivity growth will not only have a smaller growth of market share but that because of cumulative causation, its performance may decline further. Corporations in countries which become technologically uncompetitive and start to lose market share will see their profits fall, leading to a lower rate of investment, slower technical progress and hence even greater non-competitiveness than before. Left to themselves these dynamic market forces can therefore lead to a cumulative decline in a country's share of world markets making it thereby more difficult for its economy to operate at full potential. To counteract such vicious-circle dynamics requires supply-side measures which can improve a country's technological capabilities.

The above point can also be looked at from another perspective. What are the implications of technical change abroad for a country's standard of living? To analyze this issue, let us suppose that one of the U.S.' main trading partners (say Japan) has increased its trend-rate of technical progress due, for example, to an acceleration in the rate of investment in higher education and science. This has no immediate effect on U.S. productivity growth. Suppose further, however, that this technical change in Japan, although to some extent complementary in the sense of increasing the demand for U.S. goods in

Japan, is largely “competitive”, i.e. Japan starts to export better quality goods in those industries where it competes with the U.S. The end result of this process through cumulative causation may be a further decline in U.S. competitiveness and hence productivity growth in the way outlined above, unless the U.S. is able to adapt to new circumstances either by imitation or by technological development of its own. Such adaptation in the real world of international competition today, is crucial to maintain a mix of exports for which the world income elasticity of demand and the potential for productivity growth are sufficient to encourage a virtuous circle of growth, investment and technical change .

To sum up, contrary to Krugman, there are good analytical and empirical reasons for the view that relative productivity growth does matter profoundly. With so much trade based on non-price competitiveness, the trade balance can rarely be achieved solely through exchange rate manipulation or only at great cost in terms of employment and real income growth.^{vii} Moreover, greater productivity growth abroad, as a result of faster technical progress there, is likely to have negative consequences for productivity growth in the home economy unless corrective measures are taken to enhance the country’s technological capabilities. Thus even an advanced country cannot afford to ignore its international competitive position if it wishes to improve its standard of living in the long run.^{viii}

Turning to Krugman’s normative objections to the concept of international competitiveness as carrying the implication that trade is a zero sum game, the forgoing analysis suggests that this objection is also not well founded. To the extent that international competitiveness requires leap-frogging competition between countries in technological developments, this may result in a Pareto improvement in world welfare.

To sum up, once the severe limitations of Krugman’s model in its application to the real world are recognized, his analytical and empirical critique of the concept of national competitiveness loses much of its force.

IV. National competitiveness and UK Economic Performance

For much of the post World War II period the performance of the UK economy has been a source of dissatisfaction to economists and policy makers. Although the country recorded faster growth in the post World War II period than ever before, its relative position declined vis-à-vis other European countries. In the early 1950's, most West European nations had lower productivity levels in manufacturing as well as over all, some very considerably lower than the UK's. However, by 1987, many of these countries had either caught up with or surpassed the UK (Maddison 1991, Table C11).^{ix}

There is a large body of literature that suggests that the inadequate performance of the UK economy for much of the post World War-II period has been due to the lack of competitiveness of UK manufactures in the world economy. There is considerable evidence of such uncompetitiveness. For example, as UK manufacturing exports grew at a rate well below that of other advanced industrial countries for much of the postwar period, the UK share of world exports declined from over 25 percent in 1950 to just over 9 percent in 1990. Over the same period, Germany's share rose from 7.3% to 20% and Japan's from 3.4% to 17%. The French share of world exports of manufactured goods remained surprisingly constant – 9.9% in 1950 and the same in 1990. Like the UK, the U.S. also lost share in world markets but at a much slower rate than the UK. The U.S. share of the world manufacturing exports fell from 27.3% in 1950 to 16.2% in 1990. Remarkably this poor performance of UK industry in the world economy occurred despite the fact that in the 1960s and 1970s British costs per unit of output expressed in a common currency fell significantly relative to those of other countries.^x

In analyzing this relative economic decline, following the work of Kaldor, Cambridge economists provided a conceptualization of national competitiveness for the UK economy.^{xi} In a series of papers, Singh (1977, 1979, 1986, 1987, 1989) argued that Britain's poor overall economic performance was due to the failure of its industry in the world economy. He suggested that Britain's

industry was “inefficient,” and as a consequence of competition from other countries (both advanced and industrializing), it was becoming progressively more so over time. Singh defined an ‘efficient’ manufacturing sector for UK economy in the following terms:

“Given the normal levels of the other components of the balance of payments, an efficient manufacturing industry is one which not only meets the needs of the consumers at the lowest cost, but also generates sufficient net exports to pay for the country’s required level of imports at socially desired rates of employment, output growth, and exchange rate, both in the short and long runs.”^{xii}

In this conceptualization, the qualifications at the end are highly significant. This is because at a low enough level of employment or output, any manufacturing sector would be able to meet this definition of efficiency. However, the question is, can the UK manufacturing industry do so, say at the full employment level of output. Similarly industry may be able to fulfill these efficiency criteria in the short run as a result of a temporary favorable economic shock (say, for example the discovery of North Sea Oil), but it may be unable to do so in the long run (when the North Sea Oil has run out). The desired level of exchange rate in the above formulation is a surrogate for the socially acceptable rates of inflation and income distribution.^{xiii}

Singh provided evidence to indicate that in these terms the UK industry in the 1960s and 70s was not only inefficient but becoming increasingly so. This was despite the fact that the UK costs and prices in common currency were falling rather than increasing relative to those of other countries. As a consequence, the economy, as a whole, was progressively unable to operate at its full potential. Very briefly, the U.K had unfavorable import and export elasticities which indicated over time a growing current account deficit at full employment. In other words, in the international economic regime operating at that time, the country was able to reach a sustainable current account position only at ever increasing levels of unemployment. Detailed analysis suggested that the main cause of this current

account disequilibrium was the poor performance of UK industry in the world economy, rather than the competitive failure of other sectors such as agriculture or services.^{xiv}

In the period since 1980 there have been three important changes in the UK economy which could in principle alter the above analysis; (i) the discovery of North Sea Oil; (ii) the new economic policies of Mrs. Thatcher which differed fundamentally from those adopted by both political parties over the post World War II period; (iii) the new international economic regime of more or less free capital movements, following the abolition of exchange controls in the UK in 1979.

There is a vigorous debate on the question whether these new elements have made the U.K. industry permanently more “efficient,” i.e., more competitive. The proponents of the improved efficiency thesis point to the industry’s superior productivity growth record in the 1980s and 1990s relative to that of most of the UK’s European neighbors. The opponents point to the fact that the UK has experienced much steeper de-industrialization than most other industrial countries; that its rate of growth of manufacturing production has also been much slower than that of others; that its comparative investment performance has been very poor and that there has been very little change in the country’s unfavorable propensities to import and export manufactured products .

Whatever one’s view about the success or otherwise of the Thatcher measures in rejuvenating UK industry, it is clear from the above analysis that contrary to Krugman there does exist a meaningful concept of national competitiveness for an advanced country such as the UK. Such a concept yields important analytical insights. It also has important policy implications which for reasons of space will not be discussed here; interested readers may refer to the large literature on the subject.^{xv}

V. Competitiveness and the U.S. Economy

Our analysis, applied to the UK, illustrated that with an increasingly uncompetitive manufacturing sector in the 1960s and 70s, and domestic wage /price inflexibility, the UK became progressively balance of payments constrained. The most notable consequence was slow growth and high unemployment.

At first consideration, the U.S. picture appears to be quite different. Despite the fact that between 1978 and 1997 the U.S. grew at an average annual rate of only 2.3 percent, roughly comparable to that of Europe, the U.S. has experienced much higher rates of employment growth. As a consequence, unemployment rates in the U.S. have been persistently lower than those in Europe and have recently fallen to levels below 5 percent not seen since the 1960s. Nor have sixties-style rates of unemployment triggered sixties-style rates of inflation. More recently, the U.S. has experienced higher than expected rates of output and productivity growth. The apparent productivity renaissance has triggered a debate about whether the U.S. is not now finally enjoying the benefits of a “new economy” in which computer technology and increased global competition have relaxed the economic constraints of the 1970s and 80s (Cairncross 1997a, Cairncross 1997b; Madrick 1998; Shephard 1997; Tyson 1998).^{xvi}

Does this apparent good performance suggest that the U.S. economy does not suffer from a competitiveness problem? We saw in Section 2 that Krugman rejects the idea of a competitiveness problem on the ground that, although the U.S. economy has become much more open than before, the effect of foreign trade on the U.S. standard of living (as mediated through movements in the terms of trade) is too small to count. Moreover, even others who are normally sympathetic to the competitiveness thesis (and whom Krugman criticizes) have been fairly silent in the face of this good economic performance.

There are however important weaknesses in this apparently rosy economic picture, which suggest that attention to competitiveness issues for the U.S. economy may not be entirely out of place. A major blemish in the U.S. economic record is that, although labor markets appear to be tight and there are high levels of employment, real wages have hardly risen at all during the last 25 years. Both productivity growth and per capita income growth, though not as slow as wage growth, have been well below that of the major OECD countries (Howes and Singh 1995). This has meant that the normal expectation of the American people, that each generation's standard of living will be twice that of the previous one, is no longer being realized.

We argue that the main reason for the stagnation of real wages in the U.S., like the high rates of unemployment in Europe, is that the economy in the post - 1973 period has been expanding at a lower long term rate than before.^{xvii} Between 1960 and 1973 U.S. GDP grew at an annual rate of 4.0 percent, compared with 2.3 percent since 1973. The higher growth rate of the earlier period not only enabled the country to have a better employment record than it has done subsequently; more significantly it also made it possible for real wages to increase at a rate of about 2.0 percent per annum in that period.^{xviii}

Thus to meet the historic aspirations of U.S. citizens, it is not enough for the economy to generate high levels of employment, it must do so with growing real wages. This can, however, only be accomplished if there is a trend increase in the post-1973 long-term growth rate of the U.S. economy, to the rates that were experienced in the 1950s and 1960s .

An important question is, can the U.S. economy again today expand at the rate of about 4 percent per annum which it achieved in the pre- 1973 period?^{xix} Mainstream economists are fairly united that since about 1973, the maximum possible trend rate of growth of GDP has fallen in the range of 2.0 to 2.5 percent per year. By definition, labor force and productivity growth rates, which are both now averaging about 1.1 percent per year, define the limits to growth. Unlike Europe, where unemployment

rates are still multiples above 1960s levels, the fact that unemployment in the U.S. is now close to levels experienced in the 1960s, is taken as a sign that the U.S. has reached the supply-side limits to its growth rate (Blinder 1997; CEA 1997; Tyson 1998) .

This 'limits to growth' argument depends crucially on three assumptions. The first is that unemployment rates cannot go much, if at all, below their present levels without setting off inflation - the NAIRU argument. In other words, we are now at full employment, defined as the employment level beyond which the inflation rate will begin to accelerate. The second assumption is that the labor force can grow no faster than its current rate of 1.1 percent per year. The third assumption is that the current 1.1 percent trend rate of productivity growth which has prevailed for 25 years, is the best that can be expected. Yet all three assumptions are open to question.

Recently, several prominent economists have begun to question the level, mechanism and consequences of NAIRU. Akerlof, Dickens and Perry (1996) set NAIRU at 5.0 percent, well below the 6.5 percent rate that dominated the literature until recently. Some (Eisner 1995; Stiglitz 1997) find evidence that the Phillips curve may be concave, implying that even if unemployment is held low for a sustained period, the rate of inflation does not increase at an increasing rate. Although Akerlof, et al., find the Phillips curve to be the usual convex shape, Gordon finds the short run Phillips curve to be resolutely linear. Gordon (1997) estimates that inflation would rise at a steady rate of 0.3 to 0.5 points per year if unemployment were held 1 point below the NAIRU level. Galbraith (1997) argues that if Gordon and Akerlof, et al., are right, the inflation costs of holding unemployment 1 point below NAIRU at 4 percent for a decade would be a final inflation rate of 6 percent. But equally significantly, Galbraith has argued historical evidence suggests that the major risks of accelerating inflation have come, not from low unemployment, but rather from external supply side shocks. Appropriate anti-inflation policy would, under these conditions, be a set of circuit breakers for shock episodes, not slow growth .

But, of course, even if NAIRU is not the binding limit on growth that had previously been supposed, ultimately, without either a faster growing labor force or faster productivity growth, or both, the economy will run up against a supply-side growth constraint. It may be, however, that the potential trend rate of growth of the labor force exceeds the actual or measured trend rate of growth. Recently, Thurow (1996) has argued that approximately one third of the American workforce is looking for more work than it has. In other words, a labor force that is officially 95 percent employed in 1998 is not nearly as employed as a labor force that is 95 percent employed in 1965. And as Bluestone and Harrison (1997) observe, the slightly higher rates of growth in the last few years have revived the upward trend in labor force participation rates, begun to bring back some of the 5 to 6 million young men who had disappeared from labor force statistics, but not from Census statistics, and pushed up the average hours being worked by the typical American worker. So while Blinder (1997) concludes from the falling rate of unemployment that the U.S. is growing faster than its limit, Bluestone and Harrison take this as evidence, since it has not led to inflation, that “there is a good deal of labor supply in the pipeline when labor demand exists to employ it (1997, 67).” They estimate that an additional 0.3 to 0.4 percent rate of growth can be sustained in the labor force over the next decade.

While there seems to be strong evidence that the labor force is more elastic than has been imagined, in the end, it is significant improvements in productivity growth on which we must rely to raise the trend rate of growth as well as to obtain the required improvement in the growth of real wages. Whether that is possible is a matter of considerable controversy .

Many historians of technology, as well as proponents of the “new economy” regard the cluster of innovations connected with information and communication technology (ICT) to be at par with the two or three most important technical revolutions of the last 200 years, such as steam power, railroads, and electricity (Cairncross 1997a, Cairncross 1997b; David 1991; Freeman and Soete 1994). However, ICT

differs from these in one important respect. In addition to being an input and facilitating production in a wide range of industries, ICT also has direct outputs, in the form of new products, i.e. the Internet, CD ROM, micro-processors etc. (Freeman, Soete and Efendioglu 1995)

Another important difference between ICT and electricity and steam power is that the pace of technical change in the former has been much faster, with the result that its price has fallen far more quickly relative to the other two. Whereas it took almost fifty years for the price of electricity or of steam power to be halved after the beginning of their commercial use, the price of ICT has already fallen to a fiftieth of what it was twenty-five years ago. An ordinary PC today costing about \$ 2,000 has as much computing power as the most advanced computer in 1975, costing at the time over \$ 10 million (Woodall 1996) .

Yet, despite all this potential, and despite the fact that investment in computers has grown by 30 percent a year on average for the last 20 years, Solow has observed that the computer revolution shows up everywhere but in the productivity data. One explanation for this phenomenon (the so-called Solow paradox) is the view advanced by economic historians that there is always a lag in productivity growth while the new technology is being put in place, while people are learning how to use it (David 1991).

Some have suggested that benefits of the new technological revolution are already occurring but are simply being mismeasured. The Boskin report, for example, found that the current method of measuring the CPI overstated the rate of inflation by approximately 1 percentage point. This finding was used to argue – and this was perhaps one of the motivations for attacking the CPI in the first place (Baker 1998) – that the real rate of growth of output and productivity was being understated.^{xx} Mismeasurement of the CPI, however, offers little explanation for the productivity slowdown (Solow 1998). As even members of the Commission have acknowledged, if the CPI is overstated, it was overstated both before and after 1973.

More recently Solow (1998) and Madrick (1998), citing the work of Sichel (1997), reject the view that there is any productivity resurgence, either apparent, or hidden in inadequately measured data. Using growth accounting methods to measure the contribution of computer investment to output and productivity growth, Sichel finds that because computers still represent a very small share of total capital stock, their contribution to output growth could not have been large. Only if computer investment earned a rate of return far in excess of the normal rate of return – in which case firms would be irrationally underinvesting - could the contribution of computers be significantly larger.^{xxi}

What is missing from this whole discussion is the effect that slow growth has had on the realization of the potential of the new technologies. The growth accounting framework generally abstracts from the role of demand. However, if the rate of growth of real aggregate demand were higher, industries would have made faster progress putting into place all the pieces necessary - software, hardware, and skills - to achieve the full potential.^{xxii} ICT would have more widespread use in most branches of industry and services, reducing their prices and, as in the case of previous technical revolutions, leading to a virtuous circle of increased demand, increased output and increased growth of productivity.

In short, to realize the supply side potential of the ICT revolution for the economy as a whole, that is, to raise the trend rate of growth of productivity, a faster rate of growth of real demand is needed. This in turn would lead to fast growth of output as well as that of the labor force. Were the trend rates of growth of the labor force and productivity to rise, whatever real inflation constraint exists would be relaxed.^{xxiii}

However, even if the inflation constraint could be overcome, it is arguable that the U.S. is already currently growing close to its maximum sustainable rate, given its uncompetitive manufacturing sector.

The U.S. current account deficit would, other things being equal, greatly increase with the expansion of real aggregate demand. The deficit would most likely become unsustainable .

Analysis of trends in the current account reveals that, since 1978, there has been deterioration in the current account for a given rate of growth. The deterioration is due primarily to unfavorable trends in the income elasticities of demand for the country's imports and exports. The fact that the rate of growth of some of the U.S.' primary trading partners has slowed more than that of the U.S. has also contributed to the trade imbalance. And the failure of the U.S. currency to continue to depreciate as it did in the 1960s and 1970s has meant that the relative price position has worsened as well.

From about 1960 to 1973, the U.S. was able to sustain average annual rates of growth of 4 percent and maintain a small positive balance on the current account, albeit with a steadily depreciating real exchange rate and relative unit labor costs. During this period, it should be noted that world GDP was growing about five percent a year, one percentage point faster than the U.S. Between 1973 and 1979, U.S. growth rates slowed to about a 2.8 percent average, while the rest of the world continued to grow at close to 5 percent a year. The U.S. was still able to sustain a positive current account balance but only with the real exchange rate depreciating at about 3% annually, similar to the average rate of depreciation between 1960 and 1973.

Since 1980, the U.S. has run a deficit on the current account that has averaged about 1.5 percent of GDP. Two changes have affected the ability of the U.S. to maintain balance in the current account. First, while over the entire period, the rest of the world has continued to grow faster than the U.S., the growth gap has narrowed substantially. There have been a couple of periods when the rate of growth of demand in the U.S. has actually outstripped that of the rest of the world. Second, the real value of the dollar reversed its long-term decline, starting in 1980. In real terms, the value of the dollar did not fall, on average, from 1980 to 1995, though, as is well known, there was a stretch between 1979 and 1985

when the dollar appreciated substantially, falling back to its 1980 value by 1987. Since 1995 the dollar has once again begun to appreciate (Klitgaard and Orr 1998).

It is certainly true that the largest current account deficits have been experienced during periods of exceptionally slow relative growth for the rest of the world, or during periods of substantial appreciation of the dollar. However, it is not the case that these exceptional circumstances fully explain the persistent current account deficit, for even in periods of relative rapid growth for the rest of the world, or when the U.S. dollar has not been appreciating, the deficit has persisted. Blecker (Chapter 2 in this volume) points out that, if instead of not depreciating at all between 1980 and 1993, the dollar had continued to depreciate at the trend rate of about 3 percent a year that had prevailed in the 1970s and which was then sufficient to balance the current account, by 1993, the dollar's value would have been 40 percent below what it actually was.

A simple simulation estimating the impact of relative rates of growth and currency depreciation on the U.S. current account, given current income and price elasticities for imports and exports, renders the following scenarios.^{xxiv}

Suppose that we accept the current 3% rate of growth of the rest of the world as given. Then if the U.S. wants to see its current account deficit grow no faster than the rate of growth of GDP, it has three options: 1) grow at its current long-term rate of 2.3 percent and allow its currency to depreciate at an annual rate of a little over 1 percent a year; 2) grow at a slower rate of 1.3 percent without any currency depreciation; or 3) grow at the faster rate of the 1960s – 4 percent – and allow its currency to depreciate each year by 3 percent in real terms.

If the U.S. continues to grow at its current 20-year average of about 2.3 percent, while the rest of the world continues to grow at its 20-year average of 3 percent, unless the U.S. currency depreciates, the current account deficit as a percent of GDP will continue to grow. Within 10 years it will be about 5

percent of GDP. If the U.S. tries to grow faster, say at the 4 percent rate that prevailed in the 1960s, given the slow rate of growth of the rest of the world, the current account deficit would reach about 10 percent within 10 years. Of course, if the U.S. currency continues to appreciate, as it has for the last 2 years, the deficits will be larger.^{xxv}

A current account deficit of this magnitude would certainly be difficult to finance, even for the U.S. economy, and even under currently prevailing conditions of free international capital flows. To attract this volume of foreign debt would require high interest rates, which would slow the rate of economic growth. Further, Godley and Milberg (1994) and Howes (1999) in this volume have shown that, even if the U.S. could continue to finance the debt, the total external debt in ten years at projected deficit levels would be unsustainable.^{xxvi}

The foregoing analysis suggests that the U.S. faces an exceedingly unattractive menu of policy options – some combination of currency depreciation, high interest rates and slow growth – in order to meet the balance of payments constraint on faster growth required to enable the realization of full employment with growing real wages. Of course, the U.S. could also achieve a better current account position without resorting to any of these measures if other countries simply grew faster than their current rates. Such a scenario seems highly unlikely, however, in the current circumstances of the global economy. For the global economy to grow at a substantially faster rate would require a high degree of cooperation among the industrial countries. In particular it would require that both Germany and Japan sustain sufficiently high rates of growth to balance their external accounts, a path which neither seems able or inclined to follow.

Another option would be for the U.S. to improve the competitiveness of its export sector, especially that of manufactured goods.^{xxvii} People take different views on how greater competitiveness might be achieved. What little favor was held by industrial policy, including both protection measures

and subsidies to strategic industries, has generally been supplanted by competition policy due both to ideological reasons and the restrictions imposed by membership in the World Trade Organization. Also in current favor are proposals to increase the savings and investment rate at current rates of growth.

However, given the present state of the world economy, were the U.S. to increase the competitiveness of its manufacturing sector, without increasing its overall rate of economic growth this would, other things being equal, have the equivalent impact on world growth of imposing import restrictions. A more competitive U.S. manufacturing industry will reduce the trading partners' exports, and increase their imports. The rate of growth of our major trading partners, including Japan and other Asian countries, would be slowed as a consequence. Therefore, in the interests of the long run vitality, both of the U.S. and the world economy, it is necessary for the U.S. to simultaneously increase both the competitiveness of its exports and its rate of growth. In other words, the U.S. must increase the propensity to export and reduce the propensity to import at a given rate of growth while simultaneously increasing the rate of growth. In such a scenario, U.S. action would stimulate the rate of growth of the rest of the world because the volume of its imports would actually rise, even while its propensity to import fell.

In light of the foregoing analysis, the Asian financial crisis raises the following questions with respect to the long-term prospects for sustainable rates of growth in the U.S. The huge depreciation of Asian currencies since spring of 1997 has put upward pressure on the already appreciating U.S. dollar. Since late 1994, the real effective exchange rate for the U.S. has, by some measures, appreciated by over 20 percent (Klitgaard and Orr 1998). The currency realignments combined with declining growth rates of the Asian countries has led the OECD to predict a cumulative positive current account adjustment for Japan and emerging Asia of \$113 billion dollars in 1998 and 1999. The U.S. current account is projected to experience an \$80 billion adjustment, \$50 billion from emerging Asia alone, not including Japan

(OECD 1998). In the current context of unstable financial markets, such an increase in the deficit may not be sustainable. This would lead to either a depreciation of the U.S. currency or slower growth. A better option would be for the U.S. to improve the competitiveness of its manufacturing industry, whilst sustaining high rates of overall economic growth. With the approach of a presidential election year, there is bound to be pressure for protection in Congress, most likely in the form of trade restrictions on countries found to be guilty of human rights violations.

At the same time, the Asian financial crisis does reduce the threat of inflation transmitted through oil and commodity prices as well as imports of manufactured goods from Asia. Therefore, the above analysis suggests that the best approach for the U.S. and for the global economy, in general, would be to absorb the imports from the emerging Asian economies as well as support massive loans from the IMF and other international agencies, so that Asian economies are able to finance their recovery. The financial markets are more likely to accept this greater U.S. deficit if it does not rise as a proportion of GDP, and if there is visible improvement in the competitiveness of the U.S. tradable goods sector. At the same time, given the reduced threat of inflation (whether real or political), now is a good time for the U.S. to maintain the high rates of growth necessary to encourage investment in domestic industries.

In this context, the U.S. Federal Reserve's recent reassessment of the balance of risk between deflation and inflation leading to expansionary policies is to be welcomed. However, such policies need to be intensified. But to do so, they must be accompanied by measures which will either reduce U.S. consumption and/or increase net exports for a given growth rate along the lines suggested above.

The main thesis of this introduction is that both from the short-term and long-term perspectives of the U.S. as well as the world economy, the U.S. needs to improve its national competitiveness in order to achieve sustained faster growth of output and productivity. Opinions will differ, as indeed they do in this book, on how best national competitiveness may be enhanced – whether through

improvements in export and import propensities, and/or through an increase in the domestic savings rate. The amelioration of the competitiveness constraint and faster economic growth in the U.S. will not only help raise employment and real wages in the U.S. economy it will also aid world economic recovery in the short term. This analytical and policy perspective is also in the long-term interest of both the U.S. and the world economies.

VI. Conclusion

This paper has argued that, contrary to Krugman, the notion of national competitiveness is analytically meaningful and useful for policy makers. In its comprehensive form, as outlined, for example, by Singh for the UK economy or by Tyson for the US, the concept of national competitiveness has important empirical content for advanced economies.²

With respect to the specific case of the US economy, interest in competitiveness issues waxes and wanes with the business cycle and the US position relative to other countries. After the cyclical downturn of the early 1990s, the rest of the decade in the US has seen an unprecedented prosperity with the longest upswing in their economic history. Europe and Japan, on the other hand, have suffered stagnation relative to past experience. However, as Europe and Japan overcome their current difficulties and recover their previous trend rates of growth, the competitiveness issues of the U.S. economy will again loom large in the public eye.

² Although Krugman 1994, criticized the concept of national competitiveness for advanced countries, he was silent on this subject with respect to developing economies. However, he would find it difficult to deny the usefulness and applicability of such a concept to newly industrializing countries. These countries tend to be chronically balance-of-payments-constrained and therefore they have to be concerned with questions of competitiveness in both the short and long terms.

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Notes

ⁱ Krugman suggests that such economists know that national competitiveness is a meaningless term, but may believe that rhetoric of competitiveness may nevertheless be useful to the extent that it leads to greater expenditure on good things like education.

ⁱⁱ And as noted above, according to Krugman, terms of trade adjustments have, in reality, little impact on real incomes.

ⁱⁱⁱ See further Singh (1987).

^{iv} See Fagerberg 1996; see also Fagerberg 1988, for the original extension of Kaldor's work. McCombie and Thirlwall (1994) survey a number of empirical studies, including Fagerberg 1988, all of which confirm that the growth of import and export market shares is not significantly affected by changes in relative prices. It should be noted that it is customary to examine the relationship between export shares and relative price competitiveness using RULC rather than relative export prices. This is because relative export prices are measured by dividing the total value of exports by units and so rising relative export prices may simply be capturing the effect of improvements in quality and other non-price attributes (Kaldor 1978).

^v While a conventional view would argue that the causal link between productivity growth and market share was through the effect of productivity growth on price competitiveness, the fact that relative unit labor costs are rising with productivity and market share, rather than falling, rejects that causality, at least for countries which export advanced industrial products. Kaldor explains that both relative unit labor costs and productivity are rising because the more competitive a nation's exports become, based on non-price factors, the faster will rise that nation's world export market share,

simultaneously pulling up its exchange rate and relative export prices. Hence, Kaldor concluded that causality ran, not from relative price to market share, but from market share to price. The change in “competitiveness” as conventionally measured by relative prices and unit labor costs, was not the cause but the consequence of the change in market shares. The underlying trends in market share, as Kaldor argued, must be due to non-price factors not susceptible to measurement.

^{vi} For a fuller discussion of the relationship between technology and exports, see reviews by Dosi, et al. (1990), Fagerberg (1996), and McCombie and Thirlwall (1994).

^{vii} Dornbusch (1996) shows that real exchange rate adjustments are still possible but only when there are high rates of unemployment.

^{viii} See Dowrick 1997 for a recent review of the voluminous literature on the two way causal relationship between foreign trade and economic growth.

^{ix} Krugman’s suggestion that relative productivity does not matter and that only absolute productivity is important is simply not a valid statement for the UK economy for yet another significant reason, in addition to those outlined in the previous section. The leadership of the leading political parties as well as the British public were very conscious of the fact that although they were better off than before, they were falling behind their European neighbors. There was general agreement that this relative decline should be arrested.

^x Sources: National Institute Economic Review, various issues; Brown and Sheriff (1979), Singh (1977). The ‘world’ is defined as the following countries: UK, France Germany, Italy, Japan, U.S., Canada, Sweden, Switzerland and the Benelux countries.

^{xi} These issues were discussed in the context of the debate on the UK de-industrialization.

^{xii} The reader will note the broad similarity between this definition of national competitiveness and that provided by Tyson (1992) for the U.S. economy.

^{xiii} For a detailed commentary of this definition of an efficient manufacturing sector for the UK economy, see Cairncross 1979. Cairncross christened this the Cambridge view of UK de-industrialization.

^{xiv} It is important to note, in light of Ball 1990 and Ball and Robertson 1993 and Krugman 1989 that we are not here arguing that income elasticities of demand for imports and exports are constant. Ball (1990) first argued, in a discussion of Singh 1977, that the balance-of-payments constraint theory depended on the assumption that there was a single full employment level of imports, such that both internal and external balance could not simultaneously be achieved. Ball and Robertson (1993) revisit the issue in a lengthy critique of Thirlwall 1992, in which they invoke Krugman's (1989) claim that over the long term income elasticities cannot account for differences in rates of growth. Again they argue that the balance-of-payments constraint theory requires the assumption that income elasticities of demand for imports and export are constant.

What we do argue, as did Singh (1977, 1989), and Kaldor before him, is that whether income elasticities are large or small is a matter of the innovative and adaptive capacity of the nation's entrepreneurs. In other words, unfavorable income elasticities are indeed a supply-side problem. However, once the poor performance of the manufacturing sector began to manifest itself as a balance of payments problem, the low demand for British exports further depressed investment and innovation so that through cumulative causation the competitiveness of UK industry continued to deteriorate.

^{xv} For a recent comprehensive discussion of the competitiveness of the UK industry and the policy implications that follow from it, see the symposium in The Economic Journal, including Crafts 1996, and Kitson and Michie 1996.

^{xvi} Madrick (1998) challenges the idea that higher rates of productivity and output growth for 1996 and 1997 reflect any sort of economic renaissance. As he shows, despite even the rapid growth since 1996, the expansion of the economy which began in 1990 is the slowest expansion of the entire post World War II period. Single spurts of productivity growth, such as have occurred in 1996 and 1997 are hardly unprecedented, nor are they particularly impressive, compared to say productivity growth in 1986 or in the late 1970s.

^{xvii} Due to the fact that productivity growth is so much higher in Europe than in the U.S., the consequence of equally slow rates of growth in the two regions has been high unemployment for Europe and full employment with stagnant real wages for the U.S. Given the differences in labor market institutions, to achieve full employment in Europe would require rates of growth comparable to those of the Golden Age in the range of 4 to 5 percent annually. The U.S. can achieve full employment at lower rates of growth because productivity growth is so low. However, raising standards of living will require higher rates of productivity growth.

^{xviii} The average real earnings for non supervisory workers in the U.S. declined at a rate of 0.6 percent per annum in the 1970s, 1 percent per annum in the 1980s and 0.6 percent per annum between 1990 and 1995. In contrast in the 1950s and 1960s the corresponding average real earnings rose at a rate of 2.0 percent per annum (Mishel, Bernstein and Schmitt 1997).

^{xix} As will be argued below, it is important to note here that if this faster growth were possible this would normally not only benefit the U.S. economy, but also the rest of the world.

^{xx} Baker (1998) points out that more recently, proponents of the “new economy” have taken heart in another apparent data problem, the statistical discrepancy between income-based and output-based measures of GDP. They have argued that the income based measure, which has been growing more rapidly than the output based measure, is the more accurate. This would imply that output and productivity growth 1996-97 were considerably higher by that measure. As this controversy is only beginning, we can only report that Baker offers a compelling counter-argument, which will have to be refuted.

^{xxi} Brynjolfsson and Hitt (1996) do find that the rate of return to computer investment is above the normal rate of return. Using their estimated rates of return, Sichel recalculates the contribution of computers to output and productivity growth and finds it still to be extremely low. But in the end he rejects that idea that rates of return to computer investment could be terribly high because that implies irrational behavior by firms.

^{xxii} See Bluestone and Harrison (1997), and Cairncross (1997a,b) for the argument that the full potential of a technology revolution is not realized until all the components are in place.

^{xxiii} That is not to imply that there will not be a political inflation constraint as long as the Federal Reserve is charged with conducting anti-inflation policy.

^{xxiv} See Howes in this volume for more detail. These estimates use the most recent calculations of income and price elasticities from Hooper, Johnson and Marquez (1998). However, it should be noted that the authors also find strong evidence that the income elasticity of demand for U.S. exports experienced a steady decline over the period 1985-95, while the income elasticity of demand for imports showed a slight rise. Clarida and Hickok (1993) offer good evidence for why, due to the declining competitiveness of the U.S. capital goods sector relative to other countries, we should expect to see the

income elasticity of demand for U.S. exports fall further while that of imports rises. The capital goods sector is generally considered to have higher income elasticity than that of other manufactured goods. Since 1978, the share of this sector in U.S. goods exports has risen 9 points, while its share in imports has risen 18 points. These trends are not driven by differences in relative rates of growth of demand. Because the weight of this sector in imports is rising so much more rapidly than in exports, one should expect to see the income elasticity of imports rising faster than exports.

^{xxv} See further Howes (1999) in this volume. Clearly, these calculations make numerous assumptions. One major abstraction from reality involves the treatment of investment income flows in the current account. Since the income elasticities measure only the effect of income changes on the flow of goods and services, we are here assuming that factor income flows will not offset the trends in goods and services. As the next footnote suggests, net income flows are likely to worsen the current account deficit.

^{xxvi} By the end of 1997, net foreign debt for the U.S. is likely to have exceeded \$1 trillion, or approximately 12 percent of GDP. For the first time ever, net income flows on net foreign assets were definitively negative in 1997; the net outflow was \$5 billion dollars. What was surprising was that net income flows had continued to be positive for 10 years despite the fact that the U.S. had been a net debtor since 1988. As Godley and Milberg (1994) showed however, this paradox could be explained by the fact that the rate of return on U.S. assets abroad exceeded the rate of return on foreign holdings in the U.S., a situation which was unlikely to persist. In fact, rates of return have been converging in the last few years and it seems possible that before too long the return on foreign assets in the U.S. will exceed return of U.S. assets abroad. This is due, in large part, to the fact that the mix of assets and liabilities is becoming increasingly weighted to portfolio investment, on which the rates of return for foreign assets in

the U.S. exceed those for U.S. assets abroad. In the meantime, the weight of direct investment, where large differentials in rates of return had existed, has fallen while the rates of return have simultaneously converged. The final factor which supports the conclusion that net income flows will become increasingly negative is the fact that inward investment has been growing at a rate which is 2 to 3 percentage points higher than outward investment since at least 1990, and 6 percentage points higher in the last 3 years. While any significant realignment of interest rates would undoubtedly alter this pattern, the fact that the Federal Reserve seems to believe that the U.S. economy is now growing at its maximum possible rate, while both Europe and Japan are considered to be growing at below their potential rates does not suggest that U.S. interest rates are likely to fall relative to these regions anytime soon. (See Howes (1999) in this volume for more detail, especially Table 9.3.)

^{xxvii} See Howes (1999) in this volume for a discussion of why services exports cannot compensate for an uncompetitive manufacturing sector.