

Beyond Terms of Trade: Convergence/Divergence and Creative/Uncreative Destruction

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Abstract: The paper describes the various ways in which the Prebisch-Singer thesis of tendency to deteriorating terms of trade of poorer countries went against a prevailing trend of optimistic expectations of convergence in per capita income levels among countries. The actual evidence in the context of a globalising world economy is one of divergence rather than convergence although a number of exceptions to this general tendency are also noted. The paper then discusses debt pressures as a new factor strengthening the original Prebisch thesis. The 'fallacy of composition' involved in countries simultaneously trying to be more outward-oriented is discussed. It can only be avoided by the creation of new technological capacity creating new dynamic comparative advantages. The discussion concludes by relating the argument to Schumpeter's concept of 'creative destruction' and notes some neglected welfare aspects of innovation and increasing the variety of available goods.

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The purpose of this paper is to set the theory of a long run tendency for prices of primary products to decline in relation to manufactured products into the more general context for which - this article argues - it was originally intended. The simplest version on which the discussion has perhaps unduly concentrated is the simple proposition regarding barter terms of trade. In this sense it has become known as the Prebisch-Singer thesis (PST). With given and mutually agreed definitions of what constitutes primary commodities and what constitutes manufactures this proposition can be statistically tested. This has been widely done, with the evidence

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generally pointing, (especially when the analysis includes the recent period since 1980), to the thesis being verified and supported, or at least not refuted. For this it does not matter very much whether the data are interpreted as a persistent declining trend or as essentially stationary with intermittent downward breaks. The general policy conclusion would be to emphasise the importance for developing countries of diversification of exports into manufactures as intensively and rapidly as possible - in other words industrialisation. In this the PST fitted into the mainstream of development thinking at the time of its publication in 1950 and the period immediately afterwards. Development and industrialisation were treated as virtually synonymous. Significantly, the seminal paper by Rosenstein-Rodan (1943) was entitled 'Problems of Industrialisation of East and South-East Europe'.

The PST itself does not involve any view on whether the shift towards industrialisation should be by way of export promotion for manufactures or by way of import substitution for previously imported manufactures. In the conditions of 1950's and 1960's a tendency to give preference to import substitution was natural since

- a) developing countries had to build up a domestic production capacity in order to export manufactures and
- b) they would find it initially easier to produce for an existing and known domestic market than for an unknown global market.

A first and simple extension of the PST was to move from a proposition related to different kinds of commodities to a proposition related to different kinds of countries. As the share of manufactures in the exports of developing countries increased it became increasingly necessary to break with the identification of the terms of trade between primary commodities and manufactures with the terms of trade of developing countries with more industrialised and richer countries and to undertake separate studies of the manufacture-manufacture terms of trade. These studies suggested that diversification into manufactures - while it was recommended as part of industrialisation, reduction of risks of price volatility, creation of employment, as well as future savings of imports; was not in itself an escape from deteriorating barter terms of trade (as distinct from income terms of trade). Research has tended to establish that manufacture-manufacture barter terms of trade of developing countries were deteriorating as well as primary-manufactured barter terms of trade, in recent years perhaps even faster. The kinds of manufactures which developing countries could export in the early stages of development were different from the kind of manufactures which they imported from developed countries. The manufactures exported by developing countries tended to be technologically simpler than the manufactures imported from developed countries - hence the extension of the PST

from commodities to countries also involved a shift from emphasis on industrialisation and diversification to an emphasis on building up technological capacity, entrepreneurial skills, and of 'human capital' in general. Without such a technological capacity, a shift into manufactures required foreign investment or aid.

The PST, taken by itself, (and leaving aside the case of rich oil exporters), would create a presumption (although no certainty) of divergence within the world economy. Other things being equal, falling terms of trade for poorer countries and improving terms of trade for richer countries would mean greater international inequality between countries. Other things of course would not be equal. In particular if the deteriorating barter terms of trade are accompanied by increased income terms of trade (i.e. if the volume of exports expanded so heavily as to outweigh the decline in barter terms of trade) while the opposite was the case for the countries which had improving terms of trade the PST would be compatible with convergence rather than divergence. Even if the income terms remain constant (i.e. expansion of export volume maintains export revenue in the face of declining barter terms of trade) this would still amount to international divergence, since the poorer countries would have to mobilise greater resources for the increase in export volume. These increased resources would have to be diverted from domestic consumption or investment increasing divergence between countries in the world economy. In any case, if people in the poorer countries have to work harder; and produce more, while this is not required in the richer countries, simply to maintain income terms of trade that in itself represents an element of divergence.

In any case the presumption of the PST was that this would not happen in reality. On the contrary, it was assumed that the income elasticity as well as the short-run price elasticity of primary commodities was lower than for manufactures, hence the income terms of trade would contribute even more to international divergence than the barter terms of trade. However it deserves to be emphasised that the PST - although statistically mainly discussed in terms of barter terms of trade - was intended as a contribution to the analysis of income terms of trade. Hence the emphasis on lower price elasticities and income elasticities for primaries in the early formulations of the PST. The tendency for lower income elasticity than for manufactures (e.g. Engel's Law) is well established and largely uncontroversial.

The move from barter terms of trade to income terms of trade is a stepping stone to move towards factoral terms of trade (single or double). If productivity in the exports of developing countries - whether commodities or manufactures - improves sufficiently there could still be increases in welfare and factor incomes even in the face of declining income or barter terms of trade. However to change divergence to convergence it would be necessary for technical progress to be faster in the poorer countries than in the export industries of the richer countries. Necessary but not sufficient. The PST argues that one must also include the possibility that the fruits of

technical progress are differently distributed in different types of countries. Specifically, the PST argued that there is a tendency for the results of technical progress in the richer countries to be retained in the form of higher incomes, while the benefits of technical progress in the export industries of poorer countries result mainly in lower prices. While this differential way of distributing the fruits of technical progress would make no overall national difference - higher real incomes in both cases whether by way of higher incomes or lower prices - internationally it does make a difference leading to yet greater divergence between rich and poor countries. If the assumptions of the PST are accepted, the richer countries would benefit both ways: as producers of exports in the form of higher incomes and as consumers in the form of lower import prices. The argument is that in the case of primary commodities and simple manufactures there is more intense competitive pressure in world trade forcing exporters to pass on increases in productivity to consumers, whereas in the case of the higher-technology manufactures exported by richer countries the stronger labour markets combined with a cost-plus marking up system of prices ensure that gains from productivity accrue more to the producer. Thus the shift from barter or income terms of trade to factorial terms of trade does not help to reduce the effect of the PST to point in the direction of international divergence between countries.

Here we have arrived at the real objective of the PST, i.e. to argue for a tendency for international trade and investment to be a factor contributing to international divergence rather than convergence. It is of course only one factor out of many. The PST leaves open the possibility that other forces making for convergence are stronger and overrule the tendency towards divergence. However the PST, by pointing in the direction of divergence, served to modify the then prevailing optimistic view that there must be convergence, i.e. that the developing countries would grow faster than the richer industrial countries. What were the arguments for this prevailing optimistic assumption of convergence?

One argument was to assume a more favourable capital-output ratio (COR) in the poorer countries. If capital was scarce in relation to labour and natural resources in the poorer countries it would have a higher marginal productivity. Each unit of capital could be combined with more labour and natural resources producing a more favourable COR. Arthur Lewis in his assumption of unlimited labour supplies arising from hidden unemployment in agriculture in developing countries, was also contributing to this assumption of a low COR. Hence his famous statement that it would be sufficient to increase investment from very low to still relatively low investment rates (e.g. 12 per cent of GDP). In the absence of reliable data, a constant and favourable COR of 3:1 was assumed. By contrast in the rich countries capital was relatively abundant and would come up against diminishing returns. Also, DC's have a higher level of existing capital assets: more of their saving absorbed by replacement investment than in LDC's.

Another argument for convergence was seen in the fact that the developing countries could use the existing technology ready made for them by the industrial countries without having to go to the cost and pains of Schumpeter's 'creative destruction'. Instead the technology would be presented to them free on a plate. This would help them to catch up with the richer countries.

A third argument was historical experience. History showed clear examples of a catching up process. Friedrich List had shown the way to Germany to catch up with England by way of infant industries initially protected. This was followed by other countries catching up until the original OECD club including Japan was complete and at very similar per capita income levels. Post-war history also shows clear examples of catching up e.g. the East Asian tigers. It seems clear that catching up is a possibility for individual countries and that examples of convergence occur in the world economy. In the cases of the East Asian tigers for example any initial tendency towards declining terms of trade would be overruled or were non-existent. The latter possibility is supported by recent research which tends to show the existence of stronger technological capacity, especially in human capital, in the tiger economies enabling them to retain the fruits of technical progress and move rapidly into the more knowledge-intensive types of manufactured exports, thus avoiding deteriorating terms of trade.

The assumption of a tendency towards global convergence, implicit in the neo-classical production function, the theory of comparative advantages and the Stolper-Samuelson thesis of an equalisation of factor prices, can be and has been statistically tested by a number of analysts. The general result has been that on a global scale, i.e. including all developed and developing countries for which data are available there is no visible tendency towards convergence. Convergence would require that the initial per capita income level of countries should be negatively correlated with subsequent growth rates; but no such firm negative correlation has been found. Naturally much depends on the choice of initial and terminal dates but generally speaking the findings support divergence rather than convergence, particularly for very long time periods and also particularly for the most recent 20 or so years. What convergence has been found is among the limited group of industrial countries, for example among the OECD or EU countries. It is however, questionable whether the undoubted catching up of the poorer EU countries (e.g. Greece, Portugal, Ireland and Spain) has been due more to the various and often generous subsidies from wealthier EU countries, rather a natural tendency towards convergence. On a truly global scale divergence rather than convergence seems the rule, and to that extent the PST is in line with the empirical data.

There are of course some notable exceptions to such a simple picture of divergence. In the first place, there have been some conspicuous examples of catching up by initially very poor countries (Korea, Taiwan). In the second place

there is some evidence of conditional convergence over more recent periods for countries with similar levels of education and technological capacity. Thirdly, and perhaps most important, there is some evidence of convergence for more recent periods if we take as our unit of comparison not countries - counting small and large countries equally - but people. In that case such large countries as China and India dominate the picture and both these countries in recent years have increased faster than the technological leaders. In that sense there has been some recent convergence between the average person in poor countries and the average person in rich countries¹. This conclusion would be reversed if the, 'average person' is defined not as the recipient of average per capita income but as the median person within the income scale, since there has been an increasing income inequality in China and India, weakening their role as actors in a convergent scenario.

In the immediate post-war period, during the 1950's and 60's, a convergence assumption did not seem implausible: the developing countries were able to keep up even with the then high growth rates of the industrial countries in the Golden Age of reconstruction and rehabilitation aided by the massive investment support of the Marshall Plan. (It must not be forgotten that the rapid catching up of Korea and Taiwan was also supported by massive aid during the crucial early periods). The idea of 'stages of development, introduced by Walt Rostow into the post-war development debate'², also lent itself to the idea that countries were more or less predestined to go through these various stages and end up in a state of general convergence, although this of course was by no means necessarily inherent or intended by Rostow.

PST thus introduced a discordant element in the optimism of convergence. It argued that there are also elements of divergence operating in the world economy. Today this would no longer be such a heretic proposition as in 1950. It is not unusual now to say that more recently divergences or inequalities between countries have increased as well as within countries. The New Growth Theory emphasises that investment has increasing rather than decreasing returns, that knowledge and technology feed upon themselves - those with access to and understanding of advanced knowledge and technology have the best chances of improving their knowledge and technology further. It would be widely agreed that the globalisation process has its losers as well as winners, and that the losers tend to be the poorer and more vulnerable countries and groups within countries. Such terms as 'vicious circle of poverty', 'marginalisation of Africa', 'poverty traps', 'social exclusion', 'endogenous growth', etc. permeate the development literature.

A further new element has been added to support the PST, i.e. the debt pressure under which the poorer countries are compelled to export and earn foreign exchange at any price. The 'fallacy of composition' ensures that the efforts of each country individually to improve its income terms of trade by increasing its own market shares must be at the expense of other countries under similar pressure which

simultaneously try to increase their own individual market share. The practice of the IMF and World Bank to urge countries to be outward-oriented and improve their debt servicing capacity and balance of payments by increased exports, and to do this on a country-by-country basis and without much co-ordination between the different structural adjustment programmes, further strengthens the 'fallacy of composition'. The vastly increased power of multinational corporations to shift production between developing countries or out of developing countries altogether introduces another element of 'racing for the bottom' in production and export costs - in fact further supporting the PST. In all these respects the PST can be said now to have retained relevance for much of the current development debates.

One indication of this is that the PST is now incorporated, both implicitly and explicitly, in the advice given by the Bretton Woods Institutions to developing countries. They are warned to be prudent even when export prices are temporarily favourable and to guard against currency overvaluation and Dutch Disease. They are warned to remember that the outlook for commodity prices is not favourable and that windfalls will tend to be temporary, with the subsequent relapse likely to be greater than the temporary windfall. This is exactly the warning which the PST would give. The emphasis on volatility is fully compatible with the PST. Even if a long-term declining trend is established it would be in the order of perhaps around 1 per cent p.a. - different calculations differ - whereas year-to-year fluctuations may average something in the nature of 15 per cent p.a. In some ways, therefore, volatility is a much greater and more immediate problem for macroeconomic policy in developing countries with a long-term declining trend. As distinct from the failure of diversification into manufactures to offer a reliable escape from declining long-term terms of trade, in the case of volatility there is a certain escape. The volatility of prices or unit costs of manufactured exports is distinctly lower than for primary commodities, although it is higher than the volatility of the exports of manufactures from the more fully developed countries.

The policy conclusion from this would be one that has also been reached by others starting from a different and wider perspective than starting with the PST³. It would be that poorer countries with static comparative advantages in (non-oil) primary commodities, or in low-tech manufactures, would be well advised to try to create different and more dynamic comparative advantage in higher-tech manufactures or services. Otherwise, they may well be caught in the trap of deteriorating terms of trade and may be at the wrong end of the distribution from gains from trade and investment. Hence the conclusion emphasises the importance of education, development of skills, and of technological capacity. In the light of recent mainstream thinking on growth and trade there is nothing startling about this conclusion. But it is worth noting that the PST works in the same direction and strengthens this conclusion.

The PST was greatly influenced by Schumpeter in his emphasis on technical innovation as a stimulus to new investment. The original articles of 1949/50 both emphasised that one of the causes of deteriorating terms of trade for primary products was the capacity of the technically advanced consumer countries to produce synthetic substitutes for the natural primary commodities of developing countries. The history of the impact of synthetic nitrates on the Chilean producers in the 19th century was well known to Prebisch and the development of synthetic dyestuffs and plastics was a current trend in 1949/50. In this sense the PST was also part of the neo-Schumpeterian approaches to the explanation of growth and development.⁴ This also extends to Schumpeter's concept of 'creative destruction'. The creation of new technologies replacing primary commodities or economising in their use or using them more efficiently for the production of higher quality goods creates destruction for the producers of primary commodities. While this is not the concept of creative destruction that Schumpeter had in mind it can be readily assimilated to his model. In the case of the PST the creation takes place in the industrial countries and in the industrial sectors while the destruction takes place in the primary producing countries and the primary producing sectors.

The case of the PST is not the only possible extension of Schumpeter's concept of creative destruction which lends itself to the introduction of an element of divergence in the convergence/divergence discussion connected with globalisation. We could add another type of destruction this time affecting the consumers and owners of the older or lower-quality goods preceding the innovation and technical improvements. It is to this neglected aspect of creative destruction that we now turn.

Everybody now agrees that the growth of real GDP per capita is not an accurate measure of people's welfare and quality of life. In that sense the concept of national income has been 'dethroned' (to use the term used by Dudley Seers). For example the New Economics Foundation is calculating an index of Index of Sustainable Economic Welfare (ISEW). This index shows that since 1973 real well-being has fallen by over 10 per cent while real GDP per capita has increased by over 40 per cent.⁵ This sharp divergence has been mainly a recent phenomenon. Between 1950 and 1973 the two indicators rose much more in line with each other. To keep things in perspective: even the lower ISEW in 1996 was still higher than in 1950, although much less than GDP which had more than doubled. The sharp divergence between GDP and ISEW arises mainly from correction for a widening cost of pollution of various kinds, depletion of non-renewable resources, ozone depletion and also growing inequality. This latter factor is difficult to measure quantitatively but it is clear that there is a positive aversion to inequality: an increase in income to a rich person would have less marginal utility or create less additional welfare than the same amount of increase in income accruing to a poor person. All this is well-known ground and largely uncontroversial, although environmental factors are more clearly

relevant to a distinction between sustainable vs. unsustainable growth. They reduce current welfare only to the extent that the present generation identifies itself with future generations. Ironically, the feel-good factor of the present generation is *too high*; rather than absent!

There is however, another welfare loss. This concerns the destruction element in Schumpeter's 'creative destruction'. This term recognises that a new product or a new technology has destructive elements in its impact on the producers of old products or using the old technology. In the former case the new product will reduce the markets for the old products by competing with them for consumers expenditures. In the case of new technology it forces rival producers to scrap machinery prematurely or to adapt them at some cost to the new technology or engage in R&D activities. These additional costs which have to be set against the benefits of the innovation have been noted before and it has been pointed out that they reduce the gain from the innovation when measuring the gain in terms of social welfare. This cost is enhanced if the new technology is capital-intensive or labour-saving, in conditions of less than full employment.⁶ But the impact on existing producers should, in principle, slow GDP growth and hence be captured by traditional GDP as well as by ISEW.

Schumpeter emphasised the 'creative' rather than the 'destruction'. In doing so, he assumed

- a) that the new product satisfies a genuine social need and is genuinely additional or superior to the previous product;
- b) that it spurs the old producers to greater efforts to improve their productivity or to start production of the new product, or if possible, an even newer and even better product; and
- c) that the displaced labour force among the old producers is rapidly reabsorbed into new employment, either by a macro-economic full employment situation, or by the additional growth created by the technical progress.

A different emphasis would obviously be appropriate

- a) if the new product is not a genuine improvement on the old product but consists mainly of new gimmicks or packaging or clever advertising which gives the consumer the impression that because the product is new it must also be superior; or
- b) if the old producers close down rather than try to fill the gap or leapfrog the new producer, and
- c) if there is no state of full employment and displaced labour is not rapidly enough reabsorbed.

There is however, also another element of destruction, which does not seem to have been sufficiently recognised. This is the effect of the new products on consumers rather than other producers. Consumers of the old inferior product will become dissatisfied once they know that the superior product exists. This will be especially the case with items of prestige consumption - say computers or motor cars - where the use of the most modern product is taken as a mark of social standing. If, contrary to Schumpeter's assumption the new product is essentially not superior to the old product, and where the equation new = superior does not apply, this premature scrapping of the previous consumption goods serves no useful purpose. Even where consumers continue to use the old product their satisfaction derived from the product will be reduced by the knowledge that a new and allegedly superior product is now on the market. Much advertising tries to hammer home the message that the new product is superior, and some is directly targeted on creating dissatisfaction with 'old' products. Even when this is not the case the dissatisfaction of consumers with their present goods will be increased and their welfare reduced, whether they continue to use the old product, or are induced to use the new product with premature scrapping of the old product. Thus, if the impact of innovation (possibly alleged innovation) on consumers as well as producers is considered, the chances that the creative factor is offset by the destructive factor is clearly increased. It would do so by reducing the ratio of satisfaction to GDP.

Since virtually all consumers, at least in developed countries, possess a large stock of durable consumption goods, all simultaneously exposed to competition from superior or at any rate newer versions of the same goods, the loss of welfare arising from this factor must be quite considerable. It may well offset the welfare gain of the consumer of the new product since the stock of old products may be large in relation to the new products. Simultaneous replacement of all such goods conceived to be inferior by the newest versions or newest products, conceived to be superior, would greatly exceed available resources. Perhaps this is one of the factors which helps to account for the absence of a 'feelgood factor' in spite of rising incomes. In the long run, of course the distinction between the stock of old products and the flow of new products disappears - but by that time there will be a flow of even newer products.

To keep things in perspective, this neglected impact of innovation on those possessing the old products does not in any way contradict the Schumpeterian assumption that innovation and technical progress is the key to growth and development. But it may help to explain why the increased growth and development is not fully felt as beneficial by the ultimate consumer. This follows from abandoning the assumption in traditional welfare economics that utility derives only from an individual's own income or consumption and is not affected by the income or consumption of other individuals. Yet in poverty analysis the concept of relative poverty is well-known. It is implied in such measures of poverty as the percentage of

people living at less than half the average per capita income of a country or region. In a study of long-term unemployment in the depressed areas of the UK in the inter-war period it was found that the situation of the unemployed there - with almost everybody else also unemployed when the local coal mine or cotton mill also closed down - was better than those unemployed in generally more prosperous areas, where unemployment was exceptional and had a stigma attached to it.⁷ This finding is clearly related to the concept of relative poverty and the argument of this brief note.

Tibor Scitovsky, in his *Essays* (1989, 1995) discusses such closely related subjects as happiness depending on relative incomes, the desire for novelty, the essentially self frustrating insatiable nature of the demand for novelty and the importance of conspicuous consumption. In his version, the process appears as demand-driven by the innovating technician and entrepreneur. Keynes, in his essay on *Economic Possibilities for our Grandchildren* (1930) also argued that above a certain income level welfare ought to depend on increased leisure and non-economic forms of enjoyment, rather than further accumulation of new goods. But this is more in the nature of normative prescription as to how civilised people ought to behave. As a projection of the future, of how our grandchildren will in fact behave, the idea of an insatiable striving for novelty, whether demand-driven or supply driven, appears to be more realistic. In this area, the demand for novelty creates its own supply, but it is also true that the supply of novelty creates its own demand. There is a cumulative interaction between supply and demand. On this Keynes, Schumpeter, Scitovsky and the New Economics Foundation all agree. But in spite of this apparently harmonious interplay between demand and supply, the market for novelties has an adverse externality in its impact on the welfare of those not able to participate in the market for novelties. In so far as they hold earlier models or other close substitutes for the novelty, the market renders a disservice to them not taken into account in the market transactions. The exception are those users of earlier models or close substitutes by whom the services rendered by their possessions are entirely valued in absolute terms without any comparative element of 'conspicuous consumption'. The relative extent of conspicuous and non-conspicuous consumption will be difficult to determine. quantitatively and hence also the importance of the degree of perfection or externalities in the market for novelty.

The point of this note is also closely related to the concept of 'conspicuous consumption', introduced by Thorstein Veblen in his classic work on *The Theory of the Leisure Class* (1899). However, Veblen's point was the value of the conspicuous consumption (which would include the novelties emphasised above) to those able to afford it whereas this note concentrates on the impact on those *not* able to afford it. But the importance of conspicuous consumption emphasised by Veblen also gives added importance to the different emphasis of this note.

As has been pointed out by Gert Rosenthal, the Executive Secretary of the UN Economic Commission for Latin America and the Caribbean (ECLAC) in Santiago, there has been in Latin America a dramatic improvement in the access to communications. This has tended to produce 'a common set of consumer aspirations'. However, because of the continuing and tenacious incidence of poverty and unemployment this means that 'whole sectors of society see their expectations frustrated, particularly urban youth. These young people are exposed to information and stimuli about a wide range of novel goods and services which are however inaccessible for the majority of them'. He points to this as one of the reasons for threats to urban security and the rise of violence in the cities, which 'all seriously affect levels of social integration and governance'.

The subject of this note is related to problems of measuring correctly price movements, rates of inflation and terms of trade. It is argued that data on price movements have an upward bias because sophisticated and novel manufactured goods which tend to fall rapidly in price after becoming more widespread are not sufficiently represented in the basket of goods or, if represented at all, only when they have become more widespread, i.e. after their prices have fallen. To the extent that this is correct it would lead to an overestimate of inflation and also to an overestimate of adverse movements in terms of trade of primary products against manufactured products. (This point is additional to, and different from, the argument that prices tend to be overstated because they do not take sufficient account of improved quality of manufactured goods). In the present context, however, there is another side to this coin: the argument implies that novel goods are initially introduced at a very high price. Hence the buyers of these goods pay a heavy price for the privilege of owning such novel goods and to that extent their real income is lower. The high price paid for novelty would be additional to the dissatisfaction of consumers not able to acquire the novel good and hence an additional element in reducing consumer welfare, reinforcing the argument of this note.

NOTES

¹ For this last point see Jones, Charles I., (1997), 'On the Evolution of the World Income Distribution', *Journal of Economic Perspectives*, 1(3). However, for these large super-countries, international trade - and even more so the barter terms of trade - are (at least directly) less important for their total GNP performance than for smaller countries. Hence in the context of this paper the fact of recent convergence by persons is less of a refutation of the possibility that international trade could be an element of divergence than its undeniable great importance in the assessment of overall convergence and divergence.

² Earlier stage models would include those by List and Marx.

³ See for example, Wood, Adrian, (1994) *North-South Trade, Employment and Inequality: Changing Fortunes in a Skill-Driven World* (Oxford: Clarendon Press); Wood, Adrian and Cristobal-Cano, (1996), *Skill Trade and International Inequality* (Brighton: IDS), Working Paper 47, and Wood, Adrian, Jorg Mayer, *Africa's Export Structure in Comparative Perspective* (forthcoming)

⁴ For the distinction between neo-classical and neo-Schumpeterian approaches see Freeman, Christopher and Luc Soete, (1997), *The Economics of Industrial Innovation*, 3rd Edition, (London: Pinter).

⁵ 'More isn't always better' a special briefing on growth and quality of life in the UK, by New Economics Foundation, London, 1996. I do not intend to discuss here in detail the different adjustments made by the NEF.

⁶ See 'Endogenous Technical Change: The Schumpeterian Perspective' by Philippe Aghion and Peter Howitt in Pasinetti, Luigi L., Robert M Solow (1994) *Economic Growth and the Structure of Long-term Development*, New York: St Martins Press in association with the International Economic Association. I am indebted to Adrian Wood for calling my attention to this contribution and to him and John Toye for comments on an earlier draft.

⁷ 'Men Without Work', A Report to the Pilgrim Trust, Cambridge University Press, Cambridge, 1937.

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