REVISITING THE REVISITED TERMS OF TRADE:

WILL CHINA MAKE A DIFFERENCE?

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In challenging the conventional wisdom at the time, Singer and Prebisch posited a number of explanations for declining terms of trade of developing economies, including both country- and product-specific factors. Over the past decade, we have begun to witness a simultaneous process of differentiation within commodities (with the prices of some commodities increasing) and within manufacturing (with the price of many manufactures falling). These price changes may reverse the decline in the terms of trade of commodity producers. The entry of China into the global market has played an important role in this, augmenting the demand for many “hard commodities”. Its role as an exporter of manufactures, coupled with concentration in global buying may undermine the prices of many manufactures.

**Keywords**

Terms of trade
Globalisation
China
India
Reserve army of labour
Buyer concentration
A focus on the particular problems confronting developing countries was a by-product of post World War II reconstruction. Until then low-income economies had not been seen as a special case. This neglect resulted in part because of the challenges posed by the need to cope with the Great Depression of the 1930s, and subsequently due to the years of disruption during the war. But with reconstruction came the demand for raw materials – food and commodities – and hence with the developing world as a source of supply. But at what prices?

The prevailing wisdom at the end of WWII was that developing country barter terms of trade would increase due to the relative rapidity of technological progress in industry which would push down the relative prices of the manufactures exported by the high-income economies. This was contested by Prebisch and Singer in the early 1950s (Prebisch 1950; Singer, 1950). They argued that the likelihood was that it was the developing country terms of trade which would decline, and they offered a number of explanations for this predicted outcome. The first reason was that many of their (exported) products were inputs into the production of (imported) manufactures. Hence, a fall in the price of a primary commodity which is an input into a manufacturing product would have different implications for the producer of the commodity and the purchaser of the manufacture. Second, Singer and Prebisch argued that the income-elasticity of demand for the products produced by low-income economies was less than that for products embodying higher technology.
(Engels Law). A third and related explanation concerned the price elasticity of demand for the primary products exported by developing economies. The demand for these lower-technology and more basic products would be much less price-sensitive. Hence, an increase in demand for the output of low-income country exports would only come from a large and disproportionate fall in prices. Fourth, many of the commodities exported by low income countries were subject to synthetic substitution, and hence to declining demand. Fifth, the output of low income economies generally embodied products with low barriers to entry. Thus these products would be subject to a greater squeeze on prices and margins than products which were more difficult to produce and which had greater technological content.

But they also offered a sixth explanation, which has largely been ignored in the literature (But see Bloch and Sapsford, 2000\textsuperscript{iv}). This is that the tightness of labour markets in the high-income economies and the strength of trades unions in these economies contrasted with the labour-surpluses in developing economies. Prebisch and Singer worked within a framework elaborated in 1954 by W. Arthur Lewis of a traditional sector acting as a “reserve army of labour” in developing countries, which kept the price of developing country labour low. In consequence, products emanating from high-income countries were more likely to be priced on a cost-plus basis reflecting the growth of wages and incomes in these economies, whereas in developing economies, wages and incomes were kept low due to the size of the “reserve army of labour”. Prebisch and Singer would have liked to compare the trends in the relative prices of products emanating from these two different types of
economies, but this was not possible given data-limitations at that time. Therefore, they chose to measure the differential trends in unit prices of manufactures and commodities as a surrogate for the output of high-income and developing economies.

This focus on the commodities-manufactures terms of trade has been the subject of extensive debate in the literature. There has been disputation on both methodology, and perhaps more importantly on the significance of the choice of base- and concluding-year in the analysis. There is also the need to separate long-term secular and shorter-term cyclical trends. Nevertheless, it is now widely accepted that for much of the twentieth century, the barter terms of trade did indeed run against commodities, and in favour of manufactures. Figure 1, for example, drawn from UNCTAD data, plots the aggregate terms of trade between a weighted basket of manufactures and commodities, and shows a declining trend, except for the latter half of the 1970s.

Figure 1 about here

2. THE TERMS OF TRADE REVISITED

In 1971 Singer reworked his ideas about the gains from international trade to raise the possibility that the determinants of price formation may reflect the degree of innovation-intensity (Singer, 1971). This revisited the earlier discussion of the 1950s in three important respects. First, it re-emphasised
the initial focus on the role played by barriers to entry in income
determination. In this sense Singer was reflecting the growing importance of
neo-Schumpeterian perspectives on the role played by innovation as a
determinant of income-growth (Freeman, 1976). But, secondly, it re-opened
the country- (as opposed to product-) determinants of price trends, since
Singer observed that systematic innovation was centred in the high-income
economies. It was at that time that Singer played a prominent role in what
came to be called the Sussex Manifesto, a document which observed that
less than five percent of global R&D took place in the developing world
(Singer et. al., 1970). Third, and perhaps most importantly, it opened the
possibility that not all manufactures would necessarily experience rising terms
of trade.

However, it was not until the early 1990s that this third contention was
explored. Together with Sarkar, Singer explicitly addressed the possibility that
the terms of trade of developing countries within manufacturing might be
declining. New data enabled a better measure of price trends, to “provide
some support to the hypothesis of terms of trade deterioration extended to the
field of trade in manufactures between the periphery and the center, as in the
country (rather than the commodity) version [of Singer’s initial terms of trade
work]” (Sarkar and Singer, 1991: 334). Sarkar and Singer computed a fall in
prices of developing country exports of manufactures relative to those of
developed countries of one percent p.a., providing a cumulative decline of 20
percent between 1970-1987 (Sarkar and Singer, 1991). These results were
challenged by Athukorala (1991) who raised methodological objections to
Sarkar-Singer and found no decline in the net barter terms of trade when the primary-commodity-based SITC 68 category (non-processed non ferrous products) was excluded (Athukorala, 1991).

In 1997, in a widely-cited paper, Wood compared the price of a basket of developed-country manufactured exports and services with a basket of developing country manufactured exports (Wood, 1997). He concluded from this that within manufactures, between 1985 and 1995, developing countries had experienced a 20 percent decline in their terms of trade when compared with the manufactures (and some services) exported by high-income economies. But this was a relatively crude estimate of falling terms of trade in manufactures.

Maizels has undertaken a series of more detailed analyses of developing country terms of trade in manufactures with each of the Triad economies – the US, the EU and Japan. In the case of the EU in the period 1979-1994, developing countries witnessed a sharp deterioration in their relative barter terms of trade (Maizels et. al., 1999); this was despite an increase in overall unit prices of imports into the EU of two percent p.a. (outweighed by an increase in EU unit export prices of 4.2 percent p.a). With regard to the US he analysed the period 1981-1997 and observed a fall in the relative barter terms of trade of developing countries during the first half of the 1980s; thereafter, no trends emerged (Maizels, 1998). Finally, with regard to Japan, and for the period 1981-2000, there was once again a disparity between the more rapidly falling barter terms of trade of developing country exporters compared to
developed country exporters to Japan (Maizels, 2003). In each case the terms of trade of the East Asian NIEs fell more slowly than those of other developing countries. Maizels observes that this latter result “provides support for Singer's [1971] thesis … that the degree of terms of trade deterioration for developing countries in their exchange of manufactures with developed countries reflects the level of technology embodied in their manufactured exports” (Maizels, 2003: 8).

3. REVISITING THE TERMS OF TRADE REVISITED

To summarise the preceding discussion. It was only after WWII that there was concern with the prices of the goods traded by developing economies. The initial view was that these economies would benefit from a rise in the terms of trade, but this view was successfully challenged by Prebisch and Singer in the early 1950s. After much debate in the literature it was generally agreed that there had been a secular decline in the terms of trade of developing countries, as reflected in the commodities/manufactures terms of trade, which was seen as a surrogate for developing-developed country terms of trade. However, from the early 1990s, there has been a growing recognition that manufactures is a very heterogeneous sector, and that the prices of many of the manufactures exported by developing economies were falling. Within manufactures, there appears to have been a decline in the terms of trade of developing country producers.
The issue which we now explore in this paper is whether these terms of trade trends within manufactures presage a change in the terms of trade between manufactures and commodities. In addressing this issue we will consider three sets of developments: the de-commodification of many primary products, the growing concentration of global buying in manufactures, and the impact of China’s increasing presence in the global economy.

(a) The de-commodification of some primary products

What do we mean by a commodity? Loosely-used this refers to the characteristics of final products, and their material composition. Hence we distinguish between the “soft” agricultural commodities (tea, coffee, etc.) and the “hard” mineral commodities (iron ore, copper, etc.). But this is not an analytically helpful way of determining the commodity nature of products. A more useful way into this problem is to see commodities as products where there are low barriers to entry. In these circumstances, intense competition forces down income-streams, and leads to an association between commodity production and low standards of living. In this framework, even unskilled labour can be seen as a commodity, as for example in the simple assembly of manufactures in export processing zones (Kaplinsky, 1993). It is in this latter sense of products exhibiting low barriers to entry that we use the term commodities; hence “de-commodification” reflects a process whereby products benefit from raising barriers to entry.
Explanations of post-war industrial history distinguish between the era of mass production (sometimes referred to as fordism) and mass customisation (sometimes referred to as post-fordism or flexible specialisation). The period before the 1970s, said to be the heyday of mass production, reflected a world of post-war reconstruction and shortages. Producers thrived in a markets in which Henry Ford had argued of his customers that “they can have a Model T Ford in any colour they like as long as it is black”. But as production capability, and incomes grew in the post-war period, so consumers were no longer happy with black Model T Fords. Companies such as BMW and Mercedes-Benz carved out profitable market niches by emphasising individuality and variety. This capability to individualise products rapidly spread across the spectrum of manufactures, with the growth of numerous designer labels. There is an extensive literature on the role which this differentiation plays in the determination of relative income streams.

But it is only recently that we have come to recognise the opportunities for the de-commodification of a variety of “soft commodities” (Jaffee and Gordon, 1993; Jaffee, 2003; Kaplinsky, 2005a). Two of the most-widely cited cases are horticultural products and coffee. In the case of horticulture, relatively high incomes are earned by producers who are able to tailor their output to the needs of very dynamic markets (Dolan and Humphrey, 2004). For example, Kenyan horticultural producers fly their salads out to UK supermarkets every night, ready-packed and labelled for individual stores. Demand for salads is highly variable depending on the weather (for example, during warm weather, the demand for salads for barbeques mushrooms). The Kenyan producers are
so sophisticated in their logistics that they allow their UK supermarket customers to vary their orders for pre-packed salads up to 1400 hours on the day of dispatch. In the case of coffee, customers are beginning to appreciate the enormous variety of tastes. In the words of a Nestlé’s senior executive, “there are as many varieties of coffee, with a greater variation in taste, than there are of wines” (Kaplinsky and Fitter, 2004). Producers who were able to target these niche markets were able to insulate themselves from the devastating fall in global prices in the early 2000s. For example, Jamaican Blue Mountain coffee is a premium product, with Japanese consumers prepared to pay up to $20 per cup. Its growers have been able to escape the severe price pressures which have characterised the industry, particularly in recent years. As the CEO of the Jamaican Coffee Board observed: "Blue Mountain coffee prices are not subject to the factors of supply and demand that affects other commodities. The price is fixed. This is useful in these times when coffee prices are low because of over-supply". In early 2002 Blue Mountain coffee sold at $6-8,000/tonne compared to the London market price for arabicas of around $1,200/tonne. Similar trends are to be found in very many “soft commodities”, including wood products with Forestry Stewardship Council’s (FSC) accreditation and even in wool (Kaplinsky, 2005a).

A key characteristic of these niche markets is that they are very demanding at the level of process, particularly with respect to certification. For example, FSC wood products have to be accompanied by a chain-of-custody which follows the product from forestry to the retail store. This sets standards in logging – for example, no cutting for a number of days after it has rained; not
undermining biodiversity; respecting the needs and culture of local peoples. But it also requires specific environmental standards in manufacture, in transport and in retail. In the auto sector and in the electronics sector, buyers set basic standards concerning defective parts (measured in parts per million, and increasingly being targeted at zero parts per million) and delivery, as well as prices. In the horticultural sector, traceability is required at a very detailed level. This allows retailers and producers to identify individual growers and plots of land just in case there should be problems with pesticide residue at the point-of-sale.

It is in this extensive and demanding process of certification that barriers to entry are constructed and in which primary products are decommodified. This has become an increasingly important characteristic in the markets for very many “soft commodities” and suggests that falling prices are not an inevitable outcome in these product markets which are based on primary products. The impetus for the increase in the prices of niche-based “soft commodities” lies in the growth of per capita incomes in the high-income economies. This is a form of Engels Law reversal, which is reflected in the fact that the most accurate predictor of the per capita incomes of shoppers in UK supermarkets lies in the proportion of fresh fruit and vegetables in their shopping trolleys. Increasingly these fresh fruits and vegetable are sourced from developing economies.
(b) Growing Concentration in global buying

The concentration of buying in global commodity markets has been extensively documented, including with respect to its implications for commodity prices (Morisset, 1998). But, in recent years there has been growing recognition of similar processes of concentration in global buying in manufactures.

Feenstra and Hamilton (2005) document the evolution of concentration in the US retail sector, and show its relatively late evolution when compared to concentration within manufacturing. The extent of this concentration in buying is often overlooked. Between 1992 and 2000 the share of the five largest chains increased from 26.6 percent to 42.9 percent. However, the level of concentration in the very large US market is dwarfed by the individual country experience in Europe. There, the median share of the five largest retailers was more than 80 percent across the 16 countries, and in three of them (Netherlands, Sweden and Austria) it exceeded 90 percent of total grocery sales (Kaplinsky 2005b).

Faced with this growing power of retailers, there has been an equivalent consolidation process sweeping through the manufacturing industries which supply these grocery chains. A study on concentration was undertaken in the European food manufacturing sector, covering the production of 17 different products in nine countries, and focusing on the share of production of the three largest firms. In aggregate, across all sectors, the three largest firms accounted for more than two-thirds of production in the nine countries. In only
two of the sectors was the average less than 50 percent, whereas in six of the sectors the largest three firms accounted on average for more than three-quarters of total production. Cotterill (1999).

Similar processes can be documented for individual sectors. In garments, in the US, the largest five retailers raised their share of the final market between 1987 and 1991 from 35 to 68 percent. In both the UK and Germany, concentration was less marked, but the largest five retailers still accounted for around one-third of the final market, and in France, Italy and Japan there has been a pervasive trend for independent retailers to be supplanted by large chains. In furniture, there has been a similar process of market concentration. Retail multiples control more than 40 percent of the UK market, and in Germany a single group and its affiliates controls 60 percent of the final market. In the auto sector, the buyers have concentrated on consolidating their supply base. The number of component suppliers was reduced by two-thirds in North America between 1990 and 2000, and is projected to fall by a further two-thirds by 2010. In Europe, major buyers have halved their supply-base in the past decade. The consequence has been a growth in very large first-tier component suppliers with global buying power of considerable significance – each of the largest eight component suppliers had global turnovers exceeding $10bn.

In this environment, the market power of individual firms as global buyers can be very substantial. Nowhere is this more the case than for Walmart, whose meteoric growth has made it the world’s largest retailer (indeed, the world’s
largest firm by turnover), with sales in 2003 of more than $250bn. It was founded in 1962 and has been the largest retailer in the US since 1995. It began its overseas expansion in 1991 and by 2003 it operated in nine countries, including becoming the third largest retailer in the UK. Walmart’s key competitive position is as a comprehensive and low-cost retailer, and in furthering this aim it has moved much of its sourcing to China. In 2003 it directly imported $15bn worth of products from China, alone accounting for 11 percent of all US imports from China (Fortune, March 2004: 44).

(c) *The impact of China’s increasing presence in the global economy*

There is a third set of factors which might have an impact on relative prices of traded products and this is the growing and significant presence of China since it entered global markets in the mid-1980s. As we can see from Table 1, China’s growth rate over the past two decades has been more rapid than any of the various groupings of countries by income (and similarly by region, although we have chosen to use income-groupings as the comparator). Using PPP constant prices, per capita incomes in China grew at an average rate of more than eight percent during the 1980s and more than 9 percent during the 1990s. This far exceeded growth rates in any of the country income groupings.

Table 1 about here
This growth was increasingly outward-oriented. Before China's commitment to entering the global economy in the early 1980s, its trade-GDP ratio was less than 10 percent, compared to a global average of almost 30 percent. By 2002 its trade-GDP ratio had risen to 55 percent, exceeding the global average of 47 percent (Figure 2). Whilst the growth-rate of China's exports has been no greater than that of the previous generation of Asian outward-oriented economies (Korea, Taiwan, Hong Kong and Singapore) (Rumbaugh and Blancher, 2004), it is the sheer size of China's economy which threatens to disequilibrate past patterns of price formation. This is reflected in China's growing share of manufactured imports in the US, the EU and Japan (Table 2). Between 1980 and 2002, its share of total manufactured imports (including many products which China does not produce or export in significant numbers) rose from virtually nothing to 14 percent in the US. In the buyer-driven consumer products sectors which have not been subject to major import quotas, its share of total imports have grown dramatically, particularly in the case of Japan and the USA. In footwear, and toys and games where its presence has not been hindered by import quotas, it now accounts for more than two-thirds of all imports into both the US and Japan, and for two-thirds of imports of travel goods into the USA. The pace of its growing presence in the clothing and textile sectors has hitherto been constrained by import quotas, but these quotas were removed in January 2005. Another indication of the impact of China on global markets can be seen in the evolution of shipping freight rates (Figure 3). China's demand for imports and growth in exports has been so great as to lead to a shortage of global shipping capacity, manifesting itself in 2001. For both iron ore and grain, freight rates reached levels which
were more than double the previous highs in 1973 and 1995 respectively (although these rates are not price-deflated). The cause? – as a major ship-chandler observed, “Chinese iron ore, steel and soybean demand was unquestionably the main reason ocean freight rates for dry bulk commodities hit all time highs earlier this year.”

Table 2 about here

Figure 2 about here

Figure 3 about here

(i) The link to declining prices of manufactures

The very rapid growth of China, and its size, are beginning to have a major impact on prices in global product markets. In some cases, it has been associated with (and almost certainly caused by) a decline in prices. In other cases, demand from China has been associated with (and almost certainly led to) an increase in global product prices. (At the same time, growing concentration in global buying has placed further pricing pressures on exporters of manufacturers). We now consider the effects of these developments on the price of traded manufactures.
Much of the second half of the twentieth century was a period of inflation in the global economy. Prices of most commodities rose, although (as we have seen – Figure 1) the price rise was faster for manufactures than for primary products. By the 1990s, most economies had begun to get on top of high rates of inflation and for the OECD economies as a whole the rate of inflation at the turn of the millennium was less than three percent. What followed was a period of price deflation in manufactures, beginning with a slowdown in the rate of inflation in the late 1980s, and then after 1998, in absolute nominal prices (Figure 4).

What role does China play in this pattern of falling prices of manufactures? The terms of trade literature which we reviewed in Sections 1 and 2 above is almost entirely based on the use of aggregated data, mostly using SITC 3- and very occasionally SITC 4 digit classifications. This is not adequate for a detailed examination of prices. The HS trade classification system introduced in the late 1980s has a much finer degree of disaggregation and provides greater scope for the detailed tracking of product prices. At the eight-digit level there are 10,000 different HS product categories. An analysis of these product categories tracked the extent to which prices of EU imports fell in the period 1988-2001 (Kaplinsky, 2005b; Kaplinsky and Santos-Paulino, 2005a and 2005b).xvi The EU provides a unique data-set on international trade and is large enough to use as a surrogate for the behaviour of global product prices.
Figure 5 presents the results of this analysis. It focuses on the 151 major product-groupings (classified at the eight-digit level) imported into the EU where developing country exporters were prominent. It reports the proportion of the sectors for which the unit-price of imports from different income-groups (and China) fell between 1988 and 2001. It can be seen from this that in almost one-third of these sectors, the price of Chinese-origin products fell. In the case of products emanating from low-income economies, the proportion of product group in which unit-prices fell was around one-quarter. As a general rule, the higher the per-capita income group of the exporter, the less likely unit-prices were to fall. Thus, within a large number of product groups, the prices of products exported into the EU by China and low income economies was more likely to decline than the prices of the same products-groupings sourced from other high income economies.

We draw two conclusions from this price analysis. First, the greater China's participation in global product markets, the more likely prices will fall. And, second, this seems to have a disproportionate impact on the low income country group who face intense competition from Chinese producers.

(ii) The link to rising prices of “hard commodities”

By definition, manufactures involve the transformation of inputs into outputs. In the case of automobiles, for example, more than 5,000 components are
involved, and each of these in turn requires the input of a variety of raw- and semi-processed materials. The advance of global value chains over the last two decades of the twentieth century, resulted in a major increase in global trade in components and hence in a growth of import intensity in export production in almost every country. For example, in the case of China, the proportion of export revenue which reflected direct imports into production processes rose from eight to 12 percent between 1980 and 1998, and in the case of direct and indirect imports (that is, taking account of the imports going into the production of domestically-sourced inputs), it rose from 15 to 23 percent in the same period (Martin and Manole, 2003).

Consequently, with rapidly-growing production destined for both the domestic and export market, it is not surprising that China has become a very large market for the exports of other countries. In many cases, it has imported manufactured products, particularly capital goods from Japan. In addition, Chinese exports of products such as consumer electronics, have involved the assembly of components sourced from the East Asian region. However, from the perspective of developing economies, it is China’s sourcing of “hard” and semi-processed commodities which may have a particularly large impact on prices in the global economy.

Focusing on basic metals as an example, China’s demand for imports has been fuelled by three factors. The first has been the rapid growth of domestic demand for household consumer goods and autos (where production has grown at a dramatic pace). Secondly, there has been very substantial
investment in infrastructure, both in the public and private sector, and this has been particularly basic-metal intensive. And, thirdly, many of China’s exports have been of metal-based products. Consequently, China’s share of global demand for the main base metals (aluminium, copper, iron ore, nickel, steel and zinc) grew from seven-ten percent of global demand in 1993 to 20–25 percent in 2003. In the case of steel, its share has grown from less than 10 percent in 1990 to more than 25 percent in 2003, equivalent to three times that of Japan, and more than either the EU or the US (around 20 percent each). Between 2000 and 2003, China’s share of the increase in global demand for aluminium, steel, nickel and copper was 76 percent, 95 percent, 99 percent and 100 percent respectively. As Figure 6 shows, its projected utilisation of these basic metals is likely to grow even further in the future, in part because of its relatively low per-capita consumption of these materials (Table 3) – bear in mind, China accounts for more than 20 percent of global population, and it is inevitable that as incomes grow and the minerals-intensity of consumption grows as it has in other countries, this will continue to lead to rising demand for imported materials.

Figure 6 about here

Table 3 about here

This expansion in Chinese commodity imports has been closely reflected in the global prices of many hard commodities. For example between 2002 and 2004, the price of hot-rolled coil steel rose from around $140/tonne to more
than $500/tonne, much higher than the previous post-war peak of $400/tonne in 1994. Prices of spot steam coal (cif Rotterdam) leapt from $27/tonne to $82/tonne between 2002, and 2004, higher than the previous post-war peak of 1981. Hard-coking coal prices jumped from $50/tonne to more than $100/tonne in the same period, a post-war high. Between 2001 and 2004, copper prices more than doubled from around 63 cts/lb to $1.40/lb, although in this case they were still lower than the previous post-war peak on $1.55/lb in 1989. xviii

These are undeflated prices and represent a price spur which has been very recent (that is, since 2000). However, they reflect the data presented in Figure 6 above on China’s augmentation of global demand in hard commodities. Will they endure? The data in Table 3, allied to China’s continued rapid growth, suggests that this is not a short-term blip in commodity prices.

This thirst for mineral imports is also reflected in the food sector, where falling land availability (a consequence of rising industrialisation) and stagnant agricultural productivity have led to rising food imports. In the first half of 2004, China had a trade deficits on foodstuffs of $3.7bn., including imports of 4.1m tonnes of foodgrains. It is predicted that this deficit will soar in the future - in the case of foodgrains, to around 40m tonnes by 2007 (Financial Times, 23rd August, 2004).
4. IMPLICATIONS FOR THE TERMS OF TRADE

The preceding discussion in Section 3 has identified three trends which may have an impact on the trend in the terms of trade. First, it is not inevitable that the prices of all primary “soft commodities” will fall. There are opportunities for value accretion which reflect the same processes of Schumpeterian rents which Singer and Prebisch identified as being unique to manufactures in the 1950s. Barriers to entry – an important antidote to falling prices – are becoming an intrinsic feature of many of these primary product value chains.

A second conclusion is to challenge the assertion in the early Prebisch-Singer thesis – questioned in Singer’s revisiting of the terms of trade debate in the early 1970s and early 1990s – that manufactured prices would continue to rise. There is a large category of manufactures - particularly those in which China participates – in which prices appear to be falling. Figure 5 above shows the results of a detailed inquiry at the eight-digit level, but there is anecdotal evidence available to virtually every reader of the sometimes astonishing fall in product prices. This author recently purchased an electronic watch (having the identical electronic movements as a $100 watch) plus 10 videotapes – all made in China – for a retail price of around $12. However, falling prices of manufactures are not only a reflection of augmented supply, but also of concentrated buying power. It is significant here that there is a (largely theoretical) stream in the terms of trade literature which points to the role played by market concentration in price behaviour (Kalecki, 1971; Datt, 1988; Sarkar, 1997; Morisset, 1998).
Third, the price of many of the “hard commodities” which have previously been in long-term decline, appear to have risen in the early 2000s. In many sectors there are supply constraints, and the gestation period for new investments to come in stream often exceeds five years.

Each of these three developments reflects a set of price trends which run counter to the long-term secular decline in the commodities/manufactures terms of trade. *If they are sustained* the issue will not be commodities versus manufactures, but *which* commodities versus *which* manufactures. The key question is whether they will be sustained, and if so, for how long.

Here we can distinguish between the demand and the supply sides of these changing conditions affecting global prices. On the demand-side there is no reason to doubt that the scope for niche-based consumption will continue to grow. Indeed, as global incomes rise – including in consumption-conscious China – the search for positional goods is likely to strengthen the demand for differentiated products, including for differentiated “soft commodities”. Similarly, although there are many who doubt whether China can sustain an annual growth rate of more than nine percent for many decades into the future, there is widespread agreement that it will continue to grow rapidly, and at a faster rate than the global economy as a whole. Given that China accounts for almost one-fifth of global population, this suggests a world of robust-demand. Moreover, lurking around the corner is the spectre of India –
likely to have a population larger than China by 2030, and currently also growing at more than 6 percent a year since the late 1990s.

If demand is likely to be robust, what of supply? Will China begin to experience capacity constraints which will diminish its potential for forcing global product prices in manufactures down? One sign that this might be the case is the shortage of labour in the coastal region and in Beijing in the summer of 2004. However, this labour shortage was an aberration, associated with the concentration of manufacturing production in the eastern coastal regions and the high cost of living encountered by migrant labour. China has, and continues to have a very large reserve army of labour in the interior, and firms locating away from the coast pay much lower wages. The Japanese managing director of a Chinese subsidiary observed - “If we run out of people we just go deeper into China” (Roberts and Kynge, 2003).

Table 4 shows that in the largest 14 OECD economies – the economies with high-wages threatened by imports from low-wage economies – employment in formal-sector manufacturing fell by eight percent between 1995 and 2002. But what is perhaps even more surprising is that contrary to expectations, there was an even larger fall in employment in China (by 15 percent), and by 20 percent in the third largest developing country manufacturing sector (Brazil). The overall picture for these 17 largest manufacturing economies was a decline in total employment in formal sector manufacturing from 200m to 176m, a fall of 12 percent in 7 years.
The picture for China is particularly surprising since, as we saw in Table 1, it has been such a successfully growing economy. It is also a particularly important economy due to its size, with a formal sector employed labour force larger than that in the combined 14 largest OECD economies. However, the rapid growth in employment during the first half of the 1970s gave way to a process of employment displacement during the 1990s, particularly in state-owned enterprises and township and village enterprises (TVEs). As China entered the global economy after the early 1980s, this labour displacement was particularly acute in manufacturing. But it is also evident in mining (Rawski 2003). Even these numbers underestimate the extent of real labour displacement in China, since many people in the state-owned and township and village enterprises remain on the books but are effectively unemployed. This is because there remains a residue of enterprises which continue to keep workers on their payroll (so that they can get access to social security services) even though there is no sense in which they are actually working productively (Gu, 2003). A variety of observers concur that there are something like 100-150 million people in China currently working at very low levels of productivity and who are waiting to be absorbed into the global economy. This surplus labour force is equivalent to more than one-quarter of the total labour force in all high-income economies. Yet this labour surplus does not show-up in Chinese labour statistics: "The officially released low (formal) unemployment figures, however, do not reflect the severity of the actual high unemployment … [which] .. takes place in urban China not in the
form of open unemployment, but rather in the form of lay-offs. Laid-off workers, according to an official definition, are those who loose (sic) their jobs as their employing units encounter economic difficulties, while still maintaining their nominal employment relationship with their employees” (Gu, 2003: 2). 

Rawski concludes that “[e]xpansion of formal employment during the 1990s is entirely attributable to increases in rural jobs.. [and] employment prospects deteriorated dramatically after 1995, with large numbers pushed out of the formal sector” (Rawski, 2003: 4-5). One of the consequences of this opening-up to the global economy, argues Rawski, is that the barriers to domestic migration have dropped sharply, so that up to 100m people moved their place of residence during the 1990s.

The upshot of this is that the indications are that wages are unlikely to grow in China in the medium run, at least in the export-oriented manufacturing industries which have the capacity to move into the interior and be serviced by the mass of rural unemployed and underemployed. And, if and when they do, India sits on a labour force of 470m (compared to the 770m in China), and there is a plentiful supply of labour in Indonesia and other populated Asian economies. The medium-term prognosis for manufacturing prices – or at least for those manufactures which can be produced by low-income economies such as China and India (and this includes a growing number of higher-technology sectors) – is of continuing price pressures.
5. CONCLUSIONS: UNDERSTANDING TERMS OF TRADE DYNAMICS

In 1971 Singer “revisited” the terms of trade, in theory, and with Sarkar, in 1991, through an empirical exploration.\textsuperscript{xx} This revisiting echoed his contention, with Prebisch, in the early 1950s that the key determinants of relative price-performance might be country-, rather than product-specific.\textsuperscript{xxi} It began a process of enquiry, picked up by Wood, Maizels and his collaborators, and Kaplinsky and Santos-Paulino which has shown that manufactures are not immune to falling relative prices. There are some categories of manufactures for which relative prices have fallen, and these are predominantly manufactures in which China has become a major exporter. We argued in Section 4 above that one explanation for this price performance within manufactures is indeed found, as Singer and Prebisch asserted in the early 1950s, in the composition of the labour force. China and other low-income economies are characterised by a large reserve army of labour, including increasingly of educated and skilled people. Another potential driver of falling prices of manufactures is the growing concentration of global buying power.

Our “revisiting” of this “revisited” discussion of the relative prices of traded products is to move the discussion beyond intra-manufacturing terms of trade, and back to the commodities-manufactures terms of trade. We have suggested that a confluence of factors might lead to a reversal in the historic relationship between the prices of commodities and manufactures. The rising prices of some “soft commodities” and some “hard commodities” occurs at the
same time as falling prices of a large number of manufactures. In this case, the real terms of trade will be not so much between commodities and manufactures, but between innovation-intensive products (benefiting from Schumpeterian rents) and non innovation-intensive products.

In general this proximates to high-income and low-income economy products rather than to commodities and manufactures. But there are a number of cases in which low-income economies, or rather parts of low-income economies, are able to benefit from these Schumpeterian innovation-rents. Examples include the growing number of science-intensive products being produced by indigenous firms in China; India’s expertise in some areas of software; South Africa’s role as a provider of high-tech medical services; and Costa Rica’s presence in eco-tourism. But in both respects – that is, in the country determinants of declining prices, and the innovation-determinants of rising prices – the parents of terms of trade analysis in the early 1950s were remarkably prescient. It has only been our crudeness over the past five decades which has led us to characterise these relative price trends as resulting from product attributes in general and commodities/manufactures in particular.

We end with a word of caution. In the short-run, that is from the 1990s for the case of manufactures and from around 1999 for the case of commodities, we can observe a change in historic price trends for both commodities and manufactures. We have argued that there are structural reasons why this might be sustained, so that these changing terms of trade may take the form
of a shift in the secular terms of trade rather than in shifts which reflect a particular business cycle (Bloch and Sapsford, 2000). However, these are early days in the global expansion of China (and India) and it would be best to posit these changing terms of trade as an hypothesis rather than to draw determinate conclusions on the secular nature of these price trends.
REFERENCES


Cotterill, R (1999), Continuing Concentration in Food Industries Globally: Strategic Challenges to an Unstable Status Quo, Food Marketing Policy Centre, Research Report no 49, August 1999


Figure 1: Manufactures-commodities terms of trade, 1960-2004

Source: Drawn from UNCTAD-database
Figure 2. Trade as a proportion of GDP (%), 1970-2002

Source: Calculated from World Bank, World Development Indicators, 2004.
Figure 3 Shipping freight rates, 1973-2003.

Source: Kaplinsky, 2005b.
Figure 4: World Manufacturing Export Price, 1986-2000.

Source: IMF, World Economic Outlook Database, September 2003
Figure 5: Percentage of sectors with negative price trends, 1988/9-2000/2001

by country groupings

Based on an analysis of 151 eight-digit products, selected on the basis of their contribution to LDC exports to the EU.

Source: Kaplinsky (2005b)
Figure 6. Actual and projected global share of China’s consumption of base metals, 1950-2010.

Table 1. Relative growth rates – GDP per capita, 1985 PPP $

<table>
<thead>
<tr>
<th></th>
<th>1980s</th>
<th>1990s</th>
<th>1997-2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low income</td>
<td>2.4</td>
<td>2.3</td>
<td>2.7</td>
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<tr>
<td>Lower middle income</td>
<td>2.5</td>
<td>2.3</td>
<td>4.3</td>
</tr>
<tr>
<td>Middle income</td>
<td>1.8</td>
<td>2.2</td>
<td>3.5</td>
</tr>
<tr>
<td>Upper middle income</td>
<td>-0.8</td>
<td>1.7</td>
<td>0.1</td>
</tr>
<tr>
<td>High income</td>
<td>2.4</td>
<td>1.8</td>
<td>1.7</td>
</tr>
<tr>
<td>World</td>
<td>1.6</td>
<td>1.5</td>
<td>2.0</td>
</tr>
<tr>
<td>China</td>
<td>8.3</td>
<td>9.3</td>
<td>6.7</td>
</tr>
</tbody>
</table>

Source: World Bank, World Development Indicators, 2004
Table 2: Share of imports from China – EU, Japan and the USA, 1995 and 2002.

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>All manufactures</td>
<td>2.2</td>
<td>4.0</td>
<td>5.3</td>
<td>6.8</td>
<td>7.6</td>
<td>13.8</td>
</tr>
<tr>
<td>Textiles</td>
<td>2.5</td>
<td>4.6</td>
<td>31.3</td>
<td>47.5</td>
<td>11.6</td>
<td>15.8</td>
</tr>
<tr>
<td>Clothing</td>
<td>7.9</td>
<td>11.5</td>
<td>56.6</td>
<td>78.1</td>
<td>14.9</td>
<td>15.1</td>
</tr>
<tr>
<td>Other consumer</td>
<td>6.4</td>
<td>9.5</td>
<td>19.7</td>
<td>31.6</td>
<td>25.5</td>
<td>36.5</td>
</tr>
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<td>products</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Footwear</td>
<td>6.7</td>
<td>9.7</td>
<td>47.3</td>
<td>67.4</td>
<td>52.3</td>
<td>68.2</td>
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<tr>
<td>Travel goods</td>
<td>40.4</td>
<td>45.1</td>
<td>32.9</td>
<td>45.2</td>
<td>47.4</td>
<td>64.2</td>
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<tr>
<td>Toys and games</td>
<td>26.0</td>
<td>35.8</td>
<td>26.4</td>
<td>63.5</td>
<td>48.4</td>
<td>66.6</td>
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<tr>
<td>Furniture</td>
<td>7.0</td>
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<td></td>
<td></td>
<td>11.2</td>
<td>34</td>
</tr>
</tbody>
</table>

Source: Kaplinsky, 2005b.
Table 3: The scope for China’s increased consumption of basic metals, 1955-2003.

<table>
<thead>
<tr>
<th></th>
<th>Kgs/capita</th>
<th>GDP per capita ($US1995)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Aluminium</td>
<td>Copper</td>
</tr>
<tr>
<td>Japan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1955</td>
<td>0.6</td>
<td>1.2</td>
</tr>
<tr>
<td>1975</td>
<td>10.5</td>
<td>7.4</td>
</tr>
<tr>
<td>Korea</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1975</td>
<td>1.0</td>
<td>1.3</td>
</tr>
<tr>
<td>1995</td>
<td>15.0</td>
<td>8.1</td>
</tr>
<tr>
<td>China</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>0.7</td>
<td>0.6</td>
</tr>
<tr>
<td>1999</td>
<td>2.3</td>
<td>1.2</td>
</tr>
<tr>
<td>2002</td>
<td>3.3</td>
<td>2.0</td>
</tr>
<tr>
<td>2003</td>
<td>4.0</td>
<td>2.4</td>
</tr>
</tbody>
</table>

Table 4: Employment in formal sector manufacturing, 1995-2002.

<table>
<thead>
<tr>
<th></th>
<th>Employment ('000)</th>
<th>Index of employment (1995=100)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OECD 14*</td>
<td>China</td>
</tr>
<tr>
<td>1995</td>
<td>85,623</td>
<td>98,030</td>
</tr>
<tr>
<td>1996</td>
<td>84,508</td>
<td>97,360</td>
</tr>
<tr>
<td>1997</td>
<td>83,003</td>
<td>96,120</td>
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<td>1998</td>
<td>81,728</td>
<td>83,190</td>
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<tr>
<td>1999</td>
<td>81,266</td>
<td>81,090</td>
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<td>2000</td>
<td>81,486</td>
<td>80,430</td>
</tr>
<tr>
<td>2001</td>
<td>80,535</td>
<td>80,830</td>
</tr>
<tr>
<td>2002</td>
<td>78,761</td>
<td>83,080</td>
</tr>
</tbody>
</table>

* US, Canada, Germany, UK, Japan, Russia, Italy, France, Taiwan, Korea, Spain, Netherlands, Austria, Sweden.

Source: Calculated from Carson, 2003
This paper is wholly focused on the barter-, rather than the income- and factor-terms of trade.

In fact, Prebisch’s original contribution had been in Spanish and was published in 1949.

For example, if the copper inputs into a telephone system comprised 10 percent of the final product costs, a halving of the copper price (their export) would only lead to a five percent fall in the price of the final telephone (their import).

Bloch and Sapsford (2000) provided corroboration to the labour-market determinants of relative prices of developing country primary exports and high-income economy manufactured exports for the period 1948-1993.


However, see Balassa (1989) for a dissenting view.

The commodities index was calculated on the basis of individual price indices for the “principle commodity exports” of developing countries,
notably, all food, agricultural raw materials and minerals, ores and metals.

However this fall in the barter terms of trade was outweighed by a massive expansion of developing country exports, such that the income terms of trade in the same period rose at 10 percent p.a.

In each of these three cases, rapidly growing imports from developing countries meant that the falling barter terms of trade were outweighed by rising income terms of trade.


For example, see the burgeoning value chain literature which relates this literature to developing countries – http://www.ids.ac.uk/globalvaluechains/

Financial Times, 18th October 2001

They believe that it was this process of market consolidation during the 1970s that led the emergence of the Asian Tigers as much as the internal dynamism in these economies.

See Kaplinsky 2005b, Chapter 6, for detailed sources).

Tom Cutler, Clarksons, personal communication

The data-set used for this detailed analysis of prices at the eight-digit HS level is only available from 1988. In associated work we have attempted to utilise the augmented Dickey-Fuller unit root test in an attempt to determine statistically significant price trends. Unfortunately neither this test, or any others with which we are familiar, can cope with such a short time-series. For a fuller discussion of these imitations and
the application of the ADF test to our price data, see Kaplinsky and Santos-Paulino 2005a and 2005b,

China’s trade deficit with East Asia grew from $4bn in 1990 to $40bn in 2002, and the region’s share of China’s merchandise imports grew from 55 to 62 percent in the same period (Lall and Abaladejo, 2004).

All data from Macquarie Research.

This is not inconsistent with rising wages in the coastal regions associated with the production of higher technology products. China possesses such a large expanse and working-age population that it is able to work with a segmented labour market. High-tech industries with high wages, competing with products from high income economies will be located on the coastal region; low-tech industries competing with low-wage economies will be located in the interior.


This was later corroborated by an empirical analysis of price formation in global manufactures and commodities between 1948 and 1993 by Bloch and Sapsford (Bloch and Sapsford, 2000).

A big gap in this discussion is the price performance of services, of which an increasing number are being traded with the global diffusion of information and communication technologies. Aside from Wood’s admittedly crude use of a UK service price index in his 1997 paper, there remains a large gap in the role which services play in inter-country and inter-product price performance.