

**SCHWARTZ CENTER FOR
ECONOMIC POLICY ANALYSIS
THE NEW SCHOOL**

SCEPA Working Paper 2006-5

**Pricing and Profits Under Globalized Competition:
A Post Keynesian Perspective on U.S. Economic Hegemony**

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Prepared for festschrift in memory of Alfred Eichner, L. Rochon and M. Secarreccio,
editors, Armonk: M.E. Sharpe, forthcoming 2007.

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1. Introduction

The balance of payments position of the British empire was generally characterized by a surplus on the trade account--especially in manufacturers trade--and a capital account deficit. This was consistent with the theories of imperialism of the day, including those of Lenin, Hobson and even Kalecki, who all saw export markets as the necessary supplement to domestic markets and the political control of these markets as part of the logical expansion of capitalism—its “highest stage” as Lenin put it. Today, the U.S. is widely recognized as dominating the world economy, and yet its balance of payments structure is the reverse of Britain’s, with a large and growing trade deficit and capital account surplus. Kalecki’s analysis is particularly relevant here, because he saw the trade surplus as the basis for expanding the profit share, through a profit multiplier.¹ Blecker (2001) notes that with this insight, Kalecki felt he had “solved the problem of imperialism,” that is, he had captured the logic of the pursuit of foreign markets in relation to the pursuit of profit.

Blecker (1989) sought to place this Kaleckian view in the context of modern trade competition among industrialized countries. He identified import competition as an

¹ Simple manipulation of Kalecki’s well-known equation of the sources and uses of income gives the profit multiplier, whereby an improvement in the trade balance raises the profit share following:

$$\Delta R = \frac{1}{1 - C_r} \Delta (X - M)$$

where R is the profit share, C_r capitalist consumption out of profits, X and M are exports and imports.

important force mitigating the power of oligopoly to raise markups. In the presence of import competition, domestic cost increases (such as a wage increase) would reduce firms' markup over costs, reducing the profit share and leading to a reduction in investment and economic growth.

Kalecki's (and Blecker's) insight seems to have been borne out, with one unpredicted twist: the imports are being driven *by U.S. firms themselves* in their effort to cut costs by importing low-cost inputs of goods and services. In the process, these firms have also reduced the demand for, and cost of, U.S. labor, further easing the costs of production. The result of this is that a growing trade deficit is essential to retaining profits, markups and market share—just the opposite of Kalecki's prediction.

This paper builds on the Post Keynesian theory of markup pricing to formulate the outlines of the microfoundations of a theory of U.S. economic hegemony in an age of global production networks. U.S. firms have successfully used global production networks to reduce costs and raise markups without pushing up final goods and services prices. The concern with cost control as opposed to prices *per se* constitutes a shift in firm strategy. It results from product and process innovation by oligopoly firms, and these innovations themselves are a response to changes in technology and in market demand conditions. Here I focus on the ability of lead firms to induce more competitive and risky conditions among supplier firms while augmenting existing barriers to entry to the position of lead firm. The situation requires a modification to Post Keynesian pricing theory and has implications for

the scope of the firm, for income distribution, economic growth and the balance of payments.

The new firm strategies have changed the structure of U.S. production and trade, making it more dependent on imports. The reliance on imported intermediates has intensified in the past ten years, and has corresponded with historic highs in the profit share in the U.S. and created new obstacles to industrial upgrading among its developing country trading partners. The U.S. trade deficit is thus compatible with the hegemonic role of U.S. corporations and potentially with a robust rate of investment and growth. From this perspective, the sustainability of current international payments imbalances may hinge more on the tensions resulting from rising economic inequality in the U.S. and abroad—in part the result of this process—than on the traditional calculation of the growth rate of foreign debt or official reserves.

2. Globalized Competition

The shift in oligopoly firm strategy is the result of two factors, which combined come under the category of “globalized competition.” The first is the emergence of global production networks, whereby lead firms have increasingly broken up the production process into parts and located the parts in different countries. The second is the increased price elasticity of demand in consumer product markets which has encouraged “mass customization,” whereby firms retain mass manufacturing methods while introducing considerable product differentiation and customization.

2.A. Emergence of global production networks

Production has increasingly been broken up into components, with these components being performed in different countries. This process, called variously “globalization of production,” “vertical disintegration of production,” “vertical specialization,” or “international fragmentation of production,” has been attributed to the availability of new computer, telephone and transportation technology, which has greatly reduced the costs of, and allowed more careful management and control of, foreign operations than ever before. The resulting global production networks (also called “global supply chains,” “global commodity chains” and “global value chains”) are organized through a parent firm and its transnational affiliates or through a series of arm’s-length subcontracting relations. In either case, the networks are generally “governed” by large, oligopolistic, lead firms. Gereffi (1994) distinguishes between buyer-driven and producer-driven value chains, the distinction depending on the nature of the lead firm in the chain and thus with implications for the governance structure of the global value chain. A producer-driven chain is typical in industries characterized by scale economies, and driven by multinational producing firms who may outsource production but who keep R&D and final good production within the firm. Automobiles, computers and aircraft are examples of this. Buyer-driven commodity chains occur mainly in consumer durables such as apparel, footwear and toys. In this case the global commodity chain is driven by large retailers (e.g. Wal-Mart), that is, firms that do no manufacturing themselves, but perhaps do design and marketing and subcontract the entire production of the good. Gereffi, Humphries and Sturgeon (2004) have extended the traditional dichotomous taxonomy between market and

hierarchy by adding three intermediate modes of organization of global production networks, between the two extremes of hierarchy (transnational corporation) and market (completely based on arm's-length subcontracting).

One measure of the importance of global production networks is the steady increase in imported inputs used by industry in the industrialized countries. In U.S. manufacturing, the share of imported inputs has risen to over 30 percent in many industries.² Those industries relying most heavily on imported inputs were apparel (38 percent), textiles (29 percent), motor vehicles, metal and electronics (all around 22 percent). In the services sector, imported input use is generally lower, led by publishing and software (13 percent), management services (10 percent) and computer system design (7.5 percent).

Imports of intermediate goods and services, that is imported inputs, now constitute a large share of total imports. Yi (2003) calculates that trade in intermediates accounted for over 50 percent in the growth of U.S. trade in the period 1962-1997. Bardhan and Jaffee (2004) calculate that imported intermediates accounted for 38 percent of U.S. imports in 1997. The "intermediates" category may even understate the importance of global production networks, as firms have increasingly become importers of completely finished goods, providing only brand design and marketing. These "manufacturers without factories" outsource every aspect of production and are able to earn profits based on entry barriers maintained with strong brand identity. Examples of such "fab-less" firms are found in

² See Milberg et al. (2007) for a more detailed discussion of U.S. imported input use by sector.

apparel (The Gap), children's toys (Mattel), and computers (Dell). The latter provides after-sales service, but increasingly even this dimension of the product is provided from abroad.

As a share of total trade, intra-firm trade has been fairly constant over a long period of time, indicating that the great source of growth in intermediates as a share of total trade comes from arm's-length trade. Nonetheless, U.S. intra-firm trade is particularly high for some regions (Latin America, especially Mexico) and rising rapidly for others (East Asia, in particular Korea and China).

2.B. Price competition, mass customization and the persistence of oligopoly

Despite the assertion of the lead role of large oligopoly firms in global production networks, price increases *per se* have not been the main driving force for firm profits in the era of globalization. Competition among large firms has revolved more around greater variety--and thus more customization of design--and higher quality. The move to these other forms of competition was driven by the interaction of economic, technological and cultural forces. Inward foreign investment, foreign capacity expansion and slow growth in the global economy has rejuvenated competition among oligopoly firms, limiting their pricing power.³ On the technology side, firms' ability to produce a greater variety of goods was furthered by new management techniques and the computerization of production and its management. As this production capacity grew, consumers increasingly demanded low prices and high quality, giving further impetus to the changes on the production side.

³ For some supporting evidence, see Crotty (2002).

The proliferation of varieties in consumer products began with Toyota's introduction of more models in a given year than any of its competitors (Madrack, 2002). This capacity is typically associated with changes in the management of the assembly line, the introduction of just-in-time inventory control and with a system of industrial relations that promoted flexibility and production worker cooperation. The introduction of information technology to processes of production has affected not only productivity, but also the variety of products offered. Computer aided design and computer aided manufacture (CAD-CAM) have changed firms' ability to vary product lines and rapidly introduce new designs.

Computerized inventory controls such as SKU (stockkeeping units) have led to rapid and detailed collection of sales and inventory information. Firms can now regulate inventory with utmost precision. Giant retail firms boast of a designer line of consumer goods, changing as seasons and fashions change. In the apparel industry, "fast fashion" is the name given to those firms that are able to alter each store's offerings within days, based on the latest trends and buying patterns at that particular store.⁴ Variety in consumer goods—from fancy coffees to household appliances to cell phones—has exploded, in part the result of greater flexibility in production and better data collection on consumption patterns.

Mass customization has been an effective corporate response to rising consumer power and the heightened demand for variety and quality. The result has been a consolidation of power by large firms, indicated by a rise in industrial concentration since the mid-1990s. Nolan et al. (2002) characterize the increase in industrial concentration

⁴ See Abernathy, F. et al. (1999).

internationally as a “global big business revolution.” This revolution, they write, “produced an unprecedented concentration of business power in large corporations headquartered in the high-income countries.” (Nolan et al., 2002, p. 1) They identify a broad range of industries with high degrees of concentration as measured by market share, including commercial aircraft, automobiles, gas turbines, microprocessors, computer software, electronic games, and even consumer goods, including soft drinks, ice cream, tampons, film and cigarettes, and services such as brokerage for mergers and acquisitions and insurance. A selection of this market share evidence is presented in Figure 1.

Thus the rise of global production networks and the pressure on product market prices have not affected the general dominance of oligopoly firms in the world economy. Oligopoly pricing continues to appear as a much higher markup over costs than is found in more competitive sectors. A recent cross-country study, for example, found that in a number of industrialized countries, the markup in oligopoly sectors are twice the level in competitive sectors.⁵

2.C. Heightened competition among suppliers

There is less evidence available on markups and market structure among supplier firms in global production networks, especially in developing countries. While firm size no

⁵ Oliveirai and Scarpetta (1999) Table 1. The location of lead firms is also indicative. Almost all of the world’s lead firms are based in developed countries. Only five percent of Fortune Five Hundred Companies and three percent of Financial Times 500 companies were based in low income countries. Of the 27 developing country firms on the Financial Times 500 list, 24 were from Asia and only 3 were from Latin America. Of the 100 largest non-financial multinational enterprises in the world in 2000 (ranked by foreign assets), just five are from developing countries and two of these are petroleum producers (Petroleos Venezuela and Petronas of Malaysia).

doubt matters, it is the structure of product and factor markets, and the investment strategies of firms, that determines markup pricing power. Among supplier firms, the constellation of power between lead and supplier firms will be crucial. At the low end of the global commodity chain, low entry barriers are the norm. More and more countries are establishing production capability in manufacturing sectors. Most of this spatial dispersion of production is in low value-added niches of markets. The pattern has often been identified in the textiles and apparel sector, and in consumer electronics, but the phenomenon of more countries entering production in low value added sectors over time has been identified much more broadly across manufacturing.⁶ Mayer et al. (2001) measure industry concentration in terms of the number of countries involved in production. They use a standard measure of concentration (the Herfindahl-Hirschman index), substituting the number of countries for the number of firms in an industry. A decline in the index thus reflects a decrease in “concentration” or, more accurately, an increase in the spatial dispersion of production in that sector. Of the 149 sectors (at the three-digit SITC level) in the data set, 119 experienced decreased concentration over the period 1980-1998. In non-manufacturing sectors, 50 of 76 experience decreased concentration.⁷ These results are supported by econometric studies of the degree of competition in developing countries.⁸

There is evidence that even many large supplier firms (in terms of output and employment) are without pricing power, including many Chinese producers in electronics

⁶ See, for example, Gereffi (1999) on apparel and Ng and Yeats (1999) on electronics.

⁷ Such high rates of entry can be explained, in part, by a fallacy of composition in export markets. See section 5 below.

⁸ See Milberg (2004a) for a brief survey of the empirical literature.

and apparel. Only in the past year is there emerging evidence in the popular press on these firms gaining some ability to demand higher markups.⁹

3. Markup pricing theory with endogenous asymmetry of market structure

3.A. The shift to cost control

Thus we discern two, seemingly incongruous, tendencies in the evolving structure of global industry. On one side, there continues to be a high degree of concentration of industry. And markups in these oligopoly sectors are much higher than in traditionally competitive sectors. On the other side, there is evidence that more and more developing countries are entering lower value-added manufacturing industries. The result is an asymmetry of market structures through the global value chains, with oligopoly, lead firms, at the top, and competitive markets among the lower-tier suppliers.

The apparent paradox is resolved, however, when we see that it is precisely this asymmetry of market structures in global commodity chains, and the ability of lead firms to generate and maintain the asymmetry, that is at the core of the oligopoly firms' cost-cutting strategy that has helped them maintain their dominance. Product pricing power *per se* is no longer crucial to maintaining markups. This is now accomplished by customization and by cutting costs, the latter being managed increasingly through offshore sourcing in global production networks.

The increase in price competition in product markets among oligopoly firms-- especially in the retail sector, but also in sectors as technologically diverse as automobiles and

⁹ See Gough (2005) and New York Times (2006).

computers--has made the firm's implicit cost of raising the price prohibitively high. With this price competition, combined with the newfound advantages of international offshoring, the strategic emphasis in the firm's effort to sustain the markup has shifted from price-setting to cost-cutting. That is, while the emphasis in the classic post Keynesian works by Eichner (1976) was on price setting, recent developments in corporate strategy and the globalization of production require a shift in emphasis of pricing theory. The markup over costs is defined as $m = (p-c)/c$, where p is price, c is average total costs and m is the markup. The focus in the literature has been on the ability of firms to raise p , subject to various constraints.

Eichner (1976) identified these constraints as the result of substitution by consumers, entry by new rival firms and the possibility of government intervention. To add the offshoring of inputs, let variable costs, $c = wa$, where w =wage and a =the unit labor requirement. Suppose $c = (r)w^*a^* + (1-r)wa$, where r is the share of inputs produced offshore, an asterisk designates foreign, and is assumed that foreign production costs are lower than U.S. costs, that is $dc/dr < 0$. Indirectly, the move offshore or even its threat can lower wage demands and dampen domestic wages. That is, if $w = w(r)$, where $dw/dr < 0$, that is as outsourcing rises, U.S. wages fall, reinforcing the positive relation between offshoring and the markup.

This shift in corporate strategy from product prices to costs does not invalidate the earlier post Keynesian insights. Shapiro and Sawyer (2003), for example, argue that the strategic nature of both prices *and* costs is important for the Post Keynesian theory.

Regarding the cost accounting literature, they note that " Products have no 'real', inherent, full cost of production...The firm can administer its costs as well as its prices...[N]either the

cost of products nor the demand for them are taken as given in the product pricing of the firm” (Shapiro and Sawyer, 2003, pp. 9,10, 11)

3.B. Endogenous asymmetry of market structure in global production networks

In this section I argue that the asymmetry of market structures found in many supply chains is not some natural outcome, but is the result of the competitive process itself. That is, it is endogenous to the formation of the supply chains. I discuss a series of firm strategies aimed at raising competition among suppliers and blocking entry to lead firm markets.

The asymmetry of market structure in global supply chains may take a variety of forms distinguished by the markup over costs and the share of value added at different points in the chain. Four hypothetical cases are depicted in Figure 2. In all cases, value added rises at higher levels of the commodity chain, reflecting the standard view that “moving up the value chain” implies moving into higher value added production activities. Case I in the Figure is labelled “vertical competition” because it depicts that of uniform markups at each point in the chain. Case II is titled “Increasing competition” because it shows declining markups and declining value added share at lower points in the commodity chain, indicating both the possible motivation for outsourcing (less value added) and the ability to squeeze suppliers (lower markups over costs). Case II describes an oligopolistic market structure at the top of the chain and a highly competitive structure at the bottom. This case most clearly reflects the asymmetry associated with the increasing volume of arm’s length outsourcing.¹⁰

¹⁰ One problem with using the global commodity chain for understanding the generation of value and its distribution is that there is very little data on wages, markups, and value added along particular chains. In some cases there is even difficulty tracing the chain, either because home-based production is largely unregulated and unaccountable or

Case III is that of the strong first-tier supplier, typically in a developed or newly industrialized country, for example airplane parts manufacturers in Japan, automobile parts producers in Brazil, semiconductor firms in South Korea or even some apparel producers in Mexico. Case IV is titled “Strong middle man”, reflecting a bloated markup in the middle of the chain, resulting from the ability of traders to both squeeze suppliers below them and retain proprietary advantages not appropriable by demanders to whom they sell. Examples of this are the cut flower industry, the Hong Kong apparel trade and the cocoa and coffee trade.¹¹

An important feature of the asymmetry of market structure in global production networks is its endogeneity, and the form of this endogenous asymmetry can take a variety of forms depending on the strategic focus of the lead firm. Four strategies stand out in the recent case study literature on global production networks: inducing competition among suppliers, erecting entry barriers through branding, offloading risk, and minimizing technology sharing. Some sectors lend themselves to only one or the other of these mechanisms. In many sectors, lead firms engage in more than one form at a time.¹²

Inducing competition is the process of diversifying among suppliers in order to spur competition among them. Playing one supplier off another, working with multiple suppliers

because the push for monitoring of labor standards by NGOs has provided an incentive for suppliers to simply hide the identity of the firms with whom they are subcontracting (Balakrishnan, 2001).

¹¹ See Milberg (2004a) for references to the specific case studies.

¹² There is an enormous literature relating to each of these practices. For example, on the inducing of competition, see Gibbon and Ponte (2005) and Lynn (2004). On the offloading of risk, see Weill (2006), Kaplinsky (2005). On the limiting of technology sharing, see Seishi (2006). Branding has been the subject of research for years, but see, for example, Schor (2001).

and even creating new supplier firms has become a standard strategy of lead firms in global production networks, and is a major technique for keeping input prices low. Of course this diversification also reduces risk, in the event of political, economic or natural disaster in any particular country, or of a unionization effort or work protest at any particular location. It is easiest where global capacity is already excessive. The offloading of risk

3.C. Sustainability of the asymmetry

At least four factors make this asymmetry sustainable over time. First is the nature of entry barriers which we have seen are formidable at the high end of the value chain and non-existent at the low end. At all levels of the global commodity chain, scale economies may deter entry. In addition to the barrier from branding, which makes market access difficult at the top of the supply chain, scale economies may deter entry especially for lead firms and many first-tier suppliers. Even fab-less firms limit market access by innovative product design and marketing activity. In this environment, it is difficult for developing country firms to develop their own brands.

A second factor is capital mobility, which affects the low value added operations much more significantly than the high value added ones. Gereffi (1999), shows how apparel production has moved over time to lower and lower cost (i.e. wage) locations. There is evidence that this mobility is effected even when the supply chain is organized within a single firm. Brainard and Riker's (1997) finding that the elasticity of labor demand is much greater for low-wage affiliates of multinational enterprises with respect to other low-wage operations

than it is between a high-wage and low-wage location, suggests that capital mobility creates competition among low-wage locations.

A third factor is political. Tariffs have fallen most in low value-added sectors. This is true generally, but has also been an explicit policy goal, as seen in the tariff policies that promote low-wage offshore assembly operations, such as the 8208 program of the U.S., provisions of the Lome convention and the establishment of export processing zones in many developing countries. These programs are highly concentrated in the garment and electronics sectors. Textiles and apparel are traditionally one of the lowest value added sectors in manufacturing. And the electronics parts and components that dominate in EPZs are at the low end of the spectrum of value added for electronics goods.

A fourth factor sustaining the asymmetry is the persistence and even growth of global excess capacity in many industries. Freeman (forthcoming) describes the entry of China, India and Eastern Europe into the world capitalist economy as a historic, “great doubling” of the world’s labor force, adding enormous productive capacity. This competitive pressure on suppliers translates into pressure on labor costs or on labor standards.¹³

3.D. “Core Competence” and the scope of the firm

If outsourcing can create competition among suppliers, reduce costs and raise flexibility beyond what could be accomplished within the realm of internal operations, then globalized production will be increasingly coordinated externally rather than within firms.

¹³ Similarly, arm’s-length relations with suppliers reduces the buyer firm responsibility for standards in the supplying firm. A company is less likely to be held accountable for standards if the supplier is independently owned than if it is an affiliate of the buyer firm.

Thus, an additional consequence of globalized competition is that the scope of the firm has in many cases narrowed. In the management literature, this is presented as a focus on “core competence.” But core competence is a synonym for rent-generating, and many firms have outsourced the non-rent-generating parts of their operation, at the same time encouraging competition among foreign suppliers so as to assure low prices for the purchased inputs.

4. Markups and the profit share in the U.S.¹⁴

Substituting lower-cost intermediate goods and services imports for higher-cost domestic inputs will raise the markup and thus the profit share. The markup, $m = (p-c)/c$, and costs defined as variable costs, wa , where w is the wage and a is the labor coefficient, we can write:

$$m = (p-wa)/wa \quad (2)$$

or,

$$p = (1+m)wa \quad (3)$$

Since the pre-tax profit share,

$$R = (p - wa)/p, \quad (4)$$

this implies that:

$$R = ((1+m)wa - wa) / (1+m)wa = mwa / (1+m)wa = m / (1+m), \quad (5)$$

Viewed alternatively, the wage share, $S = 1-R = 1/(1+m)$. Thus $dS/dm < 0$.

The share of corporate profits in U.S. national income has increased to levels not seen in 40 years (see Milberg et al., forthcoming, for details). Has globalized competition, and specifically offshoring, been a factor in this rise in the profit share? This is a claim often

¹⁴ This section and the next one draw on Milberg and Arnim (2007).

made in the popular press, but there is little empirical research by economists on the contribution of offshoring to corporate profits—perhaps it is considered too obvious an issue—and what does exist is surprisingly ambiguous in its findings. Firm level surveys (for example, McKinsey Global Institute, 2003) find that services offshoring reduces costs to the firm by around 40% for the outsourced activity. Dossani and Kenney (2003, p. 7) report that a 40% cost saving represents the hurdle rate of return on services offshoring. A number of large firms they survey reported savings considerably higher than this. Gorg and Hanley (2004), using a sample of 12 Irish electronics manufacturers, find that firm-level profits are directly related to outsourcing for large firms (in employment terms) and not significantly related for the small firms in the sample. In a study of small and medium size Japanese firms, Kimura (2002) found no relation between subcontracting and profitability. And in a study of German manufacturing firms, Gorzig and Stephan (2002) found outsourcing of materials to be associated with higher profits but outsourcing of services to be associated with lower profits.

We estimated changes in the profits share at the sectoral level, adding a measure of offshoring while controlling for variables commonly used in models of the profit or wage share, including the sectoral share of total employment, labor productivity, and capital intensity. Using OLS, we estimated the model for a cross-section of 59 two-digit SIC industries by looking at the percent change in all variables over the period 2000-2003.

corporate profits in the U.S. have reached a historic high, and the share of corporate profits

in national income is higher than at any time since 1969. The model follows the specification of Bentolila and Saint-Paul (2003):

$$\begin{aligned} \text{PSHARE}_i = & \beta_0 + \beta_1 (\text{EMPSHARE}_i) + \beta_2 (\text{CAPINT}_i) \\ & + \beta_3 (\text{LPROD}_i) + \beta_4 (\text{OFFSHORE}_i) + \varepsilon_i, \end{aligned}$$

where PSHARE is the profit share, EMPSHARE is the sector share of total employment, CAPINT is the ratio of capital to value added, LPROD is labor productivity and OFFSHORE is the level of offshoring.

The regressions rely on a very small sample, thus the results, presented along with a scatterplot of the profit share and offshoring data in Figure 3, are merely suggestive. The offshoring variable is positive and significant. The same results were found when we regressed these variables on the percentage change in the sectoral profit *rate*. In sum, changes in the profit share at the sectoral level during 2000-2003 are positively and statistically significantly associated with changes in outsourcing.

5. Asymmetry as an obstacle to industrial upgrading

We turn briefly to consider the consequences of endogenous asymmetry for US trading partners, in particular in developing countries. Economic development has been transformed by the emergence of global production networks. Whereas previously export-oriented industrialization meant competing according to comparative advantage, today the predominance of global production networks means that economic development is now closely tied to a nation's industry's ability to successfully enter these networks, to become a supplier in the supply chain—and then to “move up”, that is, into higher value-added

activities in the global supply chain. Industrial upgrading is the new synonym for export-oriented industrialization.¹⁵

The endogenous asymmetry of these supply chains is an obstacle to such industrial upgrading. Each of the four aspects of asymmetry described above constitute an obstacle to upgrading: Supplier firms face enormous competitive pressure from other suppliers to keep costs low, keep quality consistently high, and to keep delivering on schedule or risk losing the contract. They must bare much of the risk of carrying inventory in the face of volatile demand. They are sometimes limited in the technologies they can adapt. And they are limited in moving to the top of the supply chain by the expensive and successful branding strategies of the lead firms.

The evidence is that these obstacles have been binding. Developing countries have very successfully expanded their share of world exports of manufactured goods. But in general their share of manufacturing value added has not increased proportionally.

Milberg and von Arnim (2007) develop a country-level “coefficient of upgrading” as the percentage change in the country’s share of world manufacturing value added relative to the percentage change in the country’s share of world manufacturers exports. Data for the period 1980-2004 shows that in general developing countries have had much success in expanding their exports of manufactured goods. But in general their share of manufacturing value added has not increased proportionally. As a result, most developing countries, and in particular all of the sample Latin American countries, can be described by industrial

¹⁵ See Milberg (2004b).

“downgrading,” whereby the growth in export share outstrips the growth in value added share. Mexico is a particularly extreme case, having seen a more than six-fold export share expansion and effectively no increase in its manufacturing value added share.¹⁶ Korea and India, by contrast, experienced “upgrading” according to the definition. Korean increase in its share of world export value added was more than twice its increase in manufacturing export share. For India, its world manufacturing value added share rose more than 30% more than its expansion of world manufacturing export share. I should note that China had massive expansion of both its manufacturing export share (growth of 723%) and its share of manufacturing value added (growth of 446%). In general the Asian economies show a very different profile than those of Latin America.

These findings on industrial upgrading are supported by recent studies showing that the export-led growth strategy adopted by most developing countries following the debt crisis in the 1980s (in place of the previous strategy of import substitution industrialization) has suffered from a “fallacy of composition” problem. That is, it may be advantageous for one country if it alone achieves exporter status in a particular industry. But if many countries make the same calculation, all countries will be unable to capture the same advantage because of lower prices that follow from the expansion of world supply.¹⁷ Thus the picture on upgrading provided by Milberg and Arnim (2007) is supported by data on trends in the terms of trade faced by many developing countries. The situation would appear to be

¹⁶ Similar findings on Mexico are reported in Moreno-Brid (2005).

¹⁷ See Mayer (2001), and Blecker and Rizvi (2005) for empirical evidence of this phenomenon.

a contemporary version of the Prebisch-Singer dilemma. In the contemporary context, developing country firms have made the transition to manufacturing exports, yet are again suffering the terms of trade stagnation predicted by Prebisch-Singer in earlier years.¹⁸

In addition to terms of trade weakness in developing countries, the endogenous asymmetry of market structures also implies higher inequality in these countries. Competition among suppliers requires both low markups in supplier firms and careful control of wages. Generally speaking, large excess supplies of labor in developing countries, and especially large pools of female labor to serve as a buffer, result in downward pressure on wages. Even China, with its explosive growth in output and exports, has seen little increase in average wages and almost no convergence of its wages with wage levels in the industrialized countries (Glyn, 2006). This perspective on trade and income distribution contrasts with that of the factor endowments model of trade, according to which trade liberalization is expected to raise inequality in rich, capital and high-skill abundant countries and, by symmetry, should lead to the reduction of inequality in labor and low-skill countries.

6. Conclusion: The Political Economy of Balance of Payments Sustainability¹⁹

¹⁸ For a review of the evidence on the terms of trade, see Kaplinsky (2005). In addition to terms of trade weakness in developing countries, the endogenous asymmetry of market structures also implies higher inequality in these countries. Competition among suppliers requires both low markups in supplier firms and careful control of wages. Even China, with its explosive growth in output and exports, has seen little increase in average wages and almost no convergence of its wages with wage levels in the industrialized countries (Glyn, 2006). We leave for future research the question of how the distribution of value added in specific Latin American cases has been affected by the expansion of U.S. offshoring.

¹⁹ This section builds on Kregel and Milberg (2006).

Globalized competition has implications for the dynamics of international payments. The U.S. current account deficit in 2006 has soared past \$800 billion on an annual basis, with a bilateral deficit with China exceeding \$200 billion in the same period. The situation would appear to be unsustainable and over the past few years many prominent economists have predicted a “hard landing” for the dollar, a sharp rise in interest rates to sustain capital inflow or a steep recession that would slow import demand (see, for example Godley et al., 2004, Obstfeld and Rogoff, 2005).

The analysis in this paper indicates that the current system of globalized production and liberal financial market may be more sustainable than these economists maintain.

Capital flows are driven by calculations about risk and return, and I have shown that the rising U.S. import surplus works favorably on both these fronts. U.S. imports of intermediate (as opposed to final) goods and services have risen steadily in the past 15 years and resulting cost reductions have been important for maintaining markups and the profit share in a period when product market prices have not moved up much. The positive impact on non-financial corporations' markups and profit shares have served to attract capital from abroad. Despite all the discussion of Chinese government purchases of U.S. Treasury securities as crucial to financing the U.S. deficit, private capital inflows play a much more significant role than official flows. For the period 2000-2006, in which the current account deficit was on average 5.2% of GDP, only 1.7% of GDP came from official reserve flows and 3.2% of GDP came into the U.S. in the form of direct investment or other private

capital inflows (see Figure 4).²⁰ These capital inflows continue even as U.S. corporations are awash in cash and thus are raising dividends, share buybacks and their involvement in mergers and acquisitions.

In sum, international payments imbalances, although large, appear to be self-reinforcing, since capital inflows require higher profit rates which in turn require a relatively high reliance on cost- and risk-reducing offshore suppliers. The fact that more than 25% of U.S. imports from china are “related-party” imports, that is, from firms with at least 5% ownership by U.S. transnational corporations provides further reinforcement of the link.

I have argued, moreover, that the factors generating the self-reinforcing imbalances, have themselves led to rising income inequality in both the main deficit and surplus countries. In the U.S., as we have seen, the profit share increase has occurred as real wages have risen much more slowly than productivity and employment rates have not moved up in pace with economic growth. Inequality has worsened also because the profit gains have been taxed at the lower rates on capital gains and dividends.

Similar income distributional considerations are present in China. Low Chinese wages, lagging behind productivity growth, are an important driver of China’s export surplus and thus of its foreign reserves accumulation. Chinese workers are effectively providing a

²⁰ Milberg et al. (2007) give recent data on these various uses of funds. On official reserve holdings, it is useful to put the Chinese situation in some perspective. China now holds over \$320 billion of U.S. Treasury securities. But that is just 16 percent of foreign holdings. Japan holds twice that amount, the U.K. holds another 8 percent and 5 percent is held by oil exporting countries. On the strength of private capital inflows, see Kregel (2006) and Glyn (2006). For a skeptical view on these private capital flow data, see Feldstein (2006).

subsidy to the Chinese government in the amount of the interest being earned on China's holdings of U.S. assets.

Globalized production and international capital markets have created a mutually reinforcing set of global imbalances. The point is that rising income inequality in both the main deficit country (the U.S.) and the main surplus country (China) may be a greater source of instability than the payments imbalances themselves.

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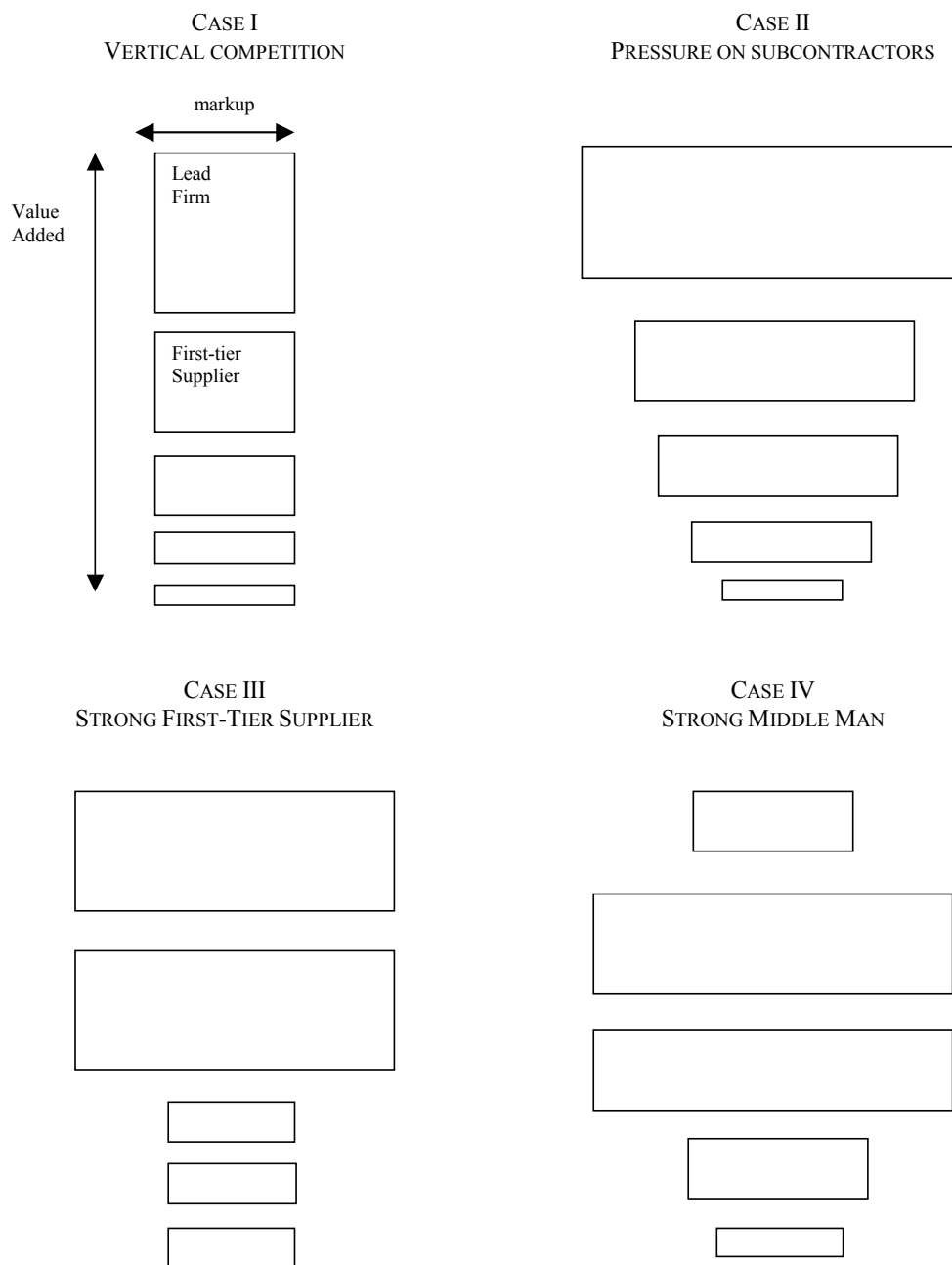
Figure 1

Market shares for various business activities

Firm	Business activity	Market share
<u>Aerospace</u>		
Boeing	Commercial aircraft over 100 seats	70
Airbus	Commercial aircraft over 100 seats	30
Bombardier	20-90 seat aircraft	38
Embraer	20-90 seat aircraft	36
Rolls-Royce	aero-engine orders	34
GE	aero-engine orders	53
Pratt & Whitney	aero-engine orders	13
<u>Fast-moving/branded consumer goods</u>		
Coca-Cola	carbonated soft drinks	51
Reckitt Benckiser	dish washing powder	38
Proctor and Gamble	Tampons	48
Gillette	Razors	70
Fuji Film	Camera films	35
Chupa Chups	Lollipops	34
Nike	Sneakers	36
Fuji	Camera film	32
Kodak	Camera film	35
Konika	Camera film	11
<u>IT/Electronics</u>		
Intel	micro-processors	85
AMD	PC micro processors	20
Microsoft	PC operating systems	85
Microsoft	word processing applications	90
Microsoft	business desktop computer applications	90
Cisco	Computer routers	66
Cisco	high end routers	80
Corning	Optical fibres	50
Hynix	DRAMS	17
Samsung Electronics	DRAMS	29
Compaq	Servers	20
Sony	electronic games	67
Nintendo	electronic games	29
<u>Power equipment</u>		
GE	gas turbines (1993-98)	34
Siemens/Westinghouse	gas turbines (1993-98)	32
ABB/Alstom	gas turbines (1993-98)	21

Alstom	heavy duty turbines	15
<u>Others (including services)</u>		
Barry Callebaut	industrial chocolate	33
Whirlpool	major household appliances	36
Shimano	mountain bike parts	30
Brita	point of use water filters	85
Goldman Sachs	Announced global M&A	40
MSDW	Announced global M&A	33
Marsh	insurance broking	32
Aon	insurance broking	25
Reuters	financial information	30
Bloomberg	financial information	30
WPP/Young and Rubicon	Advertising	20
Omnicom	Advertising	18
<u>Interpublic</u>	<u>Advertising</u>	<u>18</u>
Source: Nolan et al. (2002)		

Figure 2
 Cost Markups and Value Added in the Global Commodity Chain:
 Four Hypothetical Cases



$$P = (1+m)wa \Leftrightarrow m = \left[\frac{P}{wa} \right] - 1$$

Figure 3

Outsourcing and Profit Share in Private Industry
(All variables in percentage changes 2000-03, with multivariate regression results)

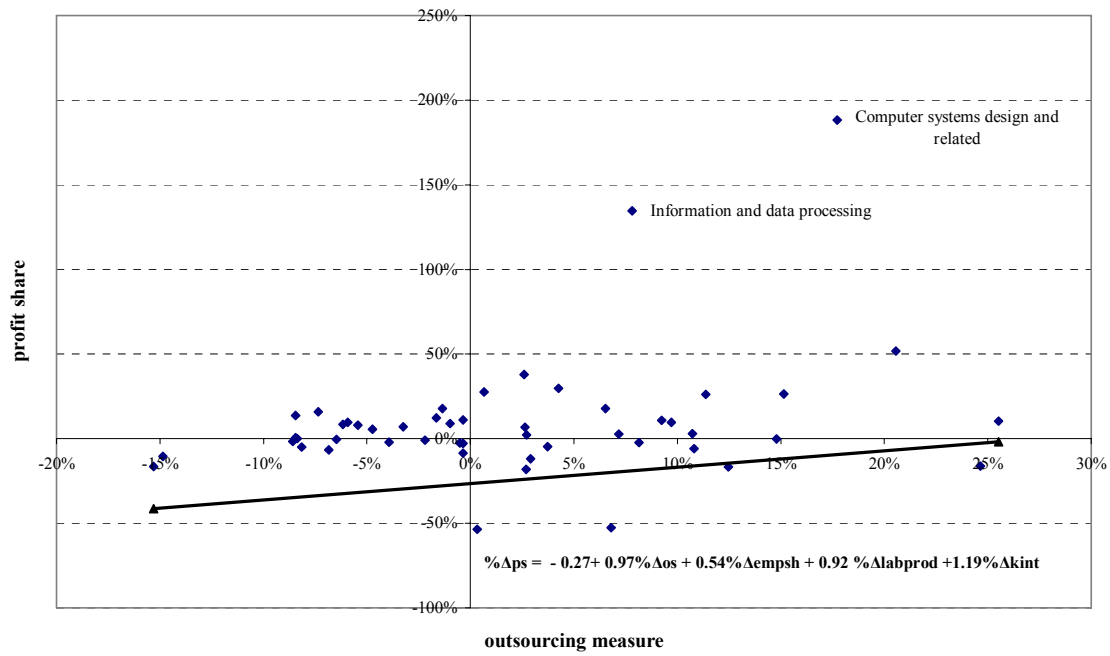


Figure 4

Sources of Finance: US-Current Account, 1980-2006*

	2004	2005	2006	80-89	90-99	00-06
Current Account	-5.7%	-6.4%	-6.6%	-1.7%	-1.6%	-5.2%
<i>Financed by:</i>						
Direct Investment	-0.9%	0.8%	-0.4%	0.3%	-0.1%	- 0.01%
Other Private Capital	2.6%	3.7%	3.0%	0.8%	0.9%	3.3%
Official Reserves Abroad	3.3%	1.6%	2.4%	0.4%	0.7%	1.7%

*Note: All numbers are flows relative to GDP.

Source: Bureau of Economic Analysis and author's calculation