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Financialization and
the Dynamics of Offshoring in the U.S.

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Abstract

Imports are linked to higher cost markups and firm profits and the gains from such non-competitive imports – the result of offshoring – are increasingly associated with the reinvestment of these higher profits. Our regression analysis of 35 U.S. manufacturing and service industries over the period 1998-2006 supports aggregate and firm-level studies showing that offshoring is associated with a higher share of corporate profit in total value added. But these “dynamic” gains from offshoring have not been realized, because firms have purchased financial assets – especially share buybacks and higher dividend payments – to raise shareholder value, rather than investing in productive assets that raise productivity, growth, employment and income. Despite the corporate sector’s contribution to national savings over the past decade, the offshoring-financialization linkage reduces the capacity of non-financial corporations to act as a driver of the recovery from the economic crisis that emerged in 2008.

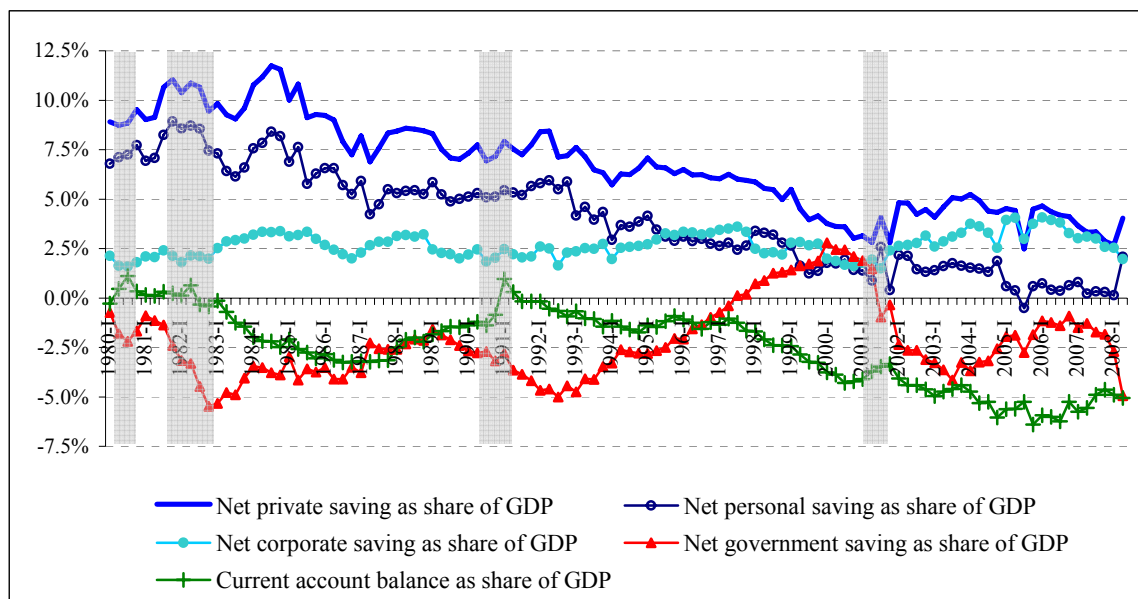
Keywords: Offshoring, Financialization, Profit Share

JEL codes: F16, F23, G34

1. Introduction

In the wake of the recent collapse of the U.S. financial sector, a number of commentators have pointed to the non-financial sector as a potential source of demand growth and innovation that could lead a recovery and long-term economic expansion.¹ This view comes from the fact that nonfinancial corporate profits have provided savings and liquidity for the rest of the economy and, moreover, created the possibility that these firms could finance investment out of internal funds, that is without seeking access to frozen credit markets. Given its high profits and relatively low investment rates over a decade, the non-financial corporate sector was awash in cash.² These profits have provided a significant offset to the low levels of personal and the large deficits on the government and foreign accounts. (see *Figure 1*).

Figure 1: Net Savings and Current Account Balance as Share of GDP, U.S., 1980-2008



Source: Own illustration. Data: U.S. Bureau of Economic Analysis, National Income and Product Accounts, tables 4.1, 5.1 and 1.1.5. NB: quarterly figures are seasonally adjusted annual rates. Gray bars correspond to U.S. business cycles recessions according to the definition of the NBER.

¹ See for example, Mandel (2008) and Grassley (2008).

² Bates et al. (2006).

Beginning in the 1980s and gaining strength in the 1990s, corporate strategies began to shift, focusing more on the maximization of shareholder value and less on long-term growth.³ The transformation involved less investment out of retained earnings and, instead, a financialization, driven by an increased offering of financial services, an increase in the purchase of financial assets, and, more recently, the massive purchase of their own shares aimed at raising stock prices. This “financialization of the nonfinancial corporate sector” in the U.S. has been well documented, and some recent studies have connected financialization directly to reduced capital investment.⁴

This paper focuses on the corresponding real-side aspects of this corporate strategy shift, and in particular on its international dimension. We find that the expansion of global production networks has served a dual purpose in the evolving corporate strategy. Cost reductions from the globalization of production have supported the financialization of the non-financial corporate sector, both by raising profits, and by reducing the need for domestic reinvestment of those profits, freeing earnings for the purchase of financial assets and raising shareholder returns. The emphasis on maximizing shareholder value and aligning management interests with those of shareholders emerged around the same time that management experts advised corporations to reduce the scope of corporate activity to focus on “core competence”.⁵

Over the past 20 years U.S. corporate profits rose and the profit share of national income reached a 40-year high. At the same time, U.S. corporations faced price competition in product markets and thus slow-rising product prices at home. To maintain cost markups and profits, firms shifted their corporate strategy to control of costs, in part by expanding their global production networks. Such offshoring accounts for up to 27% of goods input purchases in some U.S. industries, 50% or more of U.S. imports, and provides reported cost savings of 20-60%. In this paper we argue that potential dynamic gains of offshoring associated with reinvestment of the higher profits it brings, have not been fully realized. To the extent that corporations have become financialized – mainly through an increase

³ Lazonick and O’Sullivan (2000) refer to this as the shift from “retain and reinvest” to “downsize and distribute”.

⁴ See Crotty (2005) and Dumenil and Levy (2005).

⁵ See Prahalad and Hamel (1990) on core competence and Rappaport (1986) on shareholder value.

in dividend payments and share repurchases, but also with increased M&A activity and large executive compensation packages involving stock options – this has diminished the capture of dynamic gains from offshoring.

In sum, financialization and globalization have reinforced each other for U.S. corporations and, despite the corporate sector's contribution to national savings over the past decade, the offshoring-financialization linkage reduces the capacity of non-financial corporations to act as a driver of the recovery from the economic crisis that emerged in 2008. Having moved into core competence beginning in the early 1990s as part of the financialization process, U.S. corporations are today ill-equipped to serve as the driver of the recovery from the economic crisis that emerged in 2008.

The situation has important implications for the analysis of international trade and finance. Research on international trade has emphasized the effects of trade liberalization on the relative wages of high-skill and low-skill workers. In this paper we emphasize the importance of trade for markups, profits and, in turn, investment and financialization. These are better understood as the “dynamic” aspects of offshoring, a term borrowed from the literature on classical trade models that emphasize the relation between imports and the profit rate, with its implications for investment and growth.

We begin with an analysis of the dynamic gains from offshoring as distinct from static efficiency gains. In section three we look at the U.S. experience with product prices and offshoring, and we show how this is consistent with increasing markups, profits and profit shares, contrary to Kaleckian macroeconomic principles. In section four we present regression analysis of sectoral profit shares in the U.S. for the period 1998-2006 in which offshoring is positively associated with the profit share. In section five we show how financialization has risen in importance relative to investment as the profit share has risen. Section six concludes with a discussion of the potential future role of U.S. non-financial corporations in the eventual recovery of the U.S. economy.

2. Dynamic Gains from Offshoring

Theories of offshoring identify static and dynamic welfare effects. In static models, welfare gains from offshoring result from new possibilities for a more refined division of labor, the result of technological change that has lowered the cost and raised the efficiency of managing a global supply chain. The “fragmentation of production” thus enhances the gains from trade beyond those achieved when trade is limited to final goods and services. The expansion of offshoring that results from liberalized trade will, in this view, create winners and losers in each country (the Stolper-Samuelson effect) and the attainment of a welfare gain to the country (the Pareto improvement) depends on compensation of losers by the winners.

Following Adrian Woods’s (1994) transformation of the Heckscher-Ohlin model to include high-skill and low-skill labor rather than capital and labor, there has been a host of empirical studies of the impact of offshoring of goods and services on the wages of high-skill workers relative to low-skill workers. While the Stolper-Samuelson prediction of rising inequality has been supported, more recent studies also find higher-skill workers to be adversely affected.⁶

Mann (2006) is among the few contemporary analysts to emphasize the dynamic effects of offshoring, associated with downstream effects of input price declines. She looks at offshoring of information technology (IT), and argues that the globalization of IT hardware production has contributed to a decline in IT hardware prices, which is equivalent to an increase in productivity and, *ceteris paribus*, raises the profit margin. This in turn has led to greater quantity of IT hardware being demanded by business, further raising productivity. Because of this higher return on investment, firms undertake more investment generally, because “more projects achieve internal benchmarks that firms use to decide whether to invest” (Mann, 2006, pp. xviii-xix).

One can question the elasticity and rate of return estimates cited by Mann, and especially her effort to generalize the IT hardware example to the case of software and business services generally, but her focus on the effect of offshoring on firms’ return on

⁶ See Milberg and Schöller (2008) for a review of the empirical literature.

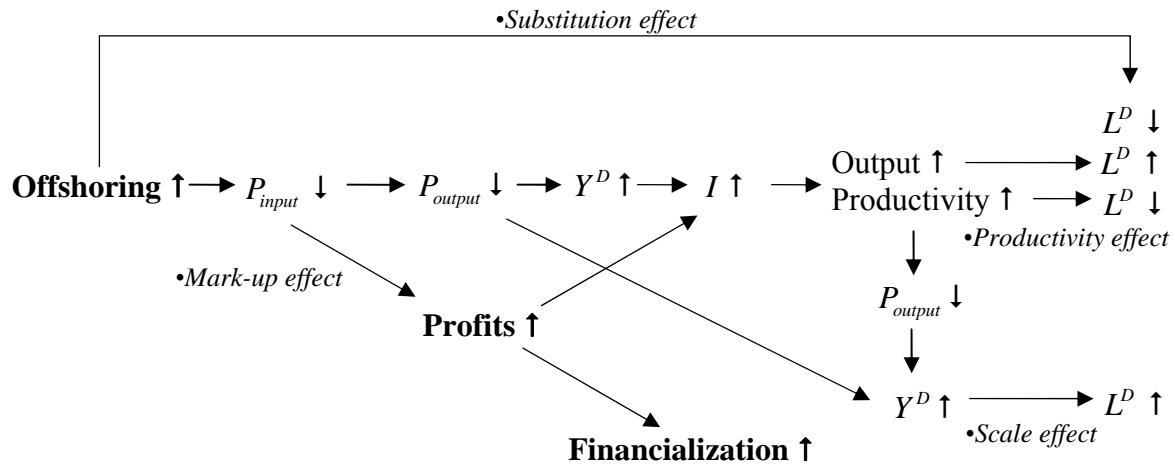
investment highlights that “dynamic” effects of trade may be greater than the static, efficiency effects.⁷ Imported intermediates raise profit margins directly and then indirectly through resulting productivity gains from greater use of IT.

Extending Mann’s dynamic perspective, we identify a number of channels through which offshoring affects employment. They are summarized in *Figure 2*. The dynamic schema goes beyond the focus on direct welfare gains from specialization and improved terms of trade and focuses on the effects of trade on the return on investment and the subsequent impact on investment demand.⁸ This is more in keeping with the classical economists than the neoclassicals. Ricardo, most famous among the classicals on the issue of foreign trade, was interested precisely in the issues of the effect of trade liberalization on the rate of profit and, in turn, on capital accumulation and economic growth. Marx includes foreign trade as one of five “counteracting factors” to the tendency of the rate of profit to fall. And J.S. Mill identified a series of “counteracting circumstances” that would hold off the arrival of the stationary state by keeping profit rates above their minimum level, and spurring investment. For all the classical economists, the effect of international trade, and in particular imports, on economic growth was the main purpose for the pursuit of liberalized trade. Maneschi (1983, 1992) emphasizes the importance of this dynamic interpretation of Ricardo, in contrast to the textbook interpretation of Ricardo’s theory of trade as a one factor statement of the principle of comparative advantage, and we adopt Maneschi’s term “dynamic” to describe this approach.

⁷ See also Amiti and Wei (2006). For a critique, see Mahoney et al. (2007). For doubts about the magnitude of the productivity growth estimates see Houseman (2006).

⁸ See Ricardo (1981[1817], p. 132), (Marx, 1991[1894], p. 344), and Mill, 1968 [1849], p. 743).

Figure 2: Offshoring Dynamics and Labor Demand



Source: Milberg and Schöller (2008).

NB: Y^D = demand for output and L^D = demand for labor.

In the schema in Figure 2, weakening labor demand results from the direct replacement of foreign for domestic labor (the “substitution effect”) and the “productivity effect” which reduces the demand for labor for a given unit of output.⁹ Offshoring also lowers prices of inputs and outputs, raising the quantity demanded for both, and thus raising the demand for labor. Lower input prices should raise profit margins and profits, leading to investment that further raises productivity and output. These gains are labeled the “mark-up,” and “scale effects” in the Figure. Embedded in the markup effect is the “threat effect” of offshoring, according to which the threat of offshoring leads to a dampening of wage demands in the domestic labor market. In an analysis of rising profit shares in industrialized countries since 1980, Glynn (2007a, p. 1), writes that, “Increasing opportunities for capital to shift production overseas has given a huge bargaining advantage to employers in most of the OECD”.¹⁰

Not all of the rise in profits is recycled into investment and labor demand, and this constitutes an important leakage in the system. Corporations may also choose to return

⁹ Recent studies of the substitution effect in the U.S. are Burke and Epstein (2007) and Harrison and McMillan (2006).

¹⁰ See also Glynn (2007b) and Bronfenbrenner (2000).

their net gains immediately to shareholders through higher dividend payments and share buybacks that create capital gains by reducing the supply of outstanding equity and raising share prices. This is the financialization of the nonfinancial corporate sector, indicated as a leakage in the nexus between profits and investment in the Figure. This leakage is especially important because recent studies have established that financialization has come at the expense of investment, implying that offshoring has enabled financialization and, in turn, financialization has reduced the dynamic gains from offshoring.

3. Offshoring, Pricing and the Profit Share

Recent popular writings have highlighted the increased intensity of price competition in U.S. product markets and the unprecedented power of consumers in demanding variety and low prices.¹¹ From 1996-2006, the U.S. consumer price index rose at an annual rate of 2.3%, a period when money supply growth (M2) was over 7% per annum.¹² Price competition has increased while final goods and services market have remained fairly concentrated by traditional measures of concentration.¹³ To maintain the markup without the traditional ability to raise product prices, unit costs must be reduced. The relative stagnation of U.S. wages relative to gains in productivity has been well documented.¹⁴ While these are no doubt of major importance, here we raise the possibility that the effective management of global supply chains – offshoring – also contributed to increased markups in the presence of relatively flat consumer prices. While wages grew slowly, import prices actually fell over the period 1996-2006.

The motives for offshoring range from the pursuit of greater flexibility, to diversification of location in order reduce risk, to the lowering of production costs. While all of these goals have been cited in studies of offshoring, the importance of cost reduction is unmistakable. U.S. import prices have fallen by about 1% per year on average since the

¹¹ Reich (2008), p. 52 and Cassidy (2005).

¹² Milberg (2008), Table 2.

¹³ See Nolan et al. (2002)

¹⁴ On wage stagnation, see Temin and Levy (2006), and on the distribution of productivity gains, see Dew-Becker and Gordon (2005).

mid-1990s, the result of an unprecedented replacement of domestic inputs with those produced lower cost locations abroad.

Using the Feenstra and Hanson (2001) input-output based measures of offshoring, we find that as a percentage of total non-energy inputs, imported inputs of materials and services grew at an annual average rate of almost two percent from 1998-2006, reaching levels of over 25% in some sectors, including apparel and motor vehicles (see *Table 1*). The manufacturing sector offshoring intensity for material inputs reached 14.5% in 2006, up from 11.6% in 1998, 6.2% in 1984 and 4.1% in 1974.¹⁵ Other studies, employing slightly different definitions, give an even more dramatic picture of the U.S. reliance on the import of intermediates. Bardhan and Jaffee (2004) report that imported intermediates accounted for 38 percent of U.S. imports and that 52 percent of all U.S. imports were intra-firm, figures that have surely grown over the past ten years. Using a simulation model, Yi (2003) finds that “vertical specialization” – “the sequential, vertical trading chain stretching across many countries, with each country specializing in particular stages of a good’s production sequence” – accounted for over 50 percent in the growth of U.S. trade in the period 1962-1997.

¹⁵ The 1974 and 1984 figures are from Campa and Goldberg (1997).

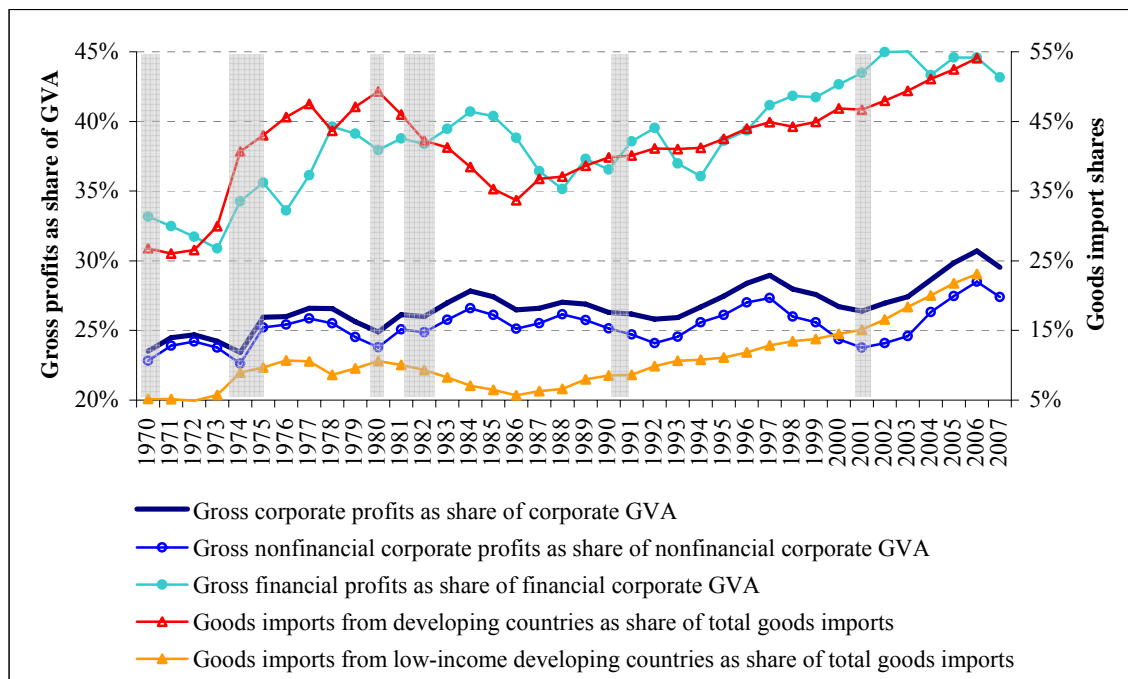
Table 1: Material and Service Offshoring Intensities, 1998 vs. 2006
(imported material/service inputs as a % of total non-energy inputs)

| | <i>OSM</i> | | | <i>OSS</i> | | |
|--|---------------|---------------|-------------|--------------|--------------|-------------|
| | 1998 | 2006 | <i>CAGR</i> | 1998 | 2006 | <i>CAGR</i> |
| All manufacturing and service sectors | 7.67% | 8.97% | 2.0% | 0.36% | 0.41% | 1.8% |
| All manufacturing sectors | 11.58% | 14.49% | 2.8% | 0.35% | 0.37% | 0.7% |
| All service sectors | 2.72% | 3.25% | 2.2% | 0.36% | 0.45% | 2.8% |
| Utilities | 5.43% | 7.10% | 3.4% | 0.33% | 0.34% | 0.5% |
| Construction | 9.92% | 13.69% | 4.1% | 0.31% | 0.31% | 0.1% |
| Food and beverage and tobacco products | 4.58% | 5.84% | 3.1% | 0.41% | 0.44% | 0.9% |
| Textile mills and textile product mills | 13.24% | 19.98% | 5.3% | 0.24% | 0.31% | 3.3% |
| Apparel and leather and allied products | 18.56% | 26.66% | 4.6% | 0.27% | 0.38% | 4.4% |
| Wood products | 11.15% | 13.67% | 2.6% | 0.39% | 0.49% | 2.9% |
| Paper products | 8.99% | 11.80% | 3.5% | 0.36% | 0.39% | 1.1% |
| Printing and related support activities | 8.95% | 11.94% | 3.7% | 0.34% | 0.39% | 1.8% |
| Petroleum and coal products | 5.58% | 8.60% | 5.5% | 0.62% | 0.53% | -1.8% |
| Chemical products | 10.17% | 13.73% | 3.8% | 0.35% | 0.34% | -0.3% |
| Plastics and rubber products | 11.91% | 16.96% | 4.5% | 0.27% | 0.26% | -0.7% |
| Nonmetallic mineral products | 8.88% | 10.92% | 2.6% | 0.28% | 0.32% | 1.6% |
| Primary metals | 14.32% | 20.40% | 4.5% | 0.41% | 0.40% | -0.2% |
| Fabricated metal products | 12.29% | 17.25% | 4.3% | 0.30% | 0.34% | 1.4% |
| Machinery | 13.78% | 18.57% | 3.8% | 0.35% | 0.37% | 0.5% |
| Computer and electronic products | 18.04% | 20.78% | 1.8% | 0.51% | 0.55% | 1.0% |
| Electrical equipment, appliances, and components | 14.29% | 19.84% | 4.2% | 0.40% | 0.41% | 0.3% |
| Motor vehicles, bodies and trailers, and parts | 19.28% | 25.56% | 3.6% | 0.26% | 0.27% | 0.8% |
| Other transportation equipment | 16.51% | 20.64% | 2.8% | 0.22% | 0.26% | 1.9% |
| Furniture and related products | 9.87% | 13.59% | 4.1% | 0.36% | 0.43% | 2.2% |
| Miscellaneous manufacturing | 13.01% | 16.92% | 3.3% | 0.40% | 0.43% | 0.7% |
| Wholesale trade | 3.63% | 4.67% | 3.2% | 0.50% | 0.53% | 0.9% |
| Publishing industries (includes software) | 3.52% | 3.99% | 1.6% | 0.57% | 0.63% | 1.2% |
| Motion picture and sound recording industries | 2.98% | 2.71% | -1.2% | 0.75% | 3.16% | 19.6% |
| Broadcasting and telecommunications | 2.89% | 3.66% | 3.0% | 0.26% | 0.57% | 10.5% |
| Information and data processing services | 8.01% | 8.93% | 1.4% | 0.27% | 0.30% | 1.2% |
| Federal Reserve banks, credit intermed. & related activ. | 0.96% | 1.14% | 2.1% | 0.25% | 0.25% | 0.3% |
| Securities, commodity contracts, and investments | 0.29% | 0.29% | 0.3% | 0.17% | 0.16% | -1.1% |
| Funds, trusts, and other financial vehicles | 0.06% | 0.05% | -2.3% | 0.04% | 0.03% | -1.3% |
| Rental & leasing services and lessors of intangible assets | 3.09% | 2.85% | -1.0% | 0.29% | 0.31% | 0.7% |
| Legal services | 1.05% | 1.07% | 0.2% | 0.38% | 0.37% | -0.3% |
| Miscellaneous profess., scientific and technical services | 2.89% | 3.26% | 1.5% | 0.39% | 0.51% | 3.2% |
| Computer systems design and related services | 6.10% | 6.06% | -0.1% | 0.22% | 0.23% | 0.6% |
| Management of companies and enterprises | 1.37% | 1.80% | 3.5% | 0.45% | 0.43% | -0.4% |
| Administrative and support services | 3.25% | 4.31% | 3.6% | 0.32% | 0.32% | 0.0% |

Source: Own calculation. Data: Bureau of Economic Analysis, Annual I/O Accounts, The Use of Commodities by Industries after Redefinitions. See *Data Appendix*.

The U.S. is not simply an assembly economy, so the focus on intermediates understates the degree of offshoring. A more appropriate aggregate measure of offshoring is the growth of imports from low-wage developing countries. These are shown for the U.S. in *Figure 3* as a percentage of total imports. This measure leaves out offshoring activity among industrialized countries, but nonetheless overcomes the problem of looking only at intermediates or only at intra-firm trade. Goods imports from all developing countries rose from 27 percent in 1970 to 54 percent of total imports in 2006. Goods imports from the lowest income developing countries (which includes China) alone rose from 5 percent to 23 percent of total U.S. imports (Figure 3).

Figure 3: U.S. Profit and Import Shares, 1970-2006/07



Source: Own illustration. Data: U.S. Bureau of Economic Analysis, National Income and Product Accounts; UNCTAD Handbook of Statistics.

NB: Gross profits are calculated by adding net operating surplus and consumption of fixed capital. Their sum is divided by gross value added. Gray bars correspond to U.S. business cycles recessions according to the definition of the NBER.

The expansion of offshoring has corresponded to a slow but steady rise in the share of corporate profits in U.S. national income, which reached levels not seen in 30 years (see Figure 3). After falling from post-World War II highs in the mid-1960s, the profit share

recovered beginning in the early 1990s. It has been higher during the last two business cycles than at any time since the 1960s. Was globalization, and specifically offshoring, in part responsible for this rise in the U.S. profit share?

4. Offshoring and the Profit Share: Estimates for U.S. Industries, 1998-2006

4.1 Theoretical Considerations

From a Keynesian or Kaleckian perspective, the shift to more intensive use of imports would, *ceteris paribus*, reduce growth and the profit share. Kalecki's analysis is particularly relevant here, because he saw the trade surplus as the basis for expanding the profits through a profits multiplier. Using Kalecki's (1954) well-known relationship between sources and uses of income, Blecker (2004) shows that an increase in net exports raises sales and profits as follows:

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

where R designates total profits, C_K capitalists' total consumption, X total exports and M total imports.

Kalecki felt that by linking the expansion of export markets with the attainment of a higher profits, he had "solved the problem of imperialism" (Blecker 2004). Blecker (1989) sought to place this Kaleckian view in the context of modern trade competition among industrialized countries, and identified import competition as an 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. Blecker's insight seems to have been borne out, with one unpredicted twist: about half of 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 is that the trade deficit boosts markups profits and the profit share. Firms outsource to cut costs and these cost savings put downward pressure on prices.

Firm-level surveys find that offshoring reduces costs to the firm by around 40% or more for the offshoring of manufacturing and somewhat less for services.¹⁶

Substituting lower-cost intermediate goods and services imports for higher-cost domestic inputs can raise firms' markup over costs and the profit share of national income. Define the markup, $m = (p - c) / c$, where p is price and c are variable costs. If we reduce these costs to labor costs so that $m = (p - wa) / wa$, where w represents the wage and a is the labor coefficient, or equivalently write $p = (1 + m) / wa$. Since the pre-tax profit share r is defined as $r = (p - wa) / p$, this implies that $r = ((1 + m)wa - wa) / ((1 + m)wa) = m / (1 + m)$. This gives $dr / dm = 1 / (1 + m)^2 > 0$, that is, an increase in the markup yields an increase in the profit share.

Most cross-country, econometric studies that find trade openness and offshoring to be associated with a fall in the labor share of national income for the industrialized countries since 1980. Guscina (2006) finds that three aspects of globalization (related to prices, offshoring and immigration) combined to play a large role in explaining the declining labor share for a group of six OECD countries over 1960-2000, although the effect of offshoring *per se* is relatively small. IMF (2007) estimate that offshoring and immigration to have reduced the labor share in continental Europe over the period 1982-2002, while in the Anglo-Saxon countries the effect of offshoring is smaller. These studies may understate the impact of offshoring, since they include both trade and import prices. Harrison (2002) finds that trade openness and exchange rate crises are associated with a lower labor share of national income for a sample of over 100 countries over the period 1960-1997. However, controlling for the business cycle, product market regulation, employment protection legislation and oil prices, Ellis and Smith (2007) find no statistically significant connection between imports from emerging markets and the profit share in 19 major OECD countries over 1960-1995, except through the real exchange rate. They explain the rising time trend in the profit share as the result of an acceleration of technological change that causes a "greater rate of churn in the labor market. This

¹⁶ See Milberg (2008) for a survey of firm-level studies.

greater churn strengthens firms' bargaining positions and allows them to capture a larger share of factor income" (Ellis and Smith, 2007, p. 18).

4.2 Estimating the Impact of Offshoring on the U.S. Profit Share

We add to this body of research by focusing on the profit share ('gross operating surplus' as a share of value added) for 35 sectors – 21 manufacturing sectors and 14 service sectors – during 1998-2006 in the U.S (see Table 1 for the sectors). We adopt Bentolila and Saint-Paul's (2003) model of the labor share which assumes CES technology, which gives the following expression for the capital share of income:

$$S^K = \frac{\alpha(A \cdot K)^\gamma}{\alpha(A \cdot K)^\gamma + (1-\alpha)(B \cdot L)^\gamma} = \alpha(A \cdot k)^\gamma \quad (1)$$

where K and L denote capital and labor, while A , B and γ represent technological parameters. Capital intensity k , i.e. the capital-output ratio, is defined as:

$$k = \left(\frac{K^\gamma}{\alpha(A \cdot K)^\gamma + (1-\alpha)(B \cdot L)^\gamma} \right)^{1/\gamma} \quad (2)$$

The labor share is defined analogously, and thus

$$S^K + S^L = 1 \quad (3)$$

Bentolila and Saint-Paul (2003) identify two sources of deviation from this relationship¹⁷: (1) capital-augmenting technological progress induced changes, for example by import price fluctuations, and (2) divergence between wages and productivity, brought on, for example, by a shift in labor bargaining power. This leaves four explanatory variables in the profit share model: technological progress A , capital intensity k , import prices MP and labor bargaining power.¹⁸ We estimate the following version of the Bentolila and Saint-Paul model:

¹⁷ Note that Bentolila and Saint-Paul (2003) focus on the relationship between S^L and k . Due to equation (3), this reasoning also holds for the relationship between S^K and k .

¹⁸ Taking logarithms we obtain: $\ln S_{it}^K = \beta_0 + \beta_1 \ln A_{it} + \beta_2 \ln k_{it} + \beta_3 \ln MP_{it} + \beta_4 \ln UND_{it}$

$$\ln S_{it}^K = \beta_0 + \beta_1 \ln LP_{it} + \beta_2 \ln k_{it}^{equip} + \beta_3 \ln k_{it}^{struc} + \beta_4 \ln OSS_{it} + \beta_5 \ln OSM_{it} + \beta_6 \ln OSE_{it} + \beta_7 \ln UND_{it} + D_t + \varepsilon_{it} \quad (4)$$

where i designates sectors and t the time dimension.

The technology parameter in the model is captured with labor productivity (LP_{it}). Capital is made up of its subcomponents ‘private equipment and software’ and ‘private structures’. Since we believe that their respective effects on profit shares are different, we will include two measures of capital intensity in our estimations (k_{it}^{equip} and k_{it}^{struc}). Sectoral import prices MP_{it} are captured by using sectoral service, material and energy offshoring intensities, which represent the proportion of imported inputs used in home production.

Energy offshoring intensity OSE_{it} is used as a proxy for the prices of imported energy inputs¹⁹, i.e. a higher intensity reflects *higher* imported energy input prices. While firms generally depend on foreign energy inputs, imported service and material inputs are mostly chosen for cost reasons. Thus, service and material offshoring intensities, OSS_{it} and OSM_{it} , serve as *inverse* proxies for the prices of imported service and material inputs, i.e. a higher intensity reflects *lower* imported service and material input prices. We adopt union density UND_{it} as a proxy for labor bargaining power. β_0 denotes the constant, D_t year fixed effects, such as common shocks influencing all sectors, and ε_{it} the idiosyncratic error term. The data description can be found in the *Data Appendix*.

Table 2 shows the results using the consistent *fixed effects estimator* which allows unobserved time-constant sector-specific effects c_i to be correlated with some explanatory variables x_{it} . All estimations produce standard errors robust to both heteroscedasticity (Huber-White sandwich estimators) and any form of intra-cluster correlation.²⁰ Column 1 only considers instantaneous effects on the profit share. Since the

¹⁹ We focus on three energy inputs that are associated with imported oil prices, namely ‘oil and gas extraction’, ‘electric power generation, transmission and distribution’ and ‘natural gas distribution’.

²⁰ We deleted one outlier (‘Federal Reserve banks, credit intermediation and related activities’).

effects on the profit share are not always instantaneous, we add *one period lags* of the independent variables in column 2. Note that Akaike's Information Criterion (AIC) improves. The F-tests show that most of the variables have no joint influence on the profit share which indicates a misspecification of the model. Therefore, we eliminated the variables that showed high P-values in column 2. The results in column 3 show that the AIC was further improved. Moreover, nearly all variables are significant and have the expected signs. Only $\ln OSM_{it}$ misses the 10%-level, which could be due to collinearity with union density of more than 60%. Dropping the union affiliation variable shows a significant result for material offshoring at the cost of a slightly lower AIC and an insignificant labor productivity variable (reported in column 4).

The results show clearly that service and material offshoring significantly increased profit shares between 1998 and 2006, while energy offshoring has a significantly negative influence. Interestingly, the capital intensity of equipment and software has a significantly positive impact, whereas the capital intensity of structures has a negative one. Higher union density is associated with a lower profit share.

Interpreting the results of model 4, we find that, holding all other variables constant, a 1% increase of service offshoring – reflecting lower imported service input prices – increased the profit share by 0.22% between 1998 and 2006. A 1% increase of material offshoring – reflecting lower imported material input prices – led to an average profit share growth between 0.51 and 0.69%. A 1% increase of energy offshoring – reflecting higher imported energy input prices – reduced the profit share by 0.20 to 0.23%, all other variables being constant.

Table 2: Regression Results: Sectoral Profit Share, U.S., 1998-2006

| Dependent variable: $\ln S^K_t$ | | | | |
|---|-------------------------|------------|------------|-----------|
| | Fixed-effects estimator | | | |
| | (1) | (2) | (3) | (4) |
| $\ln LP_t$ | 0.7694* | 0.5311 | 0.8874* | 0.8106 |
| | (0.091) | (0.112) | (0.083) | (0.112) |
| $\ln LP_{t-1}$ | | 0.3824 | | |
| | | (0.278) | | |
| $\ln(k^{equip})_t$ | 0.2580 | -0.5667 | | |
| | (0.259) | (0.249) | | |
| $\ln(k^{equip})_{t-1}$ | | 0.9682* | 0.5038* | 0.4697* |
| | | (0.071) | (0.088) | (0.092) |
| $\ln(k^{struc})_t$ | -0.6356 | -0.0974 | | |
| | (0.116) | (0.805) | | |
| $\ln(k^{struc})_{t-1}$ | | -0.6686 | -0.7459* | -0.7488* |
| | | (0.249) | (0.084) | (0.079) |
| $\ln OSS_t$ | 0.2024 | -0.0036 | | |
| | (0.157) | (0.973) | | |
| $\ln OSS_{t-1}$ | | 0.2286* | 0.2187* | 0.2178* |
| | | (0.075) | (0.077) | (0.086) |
| $\ln OSM_t$ | 0.5858 | 0.5044 | 0.5052 | 0.6896* |
| | (0.178) | (0.112) | (0.169) | (0.088) |
| $\ln OSM_{t-1}$ | | -0.0212 | | |
| | | (0.947) | | |
| $\ln OSE_t$ | -0.2311*** | -0.2320*** | -0.2333*** | -0.2027** |
| | (0.010) | (0.009) | (0.007) | (0.012) |
| $\ln OSE_{t-1}$ | | -0.0217 | | |
| | | (0.762) | | |
| $\ln UND_t$ | -0.1299 | -0.0622 | | |
| | (0.358) | (0.626) | | |
| $\ln UND_{t-1}$ | | -0.2150 | -0.2265* | |
| | | (0.128) | (0.069) | |
| Fixed year effects | Yes | Yes | Yes | Yes |
| Joint significance: | | | | |
| $\ln LP_t + \ln LP_{t-1} = 0$ | | p>F=0.2572 | | |
| $\ln(k^{equip})_t + \ln(k^{equip})_{t-1} = 0$ | | p>F=0.1514 | | |
| $\ln(k^{struc})_t + \ln(k^{struc})_{t-1} = 0$ | | p>F=0.2346 | | |
| $\ln OSS_t + \ln OSS_{t-1} = 0$ | | p>F=0.1754 | | |
| $\ln OSM_t + \ln OSM_{t-1} = 0$ | | p>F=0.2768 | | |
| $\ln OSE_t + \ln OSE_{t-1} = 0$ | | p>F=0.0275 | | |
| $\ln UND_t + \ln UND_{t-1} = 0$ | | p>F=0.1396 | | |
| AIC | -70.7 | -99.1 | -105.4 | -100.0 |
| Observations | 302 | 268 | 268 | 268 |
| R-squared (within) | 0.32 | 0.37 | 0.35 | 0.34 |

NB: S^K = profit share, LP = labor productivity, k^{equip} = capital intensity of equipment and software, k^{struc} = capital intensity of structures, OSS = service offshoring intensity, OSM = material offshoring intensity, OSE = energy offshoring intensity and UND = union density.

5. Financialization versus Investment

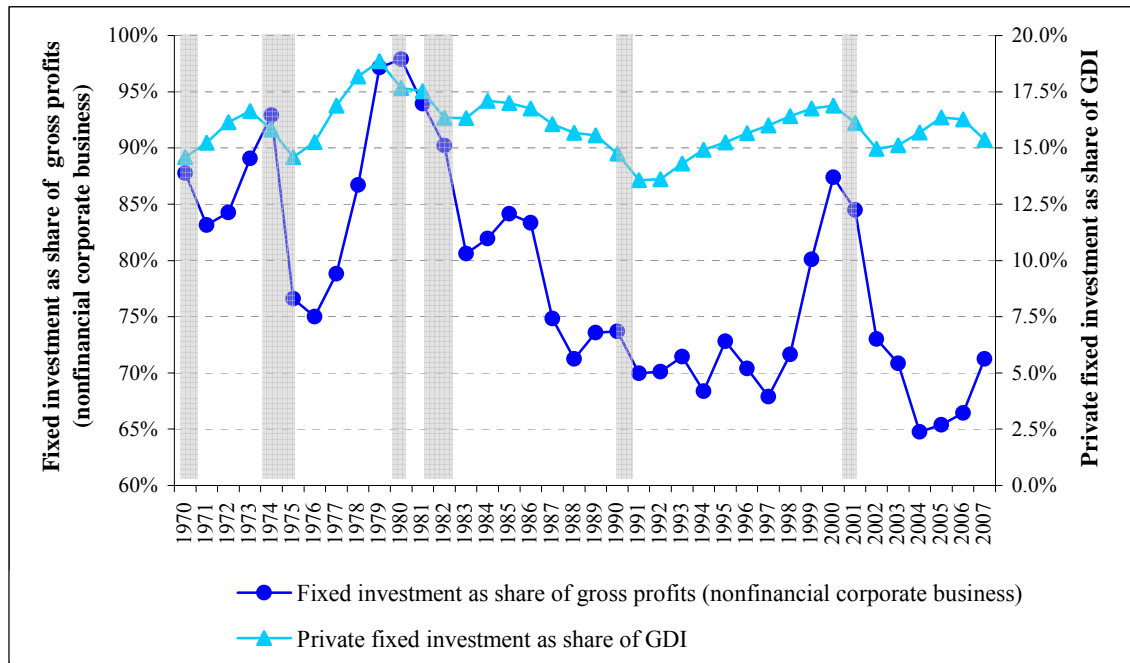
If the increased corporate profit share in the U.S. – driven in part, as we have seen, by offshoring – was matched by proportionate increases in investment, then we could be reasonably comfortable that the dynamic gains from offshoring were being realized. But there has been a shift in the use of these profits. Firms reduced their spending on plant and equipment and instead expanded their spending aimed directly at immediately increasing shareholder value. While the profit share rose and investment as a share of profits stagnated or fell, firms sharply increased their dividend payments and purchases of financial assets.

A number of recent studies have found rising financialization to be associated with declining investment. Stockhammer (2004) finds a significant association between financialization of non-financial businesses (measured by interest and dividends as a share of value added) and investment by this sector in the US and France between the early 1960s and the mid-1990s. The relation is negative also for Germany and the UK, but not statistically significant. Orhangazi (2008) uses firm data for the US for the period 1973-2000 and again finds a negative and significant relation. Andersson et al. (2007) make a similar finding for the non-financial S&P 500 firms for the period 1990-2006.

The relative stagnation of U.S. investment in relation to GDI is shown in *Figure 4*. Total private investment as a share of GDI has recovered from its low levels in the early 1990s, but is still well below levels achieved in the 1970s. For non-financial corporations, investment as share of gross profits have, with the exception of the period of the IT boom, been below the levels of the 1970s.

A simple depiction of the financialization of the non-financial sector is the trend in dividend payments and share buybacks (with cyclical fluctuations) as a share of internal funds, taking off in the early 1980s from a plateau of around 20% and reaching over 100% in recent years (see *Figure 5*). Another increasingly popular use of corporate funds was for mergers and acquisitions. Like dividends and share buybacks, merger and acquisition activity reached record levels over the last two business cycles.

Figure 4: U.S. Investment Shares, Total and Non-financial Corporations, 1970-2007



Source: Own illustration. Data: U.S. Bureau of Economic Analysis, National Income and Product Accounts. U.S. Federal Reserve Bank, Flow of Funds Account, Schedule Z.1.

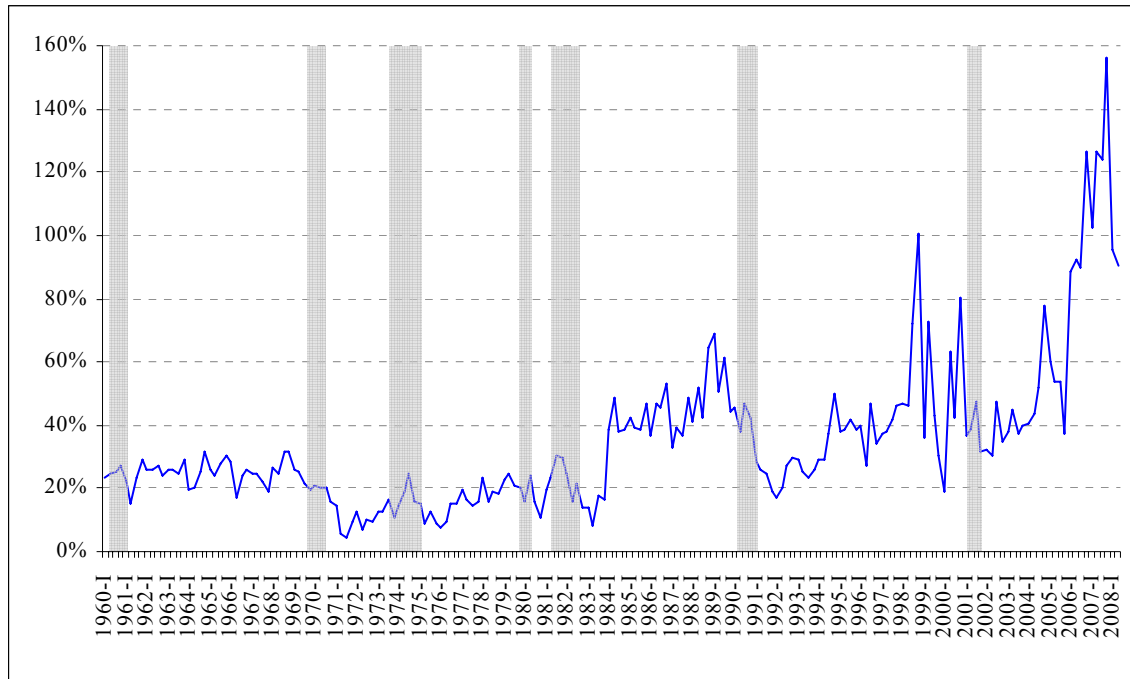
NB: Gross profits of nonfinancial corporate business are calculated by adding net operating surplus and consumption of fixed capital. Gray bars correspond to U.S. business cycles recessions according to the definition of the NBER.

For the first five months of 2007, global M&A transactions valued \$2 trillion, almost double the value for the same period in 2006, with a rising percentage of acquisitions financed out of cash. Finally, with domestic requirements for plant and equipment investment reduced, non-financial corporations have diversified into finance itself. Since the early 1980s, nonfinancial corporations have increased their relative investment in financial assets. This financial investment picked up in the late 1990s, and by around 2000, nonfinancial corporations as a whole held more than half of their assets in the form of financial assets.²¹

²¹ Crotty (2005), p. 90 and Orhangazi (2008), Figure 1.

Figure 5: Net Dividends plus Share Buybacks as % of Internal Funds, 1960-2008

U.S. Nonfarm Nonfinancial Corporate Business



Source: Own illustration. Data: U.S. Federal Reserve Bank, Flow of Funds Account, Schedule Z.1.

NB: Quarterly figures are seasonally adjusted annual rates; share buybacks correspond to negative net new equity issues. Gray bars correspond to U.S. business cycles recessions according to the definition of the NBER.

There are no comprehensive data on imports or offshoring by individual firms, but the financial data suggest that firms with extensive global supply chains undertook massive share buybacks in the 2000s. IT hardware and software manufacturers (Cisco, Microsoft, Hewlett Packard, Dell and Intel), retailers (Wal-Mart and Home Depot), and consumer non-durables firms (Procter & Gamble) that rely heavily on sophisticated global value chain arrangements, were among those returning the highest levels of dividends and share buybacks. *Table 3* lists the top 30 non-financial firms in terms of share buybacks over the period 2000-2007.

Cisco was among the first U.S. manufacturers to largely abandon manufacturing through the use of foreign contract manufacturers in order to focus on sales and service. Already by the late 1990s Cisco owned only 2 of the 34 foreign plants it contracted for manufacturing. Microsoft has well-established offshore software development, including

in India, and the design and manufacture of its XBOX video game consoles has been managed by the Asian contract manufacturer Flextronics. Dell, the PC assembler that revolutionized mass customization in the PC market, purchases 4,500 different parts from 300 suppliers. Hewlett-Packard purchases some of its highest technology components from Taiwanese suppliers.²²

Table 3: Repurchases and Dividend payments, Top 30 Nonfinancial, Nonenergy Corporations (percent of company net income over 2000-2007)

| Rank | Company | Stock repurchases | Cash dividends | Stock repurchases plus cash dividends |
|------|---------------------|-------------------|----------------|---------------------------------------|
| 1 | Microsoft | 80 | 63 | 143 |
| 2 | IBM | 63 | 15 | 78 |
| 3 | Pfizer | 76 | 61 | 137 |
| 4 | General Electric | 29 | 49 | 79 |
| 5 | Cisco Systems | 151 | 0 | 151 |
| 6 | Intel | 93 | 18 | 110 |
| 7 | Procter&Gamble | 80 | 44 | 124 |
| 8 | Hewlett-Packard | 128 | 33 | 160 |
| 9 | Home Depot | 54 | 16 | 70 |
| 10 | Wal-Mart Stores | 31 | 20 | 51 |
| 11 | Johnson & Johnson | 39 | 37 | 76 |
| 12 | Dell | 136 | 0 | 136 |
| 13 | Time Warner | -56 | -4 | -60 |
| 14 | Oracle | 92 | 0 | 92 |
| 15 | AT&T Inc | 25 | 65 | 90 |
| 16 | Pepsico | 64 | 35 | 99 |
| 17 | United Health Group | 95 | 1 | 95 |
| 18 | Amgen | 126 | 0 | 126 |
| 19 | Altria Group | 26 | 56 | 82 |
| 20 | Walt Disney | 92 | 27 | 118 |
| 21 | UPS | 64 | 34 | 99 |
| 22 | CBS | -70 | -9 | -78 |
| 23 | Texas Instruments | 108 | 10 | 119 |
| 24 | Merck | 34 | 53 | 87 |
| 25 | 3M | 58 | 43 | 101 |
| 26 | McDonalds | 64 | 30 | 94 |
| 27 | Boeing | 69 | 33 | 102 |
| 28 | Allstate | 49 | 27 | 77 |
| 29 | Anheuser-Busch | 69 | 37 | 106 |
| 30 | Wellpoint | 99 | 0 | 99 |

Source: Own illustration. Data: Lazonick (2008), Table 7.

NB: Stock repurchases = repurchases of common and preferred stock, net income = net after-tax income, cash dividends = common and preferred cash dividends. Ranked by total repurchases.

²² Lynne (2005), chapter 5.

Wal-Mart is the leading importer from China, with reported imports of \$18 billion in 2004 and \$27 billion in 2006.²³ From the perspective of share buybacks over 2000-2007, Wal-Mart ranks 14th among S&P 500 firms, with share buybacks and dividends equal to 51% of net income. Wal-Mart's pressure on its suppliers to deliver at low cost and its pitting of suppliers against each other are well documented.²⁴ Retailer Home Depot ranks above Wal-Mart in total repurchases. Its dividends and share buybacks were equal to 70% of net income over 2000-2007.

Procter and Gamble ranks seventh in total repurchases over the period, with dividends and share buybacks equal to 124% of net income. This reflected a shift in discretionary cash distribution compared to the 1990s. In the 1990s, capital expenditure accounted for 46% of P&G discretionary cash distribution, while share buybacks were 13%. In 2000-2007, capital expenditure was 21% while share buybacks rose to 39%.²⁵ The pressures to financialize were more severe due to P&G's purchase of Clairol, Wella and Gillette since 2000. Cost cutting was necessary, and the firm turned to heighten its offshoring operations.²⁶

6. Conclusion: Financialization and Recovery from the Current Slump

Some analysts have argued that the financial crises that erupted in 2008 would be contained within the financial sector, with few serious real-side consequences. The premise of this argument is that nonfinancial corporations have generated high profits over the past ten years and could finance their investment out of these profits rather than returning them to shareholders as they have done at increasing rates over this same period. The argument ignores that aggregate demand in the US is likely to fall drastically due to wealth effects and a collapse of household access to credit. It also fails to come to terms with the fact that the traditional business model of retaining profits to finance growth through investment has been giving way to a strategy of focusing on "core

²³ Scott (2007).

²⁴ Studies of European retailers show that those firms under more pressure to deliver immediate returns to shareholders are more likely to intensify pressure on foreign suppliers. See Gibbon (2002) and Palpacuer (2005).

²⁵ Andersson et al. (2008).

²⁶ See P&G annual report, 2007, cited in Andersson et al. (2008), p. 11.

competence” and maximizing shareholder value. The new model has been built on the strategy of lead-firm governance of global production networks, aimed at cutting costs and reducing production-side risk. This has permitted the U.S. nonfinancial corporate sector to behave increasingly like the financial sector, purchasing more financial assets and raising dividends and executive compensation rather than investing in the real economy.

In this paper we found that offshoring in the U.S. did raise the share of profits in income, but that the gains from offshoring have likely not been fully realized because firms have purchased financial assets rather than investing in productive assets that raise productivity, growth, employment and income. The financialization of nonfinancial firms is a leakage from the system which reduces the dynamic gains from offshoring by reducing reinvestment out of profits.

U.S. imports have become increasingly non-competitive and as a result their economic effect has changed. In the Keynesian tradition, imports are a leakage from aggregate demand and in Kalecki’s formulation, reduced net exports result in a fall in the profit share. Now, imports are linked to higher cost markups and firm profits and the gains from such non-competitive imports – the result of offshoring – are increasingly associated with the reinvestment of these higher profits. Our approach constitutes a shift in the study of trade, away from questions of skills-biased labor demand, and toward the distribution of income between profits and wages.

As concerns over shareholder value have dominated over concerns with growth and innovation, the nonfinancial corporate sector has acted more and more like the financial sector itself, and in the process has lost productive capacity and innovativeness. Assuming that innovation is embodied in new investment, then the long-term effects of financialization on productivity growth may be significant. As Lazonick (2008) notes, the increase in share buybacks is consistent with agency theory, but not with the idea of the firm as the “locus of innovation”. With the collapse of the financial sector, and with household incomes hard hit in the current slump, and in the absence of some shift in corporate strategy, it appears that the state will need to play a sustained role in maintaining demand in the U.S. for some time.

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Data Appendix

Service and material offshoring intensities OSS_{it} and OSM_{it} are based on *Annual I/O Accounts, The Use of Commodities by Industries after Redefinitions* from the US BEA, available for 1998 to 2006. Sectoral definitions follow the 1997 NAICS, primarily at the 3-digit level. For energy offshoring (OSE_{it}) we also used *KLEMS Annual I/O Accounts*, in order to detect specific energy inputs related to imported oil prices. Calculations follow Feenstra and Hanson (2001). OSS_{it} and OSM_{it} have total non-energy inputs in the denominator, while OSE_{it} uses total inputs.

Profit shares PS are defined as gross operating surplus as share of total value added. Both are from the Annual I/O Accounts from the BEA. Labor productivity LP is value added as share of full-time equivalent labor, from GDPbyInd_VA_NAICS.XLS from the BEA.

Capital intensity is capital stock as share of total output. The capital stock data (equipment and software, private structures) from the BEA, measured as *Net Stock of Private Fixed Assets by Industry*. Total sectoral output is taken from the Annual I-O Accounts from the BEA.

Union density is defined as the percentage of *Union Members in Employed Wage and Salary Workers*, from the US BLS monthly Current Population Survey. Since the data begin in 2000, we extrapolated back to 1998-1999.

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