

Financialisation and the dynamics of offshoring in the USA

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Imports are linked to higher cost mark-ups 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 US 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 the ‘dynamic’ gains from offshoring have not been fully realised 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–financialisation linkage reduces the capacity of non-financial corporations to act as a driver of the recovery from the economic crisis that emerged in 2008.

Key words: Offshoring, Financialisation, Profit share

JEL classifications: F16, F23, G34

1. Introduction

In the wake of the recent collapse of the US 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 (e.g. Mandel, 2008). This view comes from the fact that non-financial 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 (Bates *et al.*, 2006). These profits have provided a significant offset to the low levels of personal savings and the large deficits on government and foreign accounts (see Figure 1).

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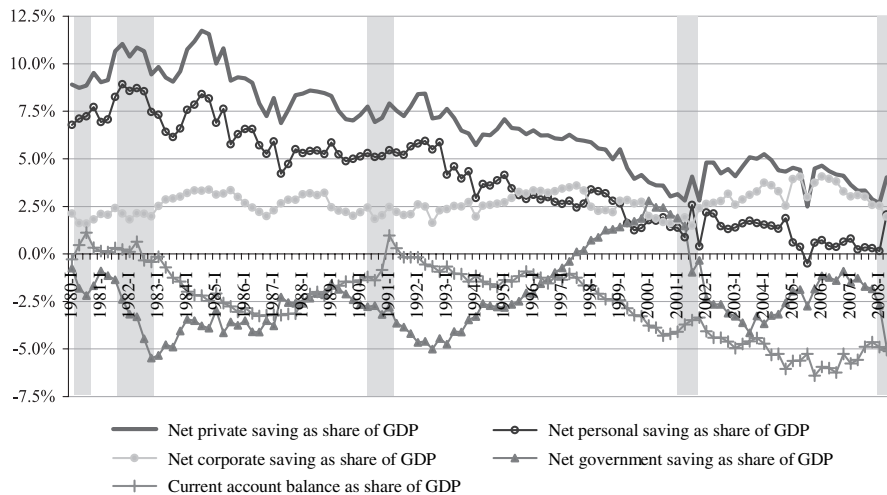


Fig. 1. *Net savings and current account balance as share of GDP, USA, 1980–2008. quarterly figures are seasonally adjusted annual rates. Grey bars correspond to US business cycles recessions according to the definition of the NBER.*

Source: Own illustration. Data: US Bureau of Economic Analysis, National Income and Product Accounts, tables 4.1, 5.1 and 1.1.5.

Beginning in the 1980s and gaining strength in the 1990s, corporate strategies began to shift, focusing more on the maximisation of shareholder value and less on long-term growth.¹ The transformation involved less investment out of retained earnings and, instead, a financialisation 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 ‘financialisation of the non-financial corporate sector’ in the USA has been well documented, and some recent studies have connected financialisation directly to reduced capital investment.²

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 globalisation of production have supported the financialisation 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.³ The emphasis on maximising 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’.⁴

¹ Lazonick and O’Sullivan (2000) refer to this as the shift from ‘retain and reinvest’ to ‘downsize and distribute’.

² See Crotty (2005) and Dumenil and Levy (2005) on the timing and magnitude of financialisation of US non-financial corporations.

³ This study builds on the rich literature on global value chains. See Gereffi’s (1994) pioneering essay on producer-led and buyer-led chains, analysis later extended by Gereffi *et al.* (2005). For a recent survey of global value chain research, see Bair (2009).

⁴ See Prahalad and Hamel (1990) on core competence and Rappaport (1986) on shareholder value.

Over the past 20 years US corporate profits rose and the profit share of national income reached a 40-year high. At the same time, US corporations faced price competition in product markets and, thus, slow-rising product prices at home. To maintain cost mark-ups and profits, firms shifted their corporate strategy to emphasize the control of costs, in part by expanding their global production networks. Such offshoring accounts for up to 27% of material input purchases in some US industries, 50% or more of US imports, and provides reported cost savings of between 20% and 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 realised. To the extent that corporations have become financialised—mainly through an increase in dividend payments and share repurchases, but also with increased merger and acquisition activity and large executive compensation packages involving stock options—this has diminished the capture of dynamic gains from offshoring.

In sum, financialisation and globalisation have reinforced each other for US corporations and, despite the corporate sector's contribution to national savings over the past decade, the offshoring–financialisation linkage reduces the capacity of non-financial corporations to act as a driver of the recovery from the economic crisis that emerged in 2008.¹ Having moved into core competence beginning in the early 1990s as part of the financialisation process, US corporations are today ill-equipped to serve as the driver of economic recovery.

The situation has important implications for the analysis of international trade and finance. Research on international trade has emphasised the effects of trade liberalisation on the relative wages of high-skill and low-skill workers. In this paper we emphasise the importance of trade for mark-ups, profits and, in turn, investment and financialisation. These are better understood as the ‘dynamic’ aspects of offshoring, a term borrowed from the literature on classical trade models, which emphasise 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 3 we look at the US experience with product prices and offshoring, and we show how this is consistent with increasing mark-ups, profits and profit shares, contrary to Kaleckian macroeconomic principles. In Section 4 we present regression analysis of sectoral profit shares in the US for the period 1998–2006 in which offshoring is positively associated with the profit share. In Section 5 we show how financialisation has increased in importance relative to investment as the profit share has risen. Section 6 concludes with a discussion of the potential future role of US non-financial corporations in the eventual recovery of the US 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 labour, 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.

¹ In this paper we do not pursue the monetary implications of this leakage, that is the effect on (endogenous) money creation by unregulated non-bank intermediaries when they are increasingly engaged in offshore sourcing. See Escaith and Gonguet (2009) for an ambitious analysis of this question in the context of a large decline in world demand and when global value chains are an important source of trade finance.

The expansion of offshoring that results from liberalised 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 (a Pareto improvement) depends on compensation of losers by the winners.

Following Adrian Wood's (1994) transformation of the Heckscher–Ohlin model to include high-skill and low-skill labour rather than capital and labour, there has been a host of empirical studies of the impact of offshoring of materials 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.¹

Mann (2006) is among the few contemporary analysts to emphasise 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 globalisation of IT hardware production has contributed to a decline in IT hardware prices, spurring an increase in productivity in IT and IT-using sectors and, *ceteris paribus*, raises the profit margin. This in turn has led to a 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 generalise 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 investment highlights that knock-on investment effects of trade may be greater than the static, efficiency effects. Imported intermediates raise profit margins directly, and then indirectly through resulting productivity gains from greater use of IT.

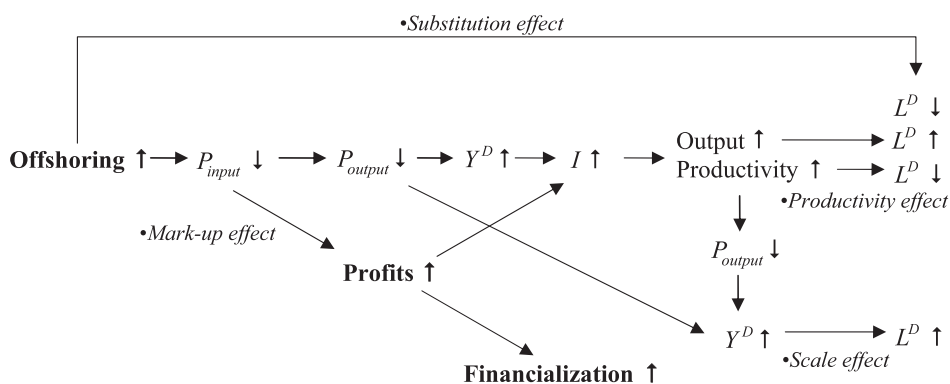


Fig. 2. Offshoring dynamics and labour demand. Y^D = demand for output and L^D = demand for labour.

Source: Milberg and Schöller (2008).

¹ See Milberg and Schöller (2008) for a review of the empirical literature. Note also that the Stolper–Samuelson predictions that trade liberalisation will lead to a decline in wage inequality in low-skill abundant (i.e. developing) countries has been refuted in many cases. See Goldberg and Pavcnik (2007) for a recent survey.

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 specialisation and improved terms of trade and focuses on the effects of trade on the return on investment and the subsequent impact on investment demand. 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 liberalisation 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 (see Ricardo, 1981[1817], p. 132; Marx, 1991[1894], p. 344; Mill, 1968[1849], p. 743). For all the classical economists, the effect of international trade, and imports in particular, on economic growth was the main purpose for the pursuit of liberalised trade. Maneschi (1983, 1992) emphasises the importance of this dynamic interpretation of Ricardo, in contrast to the textbook interpretation of Ricardo's theory of trade as a simple model (with labour the only factor of production) of the mutual beneficence of trade based on specialisation according to comparative advantage, and we adopt Maneschi's term 'dynamic' to describe this approach.

In the schema in Figure 2, weakening labour demand results from the direct replacement of foreign for domestic labour (the 'substitution effect') and the 'productivity effect', which reduces the demand for labour for a given unit of output.¹ Offshoring also lowers prices of inputs and outputs, raising the quantity demanded for both, and thus raising the demand for labour. Lower input prices should raise profit margins and profits, leading to investment that further raises productivity and output. These gains are labelled as the 'mark-up' and 'scale' effects in the Figure. Embedded in the mark-up effect is the 'threat effect' of offshoring, according to which the threat of offshoring leads to a dampening of wage demands in the domestic labour market. In an analysis of rising profit shares in industrialised countries since 1980, Glyn (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' (see also Bronfenbrenner, 2000; Glyn, 2007B).

Not all of the rise in profits is recycled into investment and labour demand, and this constitutes an important leakage in the system. Corporations may also choose to return 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 financialisation of the non-financial corporate sector, indicated as a leakage in the nexus between profits and investment in Figure 2. This leakage is especially important because recent studies have established that financialisation has come at the expense of investment, implying that offshoring has enabled financialisation and, in turn, financialisation 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 US product markets and the unprecedented power of consumers in demanding variety and

¹ Recent studies of the substitution effect in the US are Burke and Epstein (2007) and Harrison and McMillan (2006), although the latter looks only at foreign direct investment, not offshoring generally. On the productivity effect, see Houseman (2006).

low prices (Cassidy, 2005; Reich, 2008, p. 52). From 1996 to 2006, the US consumer price index rose at an annual rate of 2.3%, a period when money supply growth (M2) was over 7% per annum (Milberg, 2008, table 2). Price competition increased while final goods and services markets remained fairly concentrated by traditional measures of concentration (see Nolan *et al.*, 2002). To maintain the mark-up without the traditional ability to raise product prices, unit costs must be reduced. The relative stagnation of US wages relative to gains in productivity has been well documented.¹ 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 mark-ups in the presence of relatively flat consumer prices. While wages grew slowly, import prices actually fell over the period 1996–2006. Very low import price inflation has served to lower the domestic inflation rate.

The motives for offshoring range from the pursuit of greater flexibility, to diversification of location in order to 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. US import prices have fallen by about 1% per year on average since the mid-1990s, the result of an unprecedented replacement of domestic inputs with those produced in lower-cost locations abroad.

Using the Feenstra and Hanson (1996) input–output based measure 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 2% from 1998 to 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 1974.² Other studies, employing slightly different definitions, give an even more dramatic picture of the US reliance on the import of intermediates. Bardhan and Jaffee (2004) report that imported intermediates accounted for 38% of US imports and that 52% of all US 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% in the growth of US trade in the period 1962–97.

The USA 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 USA in Figure 3 as a percentage of total imports. This measure leaves out offshoring activity among industrialised countries, but nonetheless overcomes the problem of looking only at intermediates or only at intra-firm trade. Imports from all developing countries rose from 27% in 1970 to 54% of total imports in 2006. Imports from the lowest income developing countries (which includes China) alone rose from 5% to 23% of total US imports (Figure 3).

The expansion of offshoring has corresponded to a slow but steady rise in the share of corporate profits in US national income, which reached levels not seen in 30 years (see

¹ On US wage stagnation, see Temin and Levy (2006). On the distribution of productivity gains, see Dew-Becker and Gordon (2005).

² The 1974 and 1984 figures are from Campa and Goldberg (1997). The figures in Table 1 indicate that the growth of offshoring has slowed slightly since the 1990s. Amiti and Wei (2006) report materials offshoring growth of 4.4% per annum and services offshoring growth of 6.3% per annum from 1992 to 2000. Burke, Epstein and Choi (2004) show higher levels of offshoring intensity because they use total material inputs in the denominator whereas we use total non-energy inputs (which also includes services inputs).

Table 1. *Materials and services offshoring intensities, 1998 versus 2006 (imported materials/services inputs as a percentage of total non-energy inputs)*

	Offshoring of material inputs OSM			Offshoring of services inputs (OSS)		
	1998	2006	CAGR	1998	2006	CAGR
All manufacturing and service sectors	9.30%	10.88%	2.0%	0.39%	0.45%	1.7%
All manufacturing sectors	12.51%	15.85%	3.0%	0.39%	0.52%	3.1%
All service sectors	2.61%	3.23%	2.7%	0.41%	0.52%	3.1%
Utilities	5.43%	7.10%	3.4%	0.33%	0.34%	0.5%
Construction	9.92%	13.69%	4.1%	0.32%	0.32%	0.1%
Food and beverage and tobacco products	4.58%	5.84%	3.1%	0.49%	0.54%	1.2%
Textile mills and textile product mills	13.24%	19.98%	5.3%	0.27%	0.34%	3.0%
Apparel and leather and allied products	18.56%	26.66%	4.6%	0.31%	0.43%	4.1%
Wood products	11.15%	13.67%	2.6%	0.41%	0.51%	2.8%
Paper products	8.99%	11.80%	3.5%	0.40%	0.44%	1.0%
Printing and related support activities	8.95%	11.94%	3.7%	0.37%	0.43%	1.8%
Petroleum and coal products	5.58%	8.60%	5.5%	0.66%	0.56%	-2.0%
Chemical products	10.17%	13.73%	3.8%	0.42%	0.40%	-0.5%
Plastic and rubber products	11.91%	16.96%	4.5%	0.31%	0.29%	-0.9%
Nonmetallic mineral products	8.88%	10.92%	2.6%	0.34%	0.38%	1.5%
Primary metals	14.32%	20.40%	4.5%	0.43%	0.42%	-0.3%
Fabricated metal products	12.29%	17.25%	4.3%	0.34%	0.37%	1.1%
Machinery	13.78%	18.57%	3.8%	0.40%	0.41%	0.4%
Computer and electronic products	18.04%	20.78%	1.8%	0.55%	0.60%	1.1%
Electrical equipment, appliances, and components	14.29%	19.84%	4.2%	0.44%	0.45%	0.3%
Motor vehicles, bodies and trailers, and parts	19.28%	25.56%	3.6%	0.27%	0.29%	0.7%
Other transportation equipment	16.51%	20.64%	2.8%	0.26%	0.30%	1.8%
Furniture and related products	9.87%	13.59%	4.1%	0.40%	0.47%	2.0%
Miscellaneous manufacturing	13.01%	16.92%	3.3%	0.45%	0.48%	0.7%
Wholesale trade	3.63%	4.67%	3.2%	0.59%	0.63%	0.9%
Publishing industries (includes software)	3.52%	3.99%	1.6%	0.61%	0.66%	1.1%
Motion picture and sound recording industries	2.98%	2.71%	-1.2%	0.77%	3.17%	19.5%
Broadcasting and telecommunications	2.89%	3.66%	3.0%	0.29%	0.59%	9.2%
Information and data processing services	8.01%	8.93%	1.4%	0.29%	0.32%	1.1%
Federal Reserve banks, credit intermed. & related activ.	0.96%	1.14%	2.1%	0.31%	0.32%	0.2%
Securities, commodity contracts and investment	0.29%	0.29%	0.3%	0.26%	0.23%	-1.6%
Funds, trusts, and other financial vehicles	0.06%	0.05%	-2.3%	0.22%	0.17%	-2.6%
Rental & leasing services and lessors of intangible assets	3.09%	2.85%	-1.0%	0.33%	0.35%	0.7%
Legal services	1.05%	1.07%	0.2%	0.39%	0.38%	-3.0%
Miscellaneous profess., scientific and technical services	2.89%	3.26%	1.5%	0.41%	0.52%	3.0%
Computer systems design and related services	6.10%	6.06%	-0.1%	0.25%	0.27%	0.8%
Management of companies and enterprises	1.37%	1.80%	3.5%	0.45%	0.44%	-0.5%
Administrative and support services	3.25%	4.31%	3.6%	0.41%	0.39%	-0.4%

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

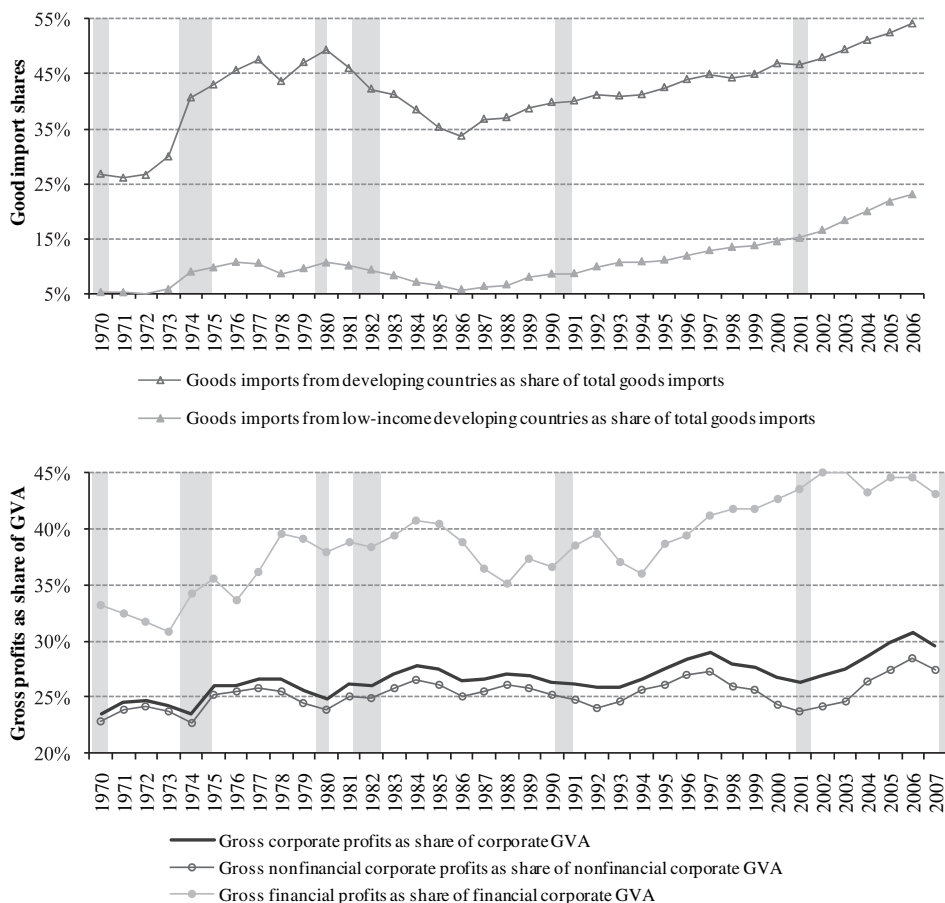


Fig. 3. US import and profit shares, 1970–2006/07. Gross profits are calculated by adding net operating surplus and consumption of fixed capital. Their sum is divided by gross value added. Grey bars correspond to US business cycles recessions according to the definition of the NBER.

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

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 globalisation, and specifically offshoring, in part responsible for this rise in the US profit share?

4. Offshoring and the profit share: estimates for US 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 (1990[1954]) well-known relationship

between sources and uses of income, Blecker (2004) showed 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_R capitalists' propensity to consume out of profits, X total exports and M total imports.

Kalecki felt that by linking the expansion of export markets with the attainment of 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 industrialised countries and identified import competition as an important force mitigating the power of oligopoly to raise mark-ups. In the presence of import competition, domestic cost increases (such as a wage increase) would reduce firms' mark-ups 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 US 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, US labour, further easing the costs of production.¹ The result is that the trade deficit boosts mark-ups 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.²

Substituting lower-cost intermediate materials and services imports for higher-cost domestic inputs can raise firms' mark-up over costs and the profit share of national income. Define the mark-up, $m = (p - c)/c$, where p is price and c represents variable costs. If we reduce these costs to labour costs so that $m = (p - wa)/wa$, where w represents the wage and a is the labour 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 mark-up 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 labour share of national income for the industrialised countries since 1980. Guscina (2006) finds that three aspects of globalisation (related to prices, offshoring and immigration) combined to play a large role in explaining the declining labour share for a group of six Organisation for Economic Cooperation and Development (OECD) countries over the period 1960–2000, although the effect of offshoring *per se* is relatively small. The International Monetary Fund (IMF, 2007) estimates that offshoring and immigration have reduced the labour 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 separately. Harrison (2002) finds that trade openness and exchange rate crises are associated with a lower labour share of national income for a sample of over 100 countries over the period 1960–97. However, controlling for the business cycle, product market regulation, employment protection legislation and oil prices, Ellis and Smith (2007) find

¹ As pointed out by a referee, an offsetting factor is that offshoring may dampen productivity growth due to a reduction in scale economies.

² See Milberg (2008) for a survey of firm-level studies.

no statistically significant connection between imports from emerging markets and the profit share in 19 major OECD countries over the period 1960–95, 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 labour market. This 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 US 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 the period 1998–2006 in the USA (see Table 1 for the sectors). We adopt Bentolila and Saint-Paul’s (2003) model of the labour share, which assumes constant elasticity of substitution 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 labour, 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 labour shares’ is defined analogously, and thus

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

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

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

where i designates sectors and t the time dimension.

The technology parameter in the model is captured with labour 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 services, materials and energy offshoring intensities, which represent the proportion of imported inputs used in home production.

¹ 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 .

² Taking logarithms we obtain: $\ln S_{it}^K = \beta_0 + \beta_1 \ln A_{it} + \beta_2 \ln k_{it} + \beta_3 \ln MP_{it} + \beta_4 \ln UND_{it}$.

Energy offshoring intensity OSE_{it} is used as a proxy for the prices of imported energy inputs,¹ 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, services and materials 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 labour 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.² Column 1 only considers instantaneous effects on the profit share. Since the 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 density variable shows a significant result for materials offshoring at the cost of a slightly lower AIC and an insignificant labour productivity variable (reported in column 4).

The results show clearly that services and materials 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 services offshoring—reflecting lower imported service input prices—increased the profit share by 0.22% between 1998 and 2006. A 1% increase of materials 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.

5. Financialisation versus investment

If the increased corporate profit share in the USA—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 realised. 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

¹ 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'.

² We deleted one outlier: 'Federal Reserve banks, credit intermediation and related activities'.

Table 2. Regression results: sectoral profit share, USA, 1998–2006

Dependent variable: $\ln S^K_t$				
	Fixed-effects estimator			
	(1)	(2)	(3)	(4)
$\ln LP_t$	0.7694* (0.091)	0.5311 (0.112)	0.8874 (0.083)	0.8106 (0.112)
$\ln LP_{t-1}$		0.3824 (0.278)		
$\ln(k^{equip})_t$	0.2580 (0.259)	-0.5667 (0.249)		
$\ln(k^{equip})_{t-1}$		0.9682* (0.071)	0.5038* (0.088)	0.4697 (0.092)
$\ln(k^{struc})_t$	-0.6356 (0.116)	-0.0974 (0.805)		
$\ln(k^{struc})_{t-1}$		-0.6686 (0.249)	-0.7459* (0.084)	-0.7488* (0.079)
$\ln OSS_t$	0.2024 (0.157)	-0.0036 (0.973)		
$\ln OSS_{t-1}$		0.2286* (0.075)	0.2187* (0.077)	0.2178* (0.086)
$\ln OSM_t$	0.5858 (0.178)	0.5044 (0.112)	0.5052 (0.169)	0.6896* (0.088)
$\ln OSM_{t-1}$		-0.0212 (0.947)		
$\ln OSE_t$	-0.2311*** (0.010)	-0.2320*** (0.009)	-0.2333*** (0.007)	-0.2027** (0.012)
$\ln OSE_{t-1}$		-0.0217 (0.762)		
$\ln UND_t$	-0.1299 (0.358)	-0.0622 (0.626)		
$\ln UND_{t-1}$		-0.2150 (0.128)	-0.2265* (0.069)	
Fixed year effects Joint significance:	Yes	Yes	Yes	Yes
$\ln LP_t + \ln LP_{t-1} = 0$		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 = 0.1574		
$\ln OSM_t + \ln OSM_{t-1} = 0$		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

Source: Own calculations. Data: $p^* < 0.1$, $p^{**} < 0.05$, $p^{***} < 0.001$, (p-values in parenthesis). S^K , profit share; LP , labour productivity; k^{equip} , capital intensity of equipment and software; k^{struc} , capital intensity of structures; OSS , services offshoring intensity; OSM , materials offshoring intensity; OSE , energy offshoring intensity; UND , union density.

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.

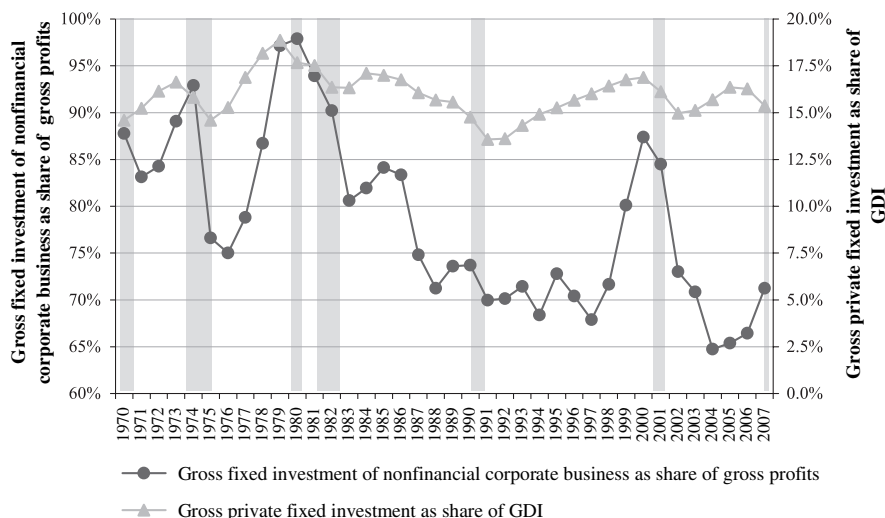


Fig. 4. US investment shares, total and non-financial corporations, 1970–2007. Gross profits of non-financial corporate business are calculated by adding net operating surplus and consumption of fixed capital. Grey bars correspond to US business cycles recessions according to the definition of the NBER.

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

A number of recent studies have found rising financialisation to be associated with declining investment. Stockhammer (2004) finds a significant negative association between financialisation of non-financial businesses (measured by interest and dividends as a share of value added) and investment by this sector in the USA 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 USA for the period 1973–2000 and again finds a negative and significant relation. Andersson and colleagues (2007) make a similar finding for the non-financial S&P 500 firms for the period 1990–2006.

The relative stagnation of US investment in relation to gross domestic income (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 financialisation 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.

Finally, with domestic requirements for plant and equipment investment reduced, non-financial corporations diversified into finance itself. Since the early 1980s, non-financial corporations have increased their relative investment in financial assets. This financial investment picked up in the late 1990s and by around 2000 non-financial corporations as

U.S. Nonfarm Nonfinancial Corporate Business

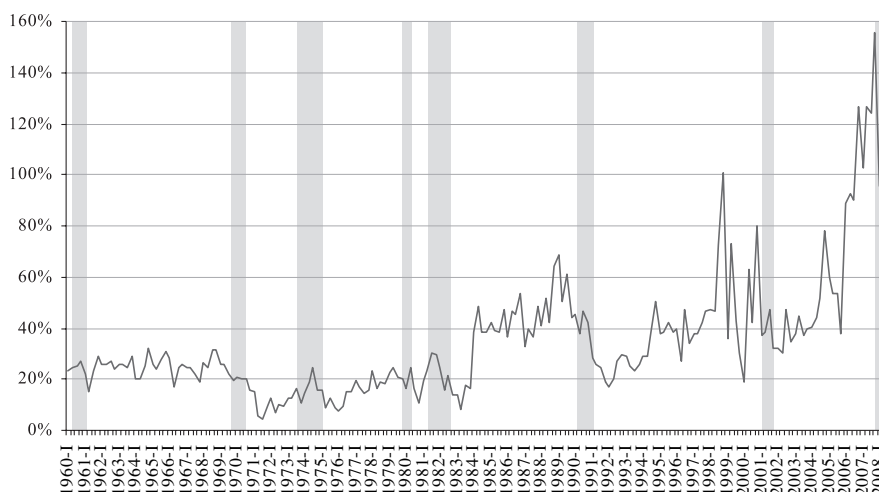


Fig. 5. Net dividends plus share buybacks as percentage of internal funds, 1960–2008. US non-farm non-financial corporate business. Quarterly figures are seasonally adjusted annual rates; share buybacks correspond to negative net new equity issues. Grey bars correspond to US business cycles recessions according to the definition of the NBER.

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

a whole held more than half of their assets in the form of financial assets (Crotty, 2005, p. 90; Orhangazi, 2008, figure 1).

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 2000–07.

Cisco was among the first US 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 two 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 X-Box video game consoles has been managed by the Asian contract manufacturer Flextronics. Dell, the PC assembler that revolutionised mass customisation in the PC market, purchases 4,500 different parts from 300 suppliers. Hewlett-Packard purchases some of its highest technology components from Taiwanese suppliers (Lynn, 2005, ch. 5).

Wal-Mart is the leading importer from China, with reported imports of US\$18 billion in 2004 and US\$27 billion in 2006 (Scott, 2007). From the perspective of share buybacks over 2000–07, 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

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

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 stock repurchases plus cash dividends.

low cost and its pitting of suppliers against each other are well documented.¹ Retailer Home Depot ranks above Wal-Mart in total repurchases. Its dividends and share buybacks were equal to 70% of net income over the period 2000–07.

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 with the 1990s. In the 1990s, capital expenditure accounted for 46% of Procter and Gamble's discretionary cash distribution, while share buybacks were 13%. In 2000–07, capital expenditure was 21%, while share buybacks rose to 39% (Andersson *et al.*, 2008). The pressures to financialise were more severe due to Procter and

¹ 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 *et al.* (2005).

Gamble's purchase of Clairol, Wella and Gillette since 2000. Cost cutting was necessary, and the firm turned to heighten its offshoring operations. (Andersson et al., 2008).

6. Conclusion: financialisation 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 non-financial 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 the fact that aggregate demand in the USA 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 competence' and maximising 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 US non-financial 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 US did raise the share of profits in income, but that the gains from offshoring have likely not been fully realised because firms have purchased financial assets rather than investing in productive assets that raise productivity, growth, employment and income. The financialisation of non-financial firms is a leakage from the system, which reduces the dynamic gains from offshoring by reducing reinvestment out of profits.

US 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 mark-ups 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 labour 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 non-financial 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 financialisation on productivity growth may be significant. As Lazonick (2009) 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, 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 USA for some time.

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Data Appendix

Services and materials 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 (1996). A full description of the method can be found in Winkler (2009). 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.