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# The financialisation-offshoring nexus and the capital accumulation of U.S. nonfinancial firms

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The financialisation of nonfinancial corporations has drawn the attention of many scholars who have identified two main channels through which financialisation occurs: a higher proportion of financial assets compared to nonfinancial ones and a higher amount of resources diverted to financial markets. A consequence of this process is a decrease in investment. Parallel to financialisation, many nonfinancial corporations have also engaged in an internationalisation of their productive activities, organizing them under global value chains. Though offshoring may also explain the decrease in the level of investment of nonfinancial firms, the intersections between the literature on financialisation and the literature on global value chain remain surprisingly underdeveloped. This paper contributes to fill this gap using panel regressions for U.S. nonfinancial corporations between 1995 and 2011. We find evidence that both offshoring and financialisation are determinants to the decrease in investment and that financialisation occurs mainly amongst firms belonging to sectors prone to offshoring.

*Key words:* financialisation of the non-financial corporation, global value chain, offshoring, investment.

*JEL classifications:* F61, G32

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## 1. Introduction

A decrease in the level of aggregate investment coupled with high profits has been a systematic trend among developed countries since the '80s. This phenomenon presented a puzzle for heterodox economics, whether Marxists or Post Keynesians, given expectations for a positive relationship between investment and profits (Stockhammer, 2005). In its Post Keynesian version, the solution to the puzzle lies in other sources of effective demand that allow profits to be realized at the macroeconomic level, such as the increase in capitalists' consumption (Cordonnier, 2006), government deficits and external surpluses (Van Treeck, 2009). At the microeconomic level, the 'investment-profit puzzle' is usually described as a consequence of shareholder value orientation, either by shifting firms' goals to profits instead of growth (Stockhammer, 2005) or to higher preferences for free cash flows and payouts (Dallery, 2009). These assertions have inspired a large number of empirical studies (Barradas, 2017; Clévenot, Guy, & Mazier, 2010; Hecht, 2014; Orhangazi, 2008; Stockhammer, 2004; Tori & Onaran, 2018) which showed the negative correlation between increased payouts and real investment for different countries. Ultimately, part of the sources for increased distribution of profits came at the expense of investment. Figure 1 illustrates this negative correlation for the USA by showing the ratio between gross fixed investment and net financial payouts for the whole economy, and listed firms. In both cases the trend is similar: it abruptly decreases since the beginnings of the '80s, remains relatively constant until the end of the '90s when it increases and then declines sharply again. The figure also indicates that the trend for listed companies started from a higher point than the whole economy. All in all, this suggests that the decrease in investment has been more dramatic for listed firms. Even though the explanations at the micro level that rest on the consequences of shareholder value orientation are consistent with stylized facts, they provide no clue to answer another question: that of the sustainability of low investment and high payouts considering that today's firm capital accumulation is a prerequisite for tomorrow's profitability (Dallery, 2009; Lavoie, 2014).

[Figure 1. Investment calculated as a ratio of Net Financial Payouts for the U.S. Economy and U.S. listed firms and Offshoring Intensity, 1946-2016]

The aim of this paper is to show, empirically, one of the conditions that has made such strategy sustainable over the past years: the offshoring of production<sup>2</sup>. This proposition is motivated by

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<sup>2</sup> Offshoring is part of a broader process of productive reconfiguration carried mainly through the so-called global value chains<sup>2</sup> (Gereffi & Korzeniewicz, 1994), which implies both spatial relocation –home nation/offshoring– and organizational restructuring –in-house/outsourcing– (Contractor, Kumar, Kundu, &

previous work by Milberg (2008) and Milberg and Winkler (2009, 2013) who indicated that most of the gains associated with offshoring were used to sustain financialisation rather than investing in productive assets. Following this line of reasoning, figure 1 also shows, along with the negative relation between payments and investment, the increased offshoring activity verified since mid '90s.

In order to fulfil the objective of this paper, we estimate investment functions using world-consolidated firm-level data for U.S.-listed companies from Compustat merged with industry-level information on offshoring from the World Input-Output Database (WIOD). The main issue when dealing with offshoring is that comprehensive information is not available for individual firms. Rather than studying the offshoring of corporations, we propose to consider the offshoring of their industry for which we have reliable information over the 1995-2011 period. The scope of this study focuses, therefore, on individual capital accumulation behaviour, conditional on the fact that firms belong to industries with various degrees of offshoring.

Thanks to this empirical strategy, the main contribution of this paper is to show that the negative correlation between payouts and investment in capital expenditures underlined by the literature is valid mainly for firms belonging to industries with high offshoring in non-core non-energy activities. Moreover, investment of firms in low offshoring sectors is not significantly correlated to their financial payouts. These results suggest that financialisation and offshoring are related phenomenon. By providing the empirical evidence of this interaction, we contribute to the critical debate dealing with the context of the shareholder value creation and its consequences on fixed capital formation. Financialisation is not a uniform process and, in particular, it occurs differently depending on the variety of business models (Lazonick, 2009; Montalban & Sakinç, 2013). In this respect, our results imply that the so-called downsize and distribute strategy, in its capital accumulation component at least, has been mainly followed by firms belonging to industries well-integrated in global value chains (GVCs).

Our econometric estimations are robust to various specifications, and results cohere with previous works. First, we know that financialisation is more pronounced for the largest firms (Orhangazi, 2008). In our sample, both financialisation and its interaction with offshoring manifest mainly for large firms. Second, as we explain below, offshoring may have opposite effects on the investment of corporations, depending on its organizational setup (in-house or outsourcing, offshoring in core, or non-core activities). Basically, we can expect a positive (negative) relationship between

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Pedersen, 2011, p. 7; Kinkel, Lay, & Maloca, 2008, p. 247). As we explain below, this article focuses on offshoring, keeping in mind its differential effects in case it is carried in-house or outsourced.

investment and offshoring in core (non-core) activities since outsourcing may probably occur for non-core activities while in-house transfer of production may probably occur for core activities (Gereffi, Humphrey, & Sturgeon, 2005). Though the evidence for such effects is not clear-cut, our results are in line with these expectations.

The remainder of the paper is organized as follows. Section 2 deals with the literature on the financialisation of nonfinancial corporations (NFCs), offshoring and their interaction with profits and investment. Section 3 introduces the regression specification and our main hypothesis, while section 4 presents the data and estimation methodology. Section 5 shows and discusses the results. Section 6 presents robustness checks, while section 7 finishes with some concluding remarks.

## **2. Financialisation, offshoring, and investment**

### **2.1. The financialisation of nonfinancial corporations and its consequences for investment**

The financialisation of NFCs is usually associated with the change in corporate governance, a topic treated by Lazonick and O'Sullivan (2000). During the 1980s and especially in the 1990s, the principle of *retain (profits) and reinvest* (in physical capital and human resources) shifted toward *downsize and distribute*. As a consequence of this, an increased proportion of funds started to be transferred to shareholders through dividends and, especially for the US, share buybacks. Figure 2 displays the trend of these financial payouts combined for the U.S. economy and our sample of listed firms from Compustat. The trajectory is similar in both cases: a stable pattern during the '70s is followed by a discrete increase during the '80s, a small decrease during the '90s, finishing with a clear upward trend in the '00s.

[Figure 2. Net financial payouts as percentage of operating surplus for the U.S. Economy and U.S. listed firms, 1971-2016]

The financialisation literature highlights another change regarding NFCs which is the increased acquisition of financial assets from which NFCs started deriving a growing proportion of financial income. Crotty (2005), Orhangazi (2008), Krippner (2011) and Davis (2016) claim that, due to different problems faced by U.S. NFCs at the end of the '70s and beginning of the '80s (high labor militancy at home and increased international competition abroad, slower global aggregate demand growth and increased exchange rate volatility), firms started to withdraw capital from production and divert it to financial markets buying financial assets and financial subsidiaries, or starting new financial arms themselves. In Stockhammer (2004) and Tomaskovic-Devey et al

(2015), the emphasis is put on a shift in management preferences caused by the hostile take-over movement and changes in pay structure which aligned their interests with shareholders'. Due to these transformations, non-financial business became more rentier-like abandoning growth-oriented priorities and investing in financial markets.

A number of scholars has tried to assess, econometrically, the effect of those channels by adding financialisation-related variables to an investment function based on the seminal work done by Fazzari et al. (1988) (Table 1). The idea is that both of these channels have a negative impact since financial payouts, including interest expenses, represent a drain of resources that could be used for investment purposes while financial income derives from financial investment which crowds out real investment. Another financialisation-related variable that is usually included is a measure of debt, usually long term debts, to indicate the extent of financial fragility of the firm.

[Table 1. Financialisation variables in investment functions]

In terms of variables considered, Table 1 shows that their number has evolved over time and with the use of firm level information. The latter has allowed to consider a fundamental variable in the financialisation story, at least for the USA: share buybacks. In terms of results, regardless of the country and whether it is a macro or micro analysis, all studies find at least one channel that negatively affects investment, although the negative effect of financial payments is more persistent. Regarding the effect of debt on investment, results are ambiguous because debt may be a source of capital funding. Kliman and Williams (2014) claim also that funds distributed to shareholders have come mainly from debt rather than investment. That is why it is important to control for long term debt and new debt issue when estimating investment functions.

The crowding out thesis has recently been reconsidered in some papers. Fiebiger (2016) claims that, for the USA, even though FDI is classified as a financial asset in the national accounts, its increase would support the thesis of an internationalisation of the NFC rather than its financialisation. Davis' (2017) econometric results show a positive relation of financial assets and the financial profit rate with investment. She interprets them, respectively, as due to the greater flexibility provided by liquid financial assets in order to support real investment, and the possible complementarities between the financial and nonfinancial components of their business (for example, store-issued credit cards supporting the sales of non-financial products). Taking into account that the measure of financial assets used by Davis (2017) contains 'cash and short-term investments', the result is not surprising and rather standard since Fazzari et al. (1988) show, empirically, the importance of internal cash to smooth investment when firms are financially

constrained. This result also goes in line with Post Keynesian models of accumulation which stress the importance of internal finance for investment (Eichner, 1976; Galbraith, 1968). In the same line, even if Hecht (2014) explains that internal cash balances may be used for capital expenditures or payments of interests and dividends, he finds that they are positively correlated with investment.

Specifically for the USA, Orhangazi (2008) finds significant negative elasticities, especially for large firms. For them, financial payouts and financial income present a negative and significant effect of 0.06 and 0.08 respectively, while for small firms it is 0.04 and 0.06. Davis (2017) also finds a negative and significant effect of financial payouts for larger firms, with stock repurchases defined at the industry level. Similarly, Hecht (2014) finds negative and significant elasticities of interest expenses and cash dividends of 0.04 and 0.02 while financial income is nonsignificant. The negative correlation between financial payouts and investment seems to be a robust result while the negative effect of financial income or financial assets is a fragile conclusion. Only in the case of Schoder (2014) do results go in an opposite direction than the rest of the literature finding positive and significant effects for both types of channels, although for some measures of financial payouts results are negative. Given these contrasting results, the investment function we introduce in section 3.1 presents an opportunity to test the robustness of the financialisation thesis, at least since the mid-nineties, which is close to the period taken by Hecht (2014). We will check this robustness by introducing other variables to capture an important determinant of capital expenditures that has been overlooked in these investment functions: the offshoring of production.

## **2.2. Benefits from offshoring and its effect on investment**

As we mentioned in the introduction, global production is organized mainly through GVCs today (OECD, 2010), resulting in a fundamental restructuring through offshoring and outsourcing (Lee & Gereffi, 2015). We will be following OECD's definition (OECD, 2010, p. 220): "offshoring is generally defined as companies' purchases of intermediate goods and services from foreign providers at arm's length or the transfer of particular tasks within the firm to a foreign location, i.e. to foreign affiliates. Outsourcing refers to the purchasing of intermediate goods and services from outside specialist providers at arm's length either nationally or internationally". The combination of offshoring and outsourcing gives four possibilities described in Table 2.

[Table 2. Definition of offshoring and outsourcing]

Multinational Corporations play a key role in this process as the leaders of the whole network whereas the dominant consideration in order to engage in such strategy is still to reduce wages

and costs<sup>3</sup> (Contractor, Kumar, Kundu, & Pedersen, 2011). In fact, while stagnation of wages in advanced countries and gains of productivity related to the introduction of new information technology were, traditionally, the most studied ways to maintain a mark-up despite price competition, Milberg (2008, p.428) puts forward a third source: the effective management of global value chains more related to cost management rather than price setting.

The rise in cost mark-ups and profitability was achieved by focusing in some activities considered core or strategic (development and design, trans-divisional research, technology and business intelligence) while dropping the non-core activities, usually with low value creation (Gereffi et al., 2005; Lee & Gereffi, 2015; Schwörer, 2013; Serfati, 2008)<sup>4</sup>. According to Milberg and Winkler (2013), thanks to the availability of various suppliers all over the world, offshore production took the form of arm's-length relationships between the leading firm and supplier establishing an asymmetric market structure which consists of a monopsonic buyer relation between those various suppliers and the lead firms, who also exercise oligopoly power as sellers.

The benefits associated with offshoring are well documented for different countries and industries. Jabbour (2010) uses information on offshoring activity by French manufacturing firms for the year 1999 and finds positive effects on profitability and productivity. Milberg and Winkler (2009) show that services and materials' offshoring significantly increased profit shares between 1998 and 2006 in the USA. For Irish electronics firms, Görg and Hanley (2004) find that international outsourcing improves the profitability of large companies. Dunn et al (2009) report, for the U.S. technology sector case between 2001 and 2005, that firms offshoring technology-oriented jobs have greater earnings and operating cash flows. D'Attoma and Pacei (2014) also find positive effects for the Italian manufacturing industry. In a survey carried by the McKinsey Global Institute (2003) cited in Milberg and Winkler (2013), it is mentioned that the cost saving of offshoring is between 45% to 55%.

As Baud and Durand (2012) pointed out, suppliers are not only forced to compete among each other but also must face leader firm's terms of payments, its standards of just-in-time production, as well as carry the risks associated with sales volatility, which imposes additional financial costs

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<sup>3</sup> Although greater flexibility and diversification of location are also important.

<sup>4</sup> This distinction between core and non-core activities is based on the competencies of a firm, rather than its products (Prahalad & Hamel, 1990). However, we will follow a different perspective related to the industry-level data we will use: core (non-core) offshoring of a given industry is defined by the import of inputs that belongs to the same (a different) two-digit Standard Industrial Classification industry (e.g. Feenstra and Hanson, 1999). The underlying assumption is that core tangible and intangible assets of a corporation are probably related to its primary industry. We rely on this definition in this article (for more details see section 3.2).



and increase their capital needs. This lack of accountability for standards in the supplying firm, be they working standards or capital commitments, is one of the most important differences between arm's-length relations and in-house offshoring through vertical foreign direct investment (FDI) according to Milberg & Winkler (2013). In fact, they argue that the asymmetry between leading firms and suppliers created conditions for greater returns from externalization than internalization. Internalization through FDI is preferred in those cases where a strategic protection of an asset, such as a knowledge asset, is involved or when the objective is to replicate productive capacity in a foreign location, also known as "market-seeking" or horizontal FDI. The authors show the relative increase of horizontal FDI compared to vertical going from 25.4% in 1985 to 63.8% in 2010 (Milberg & Winkler, 2013, p. 133, Table 4.8). Figure 3 indicates the growing importance of U.S. FDI outward flows relative to U.S. investment, and the increase in the stock of FDI measured as percentage of GDP. Nevertheless, it confirms the fact that most of that FDI is related to horizontal rather than vertical FDI considering that approximately 70% is maintained in developed countries.

[Figure 3. Stock and Flow of U.S. Outward FDI, 1985-2012]

Besides the effects on profits, we are interested in studying how these recent changes affected investment. Milberg and Winkler (2013, p. 224) identify three channels by which offshoring affects investment. Domestic capital stock can be diminished due to its replacement by foreign capital, the 'substitution effect', or due to a reduced demand for capital for each unit of output produced, the 'capital productivity' effect. However, it can also increase due to the growth in the scale of production, the 'scale effect'<sup>5</sup>. Their results show that between 1996 and 2006 offshoring significantly reduced capital accumulation.

### **2.3. The codependence between the financialisation of NFC and offshoring**

In the previous sections we have shown, separately, the decrease in investment, the increase in financial payouts and offshoring in the USA. Milberg's (2008) pioneering work first indicated the relation among these different phenomenon: since firms own less productive facilities due to offshoring, profits are not reinvested in inputs, plants and equipment, but redirected to the purchase of financial assets and dividend payments which raises shareholder value. Milberg and Winkler (2013, p. 230) later showed, for different U.S. sectors between 1998 and 2006, that services offshoring increases financialisation in the USA. For different countries and industries,

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<sup>5</sup> Moser et al. (2015) identifies similar channels by which offshoring affects another outcome variable as employment.

Durand and Miroudot (2015) introduce financialisation, in addition to offshoring, as a possible explanation of the level of employment. Their results suggest that these two variables are significantly correlated with employment, though their effects are unrelated in their macro dataset.

Other studies have been carried for specific sectors and results go in the same direction. Soener (2015) analyses the apparel and footwear industry, differentiating among branded manufactures (firms that own some productive facilities as well as their own brand), branded marketers (firms that contract all production and sell their brands in retailers), general retailers (which sell their own products and others as well), special retailers (which sell their own products) and textile assemblers and producers (firms that do not fit previously mentioned categories). His empirical results support the hypothesis that the more a firm divests from production, the more likely it will be financialised: branded marketers have around 700% the level of financial assets, 300% the level of payouts and 430% the level of interest income compared with general retailers. Branded marketers have 222% the level of assets and 194% the level of payouts compared with general retailers. Baud and Durand (2012) show, for the retail sector, that the development of international and financial operations contributed to its ability to provide high returns to shareholders.

Relying on the literature previously reviewed, we propose a framework in Figure 4 based on the channels by which offshoring affects employment (Moser, Urban, & Weder Di Mauro, 2015) and investment (Milberg & Winkler, 2013). Nevertheless, since we focus on the microeconomic level of the firm, and because we work with world-consolidated firm-level data, this framework focuses on the firms' perspective rather than on the home nation's viewpoint. Basically, we assume that offshoring is profitable to the firm but the use of profits will depend on the organisational set-up of offshoring. Five relationships between offshoring, investment and payout can be drawn.

1) If we acknowledge that core-offshoring of production tends to be internalized in order to protect strategic assets, and even if it may reduce domestic investment by a substitution or a productivity effect, it would increase firm's investment through FDI and also thanks to a growth in the scale of production<sup>6</sup>. Here the payout policy may go in two directions: either the firm may reduce payout to focus on foreign investment, or the new source of profit is enough to increase both investment and payout.

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<sup>6</sup> There is abundant literature on the effects of FDI over investment. While market-seeking FDI generally has a positive effect on domestic investment, which is in line with the scale effect hypothesis, cost-seeking FDI tends to be negative. See for example Lian and Chuang, (2007); Hering et al., (2010); Hejazi and Pauly, (2003) and Onaran et al., (2013).

2) Conversely, non-core offshoring should result in the development of arm's-length relationships between the firm and international suppliers with one major consequence being a reduction of investment at the world-firm level. In this case, the new source of profits can be used for distribution to shareholders, and a non-ambiguous negative relationship should exist between offshoring and investment on the one hand, and between investment and payout on the other hand.

3) However, even outsourcing in non-core activities may result in an increase of investment if the firm reinvests its profits in capital related to its core competences, especially when the firm enjoys a scale effect. This case ends as in case number 1; it is uncertain that profits will be distributed to shareholders if they are oriented toward core investment. Given that one of the main business models adopted by U.S. firms combines financialisation and offshoring (Lazonick, 2009; Milberg, 2008) we hypothesize that case 2 should be more frequent than case 3.

4) Finally, if offshoring consists of replacing a supplier in the home nation by a supplier abroad, then the consequences should be neutral for the firm's investment since it already relies on outsourced production. Because the demand for capital is low for these firms, their profits can be used for distribution to shareholders.

5) Of course, we cannot exclude that some firms outsource core activities while other keep non-core ones, which results in various outcomes in investment and payouts. Nevertheless, given the already cited literature, these cases should not be dominant.

[Figure 4. Offshoring, investment, and financial payouts from the firm's perspective]

Our main proposition is that non-core offshoring may explain the prevalence of firms with low investment and high financial payouts. To illustrate this statement, Figure 5 portrays trends in both offshoring and payout-to-investment ratios for firms belonging to different industries<sup>7</sup>. Those related to the production of machinery, nondurables and durables goods present the highest rates of offshoring along with the highest payout-to-investment ratios. Here, two caveats must be noted. First, most industries have increased their financial payouts relative to investment during the 2000's. A closer look to the data shows that most of the increase occurs after 2007. When profits and stock prices decline, paying dividends and stocks buybacks are a good way to retain shareholders. We are therefore attentive to the persistence of the relationship we presume

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<sup>7</sup> Figure 5 provides the median and the 75<sup>th</sup> percentile of the payout-to-investment ratio by industry because the mean is distorted by extreme values in some industries. Table 3 provides detailed descriptive statistics of the mean, the median, and the 75<sup>th</sup> percentile of the payout-to-investment ratio for the 31 industries we study.

between offshoring and financialisation over time. Second, two industries with low offshoring also present high payout-to-investment ratios (utilities, ISIC E, and wholesale and retail trade, ISIC 51 and 52). We also consider the possible non-linearity between offshoring and financialisation that can be perceived in Figure 5 and Table 3. However, two remarks can be made here in order to sustain our statement.

[Figure 5. Non-core offshoring and payout-to-investment ratio]

[Table 3. Industries' non-core non-energy offshoring and financial payout-to-investment ratios]

First, it should be noted that utilities are usually excluded in corporate finance studies that focus either on dividend policy (Fama & French, 2001) or accumulation slowdown (Asker, Farre-Mensa, & Ljungqvist, 2014). The rationale is that dividend or investment in those firms may be a by-product of federal or state regulation. Utilities are still regulated, and even after the sector's deregulation initiated by the Energy Policy Act of 1992, they continue to pay high dividends (D'Souza, Jacob, & Willis, 2015). Second, the wholesale and retail trade industries reach the same median or 75<sup>th</sup> percentile in the payout-to-investment ratio than the industries with high offshoring, especially in the second half of the 2000's. We have to underline that our measure of offshoring, i.e. the share of foreign input in total output, doesn't capture the offshoring of firms belonging to these industries because they import final products rather than intermediary products. Actually, these firms rely heavily on offshoring (Baud & Durand, 2012; Chesnais, 2016; Gereffi, 1994; Milberg & Winkler, 2013) and are mainly those that fall in the case number 4 in the Figure 4. Nevertheless, our general results are not affected by the presence of utilities and wholesale and retail trade industries.

### **3. The regression specification**

#### **3.1. The baseline model: financialisation of NFCs**

Because we want to assess to what extent financialisation and offshoring are related phenomenon in the accumulation slowdown, we rely on the investment function discussed in section 2.1, primarily based on Fazzari et al. (1988) who criticize the Modigliani-Miller principle of capital structure irrelevance. For this principle, investment decisions are independent of financial factors, being just relative factor prices that drive investment. On the contrary, Fazzari et al. (1988) show the importance of financing constraints and, particularly, the internal cash flow for investment decisions. The significance of internal funds is also supported by Hubbard (1997) and Brown et al (2009).

Acknowledging the changes in contemporary economies brought about by financialisation, a group of scholars has tried to re-estimate those investment functions, explicitly considering different financial determinants (Hecht, 2014; Orhangazi, 2008). Our baseline model basically follows their work and is defined in the following way:

$$\frac{I}{K} = f\left(\frac{I_{t-1}}{K}, \frac{\pi}{K}, \frac{S}{K}, Q, \frac{LONGDEBT}{K}, \frac{INTEXP}{K}, \frac{INTINC}{K}, \frac{DIV}{K}, \frac{STKISSUE}{K}, \frac{STKREP}{K}, \frac{NETDEBTISSUE}{K}, \frac{INTERNF}{K}\right)$$

$I$  is capital expenditure;  $K$  is net property, plant and equipment;  $\pi$  is operating income;  $S$  is sales;  $Q$  is Tobin's  $q$ , defined as the ratio of firms' market capitalisation and book liabilities over total assets;  $LONGDEBT$  is long debt;  $INTEXP$  is interest expense;  $INTINC$  is interest and investment income;  $DIV$  are the common and preferred stock dividends paid;  $STKISSUE$  and  $STKREP$  are the issuance and repurchase of common and preferred stock, respectively;  $NETDEBTISSUE$  is the difference between the sale and purchase of short-term and long-term debt;  $INTERNF$  is firm's balance sheet value of cash and short-term securities, and it is used as a proxy of internal cash flow, following Hecht (2014). Compustat data items corresponding to each of these variables can be found in the appendix (Table A1), along with description of variables used in Figures and other Tables.

As it is standard in this literature we take lags of explanatory variables. In Post Keynesian theories of the firm, investment decisions are indeed modelled as a function of expected profits (Dallery, 2009; Lavoie, 2014). In a context of fundamental uncertainty as meant by Keynes (1937), where it is not possible to know future values of demand and profits, it is reasonable to think that previous experience serves as a basis for expectations. According to Davis (2017), this experience may be captured by past values of independent variables because all flow variables in year  $t$  are not necessarily realized when the decision of investment is taken, while the flows occurring during the year  $t-1$  are well-known and may explain the decision to invest.

Besides the importance of internal funds ( $\frac{INTERNF}{K}$ ) and profits ( $\frac{\pi}{K}$ ) as a source of capital spending, which should be positively correlated with investment (Fazzari et al., (1988), our model also captures the dynamic nature of investment and its path-dependency (Kalecki, 1954): positive signs for past investment ( $\frac{I_{t-1}}{K}$ ) reflect the dynamic process it involves. Sales ( $\frac{S}{K}$ ), along with profits ( $\frac{\pi}{K}$ ), are frequent variables in investment functions (Chirinko, 1993) and reflect the firm's growth opportunities. In a Keynesian perspective, sales represent the microeconomic demand for the firm's products. Sales may be also a proxy for the growth in the scale of production (Milberg & Winkler, 2013, p. 224) described in section 2.2. For all these reasons, sales should be positively

correlated with investment. Tobin's  $q$  ( $Q$ ) is also a standard variable (Chirinko, 1993) and is a proxy for profit and investment expectations and as such should be positively correlated with investment.

As explained in section 2.1., interest income ( $\frac{INTINC}{K}$ ) measures the extent by which real investment is displaced by financial investment and should be negatively correlated with investment, even though previous results in the literature are mitigated because, as Orhangazi (2008) explained, financial income can also be used to fund investment. Interest expenditures ( $\frac{INTEXP}{K}$ ), dividends ( $\frac{DIV}{K}$ ), and stock repurchases ( $\frac{STKREP}{K}$ ) align with the story of real investment being displaced by financial payments; we expect negative sign for all of them, as the literature usually finds. We expect a negative sign for long-term debt ( $\frac{LONGDEBT}{K}$ ) as a consequence of the financial fragility of the firm, but we acknowledge that debt may have a positive effect as a source of funds for investment<sup>8</sup>. For net debt issue ( $\frac{NETDEBTISSUE}{K}$ ), we expect a positive sign based on its role in financing real investment, highlighted by Kliman and Williams (2014). The same applies for stock issue ( $\frac{STKISSUE}{K}$ ) as stressed by Hecht (2014).

To sum up, expected signs are:

$$\left(\frac{I}{K}\right)_{\frac{I_{t-1}}{K}} > 0, \left(\frac{I}{K}\right)_{\frac{\pi}{K}} > 0, \left(\frac{I}{K}\right)_{\frac{S}{K}} > 0, \left(\frac{I}{K}\right)_Q > 0, \left(\frac{I}{K}\right)_{\frac{LONGDEBT}{K}} \cong 0, \left(\frac{I}{K}\right)_{\frac{INTEXP}{K}} < 0, \left(\frac{I}{K}\right)_{\frac{INTINC}{K}} \cong 0,$$

$$\left(\frac{I}{K}\right)_{\frac{DIV}{K}} < 0, \left(\frac{I}{K}\right)_{\frac{STKISSUE}{K}} > 0, \left(\frac{I}{K}\right)_{\frac{STKREP}{K}} < 0, \left(\frac{I}{K}\right)_{\frac{NETDEBTISSUE}{K}} > 0, \left(\frac{I}{K}\right)_{\frac{INTERNF}{K}} > 0$$

The statistical specification will be the following:

$$\begin{aligned} \ln\left(\frac{I}{K}\right)_{it} = & \alpha_0 + \alpha_1 \ln\left(\frac{I}{K}\right)_{i,t-1} + \alpha_2 \ln\left(\frac{\pi}{K}\right)_{i,t-1} + \alpha_3 \ln\left(\frac{S}{K}\right)_{i,t-1} + \alpha_4 \ln(Q)_{i,t-1} + \alpha_5 \ln\left(\frac{LONGDEBT}{K}\right)_{i,t} \\ & + \alpha_6 \ln\left(\frac{INTEXP}{K}\right)_{i,t-1} + \alpha_7 \ln\left(\frac{INTINC}{K}\right)_{i,t-1} + \alpha_8 \ln\left(\frac{DIV}{K}\right)_{i,t-1} + \alpha_9 \ln\left(\frac{STKISSUE}{K}\right)_{i,t-1} \\ & + \alpha_{10} \ln\left(\frac{STKREP}{K}\right)_{i,t-1} + \alpha_{11} \ln\left(\frac{NETDEBTISSUE}{K}\right)_{i,t-1} + \alpha_{12} \ln\left(\frac{INTERNF}{K}\right)_{i,t-1} + \gamma_{it} \\ & + \sum_{t=1996}^{t=2011} \beta_t + \varepsilon_{it} \quad (1) \end{aligned}$$

<sup>8</sup> We use the contemporaneous value as it is done by Hecht (2014) and Schoder (2014) to take into account the current financial fragility of the firm.

where  $\ln$  is a logarithmic function used to account for potential non-linearities between explained and explanatory variables<sup>9</sup>,  $\alpha_0 \dots \alpha_{12}$  are parameters, the  $i$  subscript denotes the firm and the  $t$  subscript denotes the time period.  $\gamma_{it}$  is the coefficient of the age of the corporation.  $\beta_t$  are coefficients of a set of time dummies, while  $\varepsilon_{it}$  represents nonobservable shocks. The regression variables are divided by capital stock to correct for heteroscedasticity and control for firm size. It is important to control for the age and the size of the corporation because small and recently listed firms usually don't pay dividends (Fama & French, 2001) and do investment thanks to the cash they raise on the stock exchange (Lazonick, 2009). We will estimate equation (1) for the complete sample and for the subsamples of large and small firms, taking into account the findings of Orhangazi (2008), Davis (2017) and Tori and Onaran (2018) who found larger effects of financialisation-related variables for the former.

### 3.2. The main hypothesis: the financialisation-offshoring nexus

Once we estimate this baseline model, we will concentrate on the specific novelty we are dealing with: an analysis of the simultaneous effects of financialisation and offshoring in investment functions using industry-level information from WIOD. In accordance with our framework (section 2.3, Figure 4), we include two measures for offshoring: one for the narrow or core activities of the enterprise considered are those inputs from the same sector (*COREOFF*) and another for the non-core and non-energy activities calculated as those inputs from the other sectors excluding energy (*NONCORENONENERGYOFF*), as proposed by Feenstra and Hanson (1999). To limit the effects of domestic outsourcing as much as possible, we take the total output of each sector as the denominator (Geishecker, 2007)<sup>10</sup>. The measures are the following:

$$COREOFF_j = \frac{II_j^F}{Y_j},$$

$$NONCORENONENERGYOFF_j = \frac{\sum_{k \neq j} II_k^F}{Y_j},$$

where  $II^F$  is foreign intermediary inputs,  $Y$  total output, and subscripts  $j$  and  $k$  denote two-digit ISIC (International Standard Industrial Classification) industry. Including offshoring gives the following equation:

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<sup>9</sup> Our log transformation avoids censorship of firms with variables equal or inferior to zero (those with negative earnings or without stock issues or financial payouts for example): for any variable  $var$ , we compute  $\ln(var) = -\ln(var + 1)$  if  $var \leq 0$ , and  $\ln(var) = \ln(var+1)$  if  $var > 0$ .

<sup>10</sup> It could also be used, in the denominator, industry's total inputs (Amiti & Wei, 2005) or industry value added (Hijzen, Görg, & Hine, 2005). However, as Geishecker (2007) notes, those two measures are less accurate than the one with total output in the denominator since they are both affected by domestic outsourcing. We will focus on this last measure in the next sections.

$$\ln\left(\frac{I}{K}\right)_{ijt} = \alpha_0 + \dots + \alpha_{13} \ln(\text{COREOFF})_{j,t-1} + \alpha_{14} \ln(\text{NONCORENONENERGYOFF})_{j,t-1} + \gamma_{it} + \sum_{t=1996}^{t=2011} \beta_t + \varepsilon_{it} \quad (2)$$

Here, one point is worth mentioning on the significance and the sign of coefficients  $\alpha_{13}$  and  $\alpha_{14}$ . Our measures are not able to distinguish between the production offshored to affiliates and that to other enterprises like we did in Figure 4. A negative sign would be related to the substitution of the firm's own production through downsizing, while a positive sign would be linked to the potential increase in their domestic and foreign market share due to the increase in the scale of production. However, considering that a large proportion of the downsize movement has been concentrated in non-core activities and the benefits associated to arm-length subcontracting (Milberg & Winkler, 2013), we should expect that *NONCORENONENERGYOFF* is negatively correlated with investment ( $\alpha_{14} < 0$ , see case number 2 in section 2.3 and Figure 4). Conversely, in the case of offshoring core activities, we acknowledge that firms may prefer to keep and refocus on their core competences (Lee & Gereffi, 2015). Therefore, if they offshore them, we make the assumption that it would be to a subsidiary (although our scheme recognizes with a dotted line, as it happens in reality, that it could be to a non-affiliated). Hence, *COREOFF* should be positively correlated with investment ( $\alpha_{13} > 0$ ). In case of a positive sign, however, we would not be able to determine whether it is related to the transfer of production to a subsidiary or to a scale effect (see case number 1 in section 2.3 and Figure 4).

We now turn to our main proposition regarding the co-dependence of financialisation and offshoring. We know that the distribution of cash to the financial sector, and especially to shareholders through dividends and share buybacks, is partly at the expense of capital accumulation of U.S. NFCs (see Section 2.1)<sup>11</sup>. This means that they distribute an increasing share of their earnings rather than retaining and investing them. Nevertheless, pursuing an intensive payout policy requires not only to reduce the share of investment but also to maintain profits. As we say in the introduction, one way to do so has been the involvement in GVCs.

Consequently, we hypothesize that the negative correlation between payouts and investment has been possible for firms belonging to industries highly involved in GVCs which decreased their need for own productive facilities through arm-length relations. This hypothesis will be true if financial payouts are significantly negatively correlated with investment in capital expenditures for the subsample of firms belonging to industry consuming the highest level of foreign non-core intermediary inputs, and if the correlation is non-significant for the subsample of firms belonging

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<sup>11</sup> We will test again this assertion thanks to equations (1) and (2).



to industry with low offshoring. To implement the test related to this hypothesis, we split the sample according to the upper and lower year-median in *NONCORENONENERGYOFF* since offshoring in non-core activities is assumed to be the main source of decreasing investment and therefore the background of the downsize and distribute strategy (see Figure 5). Table 3 presents the distribution of offshoring according to the various industries in our sample.

#### 4. Data and estimation methodology

We took our data from the Standard and Poors' Compustat Annual Industrial Database and the updated WIOD for the United States. The latter is organized following the ISIC 3<sup>rd</sup> revision, which is not available in Standard and Poors, so we use the SIC codes of each firm. The correspondence between the two classifications was based on the concordance tables provided by the U.S. census bureau.

We use information from all active and inactive, publicly listed nonfinancial U.S. corporations<sup>12</sup>, excluding financial firms identified by the primary SIC codes from 6000 to 6799, firms without sectoral information, and firms whose exchange ticker is over the counter. We use annual data from 1995-2011, the period during which WIOD information is available.

Although Standard and Poors provides standardized information, we found that many firms have no information on several variables used in this paper. Thus, apart from removing the enterprises mentioned in the last paragraph, we removed firms with no information for all years of capital expenditure, sales, net property plant and equipment, long-term debt, interest expenses, of cash and short-term securities, total assets, total liabilities, and equities. We also removed observations with no information on market capitalization at the end of the year, with duplicate observations, negative values for interest income, and positive values for interest expenses and dividends. Finally, to account for outliers, we winsorize observations at the upper and lower 0.5%<sup>13</sup>. The final sample includes on average 2,049 companies by year, representing 68% of the total U.S. market capitalization<sup>14</sup>. Tables 4 and 5 display the descriptive statistics and the correlation matrix for all the variables we are using. Descriptive statistics on offshoring and financial payout-to-investment ratios are also provided for each of the 31 sectors of our sample in Table 3.

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<sup>12</sup> These companies are incorporated and have their headquarters in the United States and their primary listing in a U.S. stock market.

<sup>13</sup> Values of each variable are set either at the 0.5 or 99.5 percentile value when they are respectively lower or higher than these thresholds.

<sup>14</sup> This ratio compares the market capitalization of the U.S. non-financial corporations of our sample to the total market capitalization disclosed in the World Bank statistics, which also include financial corporations and foreign corporations with primary listing in the United States.

[Table 4: Descriptive Statistics]

[Table 5: Correlation Matrix]

By considering a panel data with the lagged value of investment as an explanatory variable, we introduce two different sources of persistence over time: autocorrelation due to the lagged dependent variable among regressors and individual persistent effects (Baltagi, 2008, p. 135). A fixed effects estimator, although wiping out the individual effects, is unable to eliminate the correlation between the lagged variable and the error term. Anderson and Hsiao (1981) proposed first differencing the model in order to remove the individual effects and then using the second lag of the dependent variable as an instrument for the first lag which would not be correlated with the error as long as it is not serially correlated.

Arellano and Bond (1991) proposed a generalized method of moments (GMM) procedure that is more efficient than the Anderson and Hsiao (1981) estimator. The procedure (also called difference GMM) uses additional instruments based on the orthogonality condition that exists between lagged values of the dependent variable and the error term and also other possible strictly exogenous regressors<sup>15</sup>. The estimator has one-step and two-step variants, the finite-sample correction derived by Windmeijer (2005) can make the two-step more efficient than one-step. Based on this, we will use the Arellano-Bond two-step difference GMM estimator, which is also the mostly used in the literature we summarised in section 2.1. Roodman (2009b) points out that this estimator is especially useful for situations with “small T, large N” panels, linear functional relationships, one left-hand variable that is dynamic, independent variables that are not strictly exogenous, fixed individual effects, and, finally, heteroscedasticity and autocorrelation within individuals but not across them.

Different tests are implemented. The Arellano-Bond test for autocorrelation is applied to the first-difference equation residuals in order to detect unobserved and perfectly autocorrelated instrumental variables. While an AR(1) is expected in first differences (ar1p in the tables), a higher-order autocorrelation (in our case, only second order: ar2p in the tables) shows that some lags of the dependent variables used as instruments are endogenous. We will also report a test for over-identifying restrictions: Hansen J statistic. This statistic is the minimized value of the two-step GMM criterion function and it is robust to heteroscedasticity or autocorrelation.

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<sup>15</sup> Apart from the difference version there is also the system GMM, developed by Blundell and Bond (1998), that is useful for situations in which the coefficient on the lagged dependent variable is close to unity, which is not our case.

Finally, difference GMM can generate quite a great number of instruments, something that, although does not compromise consistency, can move it away from the asymptotic ideal. In fact, according to Roodman (2009a, p. 7), “[t]he absence of formal tests and accepted rules of thumb makes it important for researchers to test GMM results for robustness to reductions in the instrument set”. Therefore, as robustness test, we both collapse the number of instruments and drop non-significant variables.

## 5. Estimation results

Table 6 presents the results of the estimation of equations (1) and (2) for all, as well as large and small firms defined as the upper and lower year-median in total assets, respectively. It also shows results of equation (2) for enterprises with high and low levels of offshoring (defined by the year-median of the sample).

[Table 6. Estimation results based on equations (1) and (2). Period: 1995-2011]

Results from equation (1) are presented under the heading “Financialisation model” in Table 6. Regarding the financial payout channel, dividends have a negative and statistically significant elasticity of 0.05. Stock repurchases also present a negative elasticity but lower, 0.009, and non-significant. Considering that financial payouts (the sum of interest expense, dividends and stock repurchases) have a negative elasticity of 0.036 in Orhangazi (2008) and that, in the case of Hecht (2014) dividends present a negative and significant elasticity of 0.02 and net stock issuance presents a positive but non-significant value of 0.012, our results are in line with the literature. As in the case of Orhangazi (2008), large firms also present a stronger correlation in our estimations: stock repurchases become statistically significant only for them with an elasticity of -0.016.

Regarding the financial income channel, we find positive but non-significant effects in all cases. Orhangazi and Hecht also found positive and non-significant effects for this variable. As we indicated in section 2.1, results for financial income tend to be less robust in the literature compared to financial payouts. Moreover, we find a positive and statistically significant effect of *INTERNALF* at the 1% level. This result not only proves the importance of internal funds for investment decisions but may also explain why Davis (2017) obtains positive and statistically significant results for her measures of financial assets. Our variable *INTERNALF* is analogous to Davis’ measure of ‘cash and short-term investments’. Therefore, contrary to the crowding out thesis, some financial assets are in fact positively correlated with real accumulation.

In the case of control variables, all other variables but *LONGDEBT* and *INTEXP* are significant with the expected sign. Net debt issue, stock issue, tobin's  $q$ , sales, profits, and past investment are all positive and significant for the whole sample and for large and small firms.

Table 6 also shows results when *COREOFF* and *NONCORENONENERGYOFF* are introduced. In the case of the new variables, *NONCORENONENERGYOFF* has a negative and significant elasticity of 0.039 for all non-financial firms. For all non-financial firms, *COREOFF* has a positive sign as expected, with a significant elasticity of 0.026. We have to stress that we are only able to say that firms that belong to industries with high (low) non-core offshoring are firms that invest less (more) than the other ones. We are not able to disentangle if the positive effect of *COREOFF* is due to a tendency to offshore in foreign affiliates or to a scale effect that stimulates domestic investment. Similarly, we are not be able to determine whether the negative sign of *NONCORENONENERGYOFF* is related to a substitution effect or to a capital productivity effect, i.e. a reduced demand for capital for each unit of output produced. Nevertheless, our results are in line with the framework of section 2.3 and support the idea that firms in industry with a high level of offshoring in non-core activities can have a lower demand for capital since part of their production is probably outsourced. In all the cases, control variables from equation (1) maintain sign, significance, and similar values. Nevertheless dividends are no longer significant while stock repurchases are still negative and significant for the largest firms.

Finally, if we turn to the comparison between high and low non-core non-energy offshoring sectors, we find supporting evidence for our main hypothesis. Regarding the financial payout channel of financialisation, we find that dividends are significant for firms in high non-core non-energy offshoring sectors, both for the full sample and the subsamples of large and small firms in high non-core non-energy offshoring industries. Moreover, the negative elasticities, between -0.1 and -0.08, are higher than in the financialisation model: firms belonging to high non-core non-energy offshoring sectors have an elasticity for dividends which is 60% higher than when we make no distinction in terms of sectors in the financialisation model. Stock repurchases are also negative and significant for the full sample of firms in high non-core non-energy offshoring sectors, also with an elasticity that is around 60% higher than when we make no distinction in terms of sectors in the financialisation model (although it's not significant for the latter). The rate of accumulation would have been 8% higher without the rise in dividends for firms belonging to high offshoring sectors. All in all, this shows the relevant economic effect played by offshoring for the financialisation of NFCs. Combining a weak demand for capital and a strong supply of financial payouts has been possible for firms belonging to industries in which the offshoring of the non-core

production provides opportunities to outsource productive facilities. On the other hand, for low non-core non-energy offshoring sectors neither dividends nor stock repurchases present a negative and statistically significant relation with investment.

As far as the financial income channel of financialisation is concerned, it is worth noting that interest income becomes statistically significant and positive for the whole sample of firms with a high level of offshoring in non-core non-energy sectors. Contrary to the thesis of the crowding out of real investment by financial investment, financial income is probably a source of funding for this subsample. Both in the empirical literature and in our results it seems that neither financial assets nor financial income can support the financial crowding out thesis.

## **6. Robustness check**

Next, we address potential shortcomings of the above estimates, especially the persistence over time and the potential non-linearity between offshoring and financialisation. In the previous estimates, we had controlled for year fixed effects, and our log transformation of each variable may already account for potential non-linearities between explained and explanatory variables. Nevertheless, as suggested by the descriptive statistics in section 2.3, we delve deeper into these issues. We also conduct other traditional robustness tests, as mentioned in section 4.

We first split the sample into two sub-periods, 1995-2002 and 2003-2011, the last period corresponding to the phase with an increase in offshoring as shown by Figure 1. Results in Table 7 hold for both sub-periods although they seem to be stronger in the first period with negative and significant effects of dividends and stock repurchases, while only dividends are significant in 2003-2011. Our conclusion remains valid even if results weaken in the second period, probably because all industries have increased their financial payouts in the mid-2000's, and especially in the aftermath of the financial crisis as explained in section 2.3.

[Table 7. Estimation results based on equation (2). Periods: 1995-2002 and 2003-2011]

We now address the issue of the non-linearity between offshoring and financialisation that can be perceived in Figure 5 and Table 3 (section 2.3). Our main proposition relies on a test that splits the sample between firms belonging to high or low non-core non-energy offshoring industries. We examine the validity of our proposition when we split the sample in four quartiles. Table 8 shows that both the top 25% and the top 75%-50% in non-core non-energy offshoring sectors present a significant negative correlation between investment and either dividends or stock repurchases. For the bottom 50%-25%, dividends and stock repurchases are no longer significant. Nevertheless, the

bottom 25% presents a negative and significant correlation between stock repurchases and investment for the sub-sample of large firms. As we explained in section 2.3., this result is probably due to the utilities industry and to the wholesale and retail trade sectors. Table 8 also shows the results for the bottom 25% when we remove from the sample utilities and wholesale and retail trade sectors: neither stock repurchases nor dividends are significant<sup>16</sup>. Utilities have indeed a dividend and investment policy very specific, due to the regulation in this industry, and that is why standard studies in corporate finance usually exclude this sector, -e.g. Fama & French (2001) for the dividend policy and Asker, Farre-Mensa, & Ljungqvist (2014) for the accumulation slowdown. Regarding the wholesale and retail trade sectors it is important to stress again that they import mainly final products while our indicator *NONCORENONENERGYOFF* is a measure of the share of foreign input in total output, which therefore minimizes the involvement of wholesale and retail trade in offshoring. If results in Table 8 lead to moderate the scope of our statement, they don't undermine our main conclusion because large firms in wholesale and retail trade sectors have organised the so-called 'buyer-driven global commodity chains' in which they have both monopsony and monopoly power (Baud & Durand, 2012; Chesnais, 2016, chapters 4 and 6; Gereffi, 1994; Milberg & Winkler, 2013). They are therefore also highly involved in the offshoring of production but not the offshoring we are capturing with our indicator. As a result, these firms can have a lower demand for capital and a higher payout policy.

[Table 8. Estimation results based on equation (2), different quartiles of non-core non-energy offshoring. Period: 1995-2011]

In the Appendix we present additional robustness checks. In Table A2 we reduce the number of instruments, in Table A3 we drop nonsignificant variables (*LONGDEBT*, *INTEXP* and *INTINC*), and we consider the upper and lower 25% in terms of size in Table A4, rather than the median. Through all estimations, the financialisation model (equation 1) and the financialisation and offshoring model (equation 2) provide six specifications to assess the robustness of our results for the whole sample (Tables 6, A2, and A3), and they provide eight specifications for the sample of large firms when adding Table A4. The negative effect of stock repurchases for large firms is a robust result because it is significant in eight cases out of eight. Nevertheless, the negative correlation of dividends for the whole sample is significant in four cases out of six and cannot be considered as robust. Regarding the offshoring-related variables in equation (2) for the whole sample (Tables 6, A2, and A3), *NONCORENONENERGYOFF* is significant in two cases out of three and *COREOFF* is significant in one case out of three. As we said in the introduction, the positive

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<sup>16</sup> Stock repurchases remain significant if we remove only one of these sectors.

and negative elasticities of *COREOFF* and *NONCORENONENERGYOFF* in Table 6 are in line with the literature but those effects are not clear-cut through all specifications. However, results for the financialisation-offshoring nexus are robust.

Concerning the interaction between financialisation and offshoring, equation (2) is estimated five times in tables 6, 7 (for two periods), A2, and A3 for the whole sample of firms in high offshoring sectors and, with Table A4, six times for the sample of large firms in high offshoring sectors: for the whole sample, the negative elasticities of dividends are significant in five cases out of five, and stock repurchases are significant in four cases out of five (non-significant for the 2003-2011 period only). If we consider also the top two quartiles of offshoring in Table 8, elasticities of dividends are negative and significant in six cases out of seven, and elasticities of stock repurchases are negative and significant in five cases out of seven. But in each of the seven cases, either dividends or stock repurchases are significant. For large firms, however, results are less robust: stock repurchases and dividends are each significant in two cases out of six only (or 2/8 with Table 8). Overall, our results give evidence that financialisation on average does not occur for firms belonging to industries with low non-core non-energy offshoring while it compromises capital accumulation of firms belonging to the industries most involved in GVCs.

## 7. Conclusion

As two of the major forces shaping world economic dynamics over the last several decades, financialisation and globalisation have deservedly received a good deal of academic scrutiny. Among the various ways in which the term financialisation is used, we concentrated on the financialisation of NFCs. One of the ways in which financialisation affects them is by displacing investment with different financial payments such as interest expenditures, dividends, and share buybacks. However, the literature on financialisation has not profoundly analysed how such a situation could be sustained over 30 years. In this paper we explored the financialisation-offshoring nexus as a possible answer and found promising results.

Starting from a baseline model derived from Orhangazi (2008) and Hecht (2014), we conducted an econometric regression to show the consequences of both financialisation and offshoring on U.S. NFCs' investment between 1995 and 2011. We built two offshoring variables, one for core and other for non-core non-energy activities, based on industry-level information that show the effect of transferring production outside the United States. We estimated equations for the entire sample and for subsamples of large and small firms belonging to high and low non-core non-energy offshoring sectors. In line with previous literature, financialisation is especially apparent

amongst the largest firms. Offshoring in non-core non-energy activities tends to have a negative effect on investment for all firms. This result supports the idea that enterprises are likely to subcontract to other foreign firms' non-core activities.

The interaction between the financialisation of NFCs and offshoring was studied by splitting the sample between high and low non-core non-energy offshoring sectors considering that arm-length relations tend to be focused in these types of activities. Our results confirm the nexus as the financial payouts variables were significant for firms belonging to industries with the highest level of offshoring only. For corporations that distribute financial payouts at the expense of their capital accumulation, the real source of the cash distributed to shareholders should be found in GVCs.

Although our econometric analysis ends in 2011, the patterns described in this paper in terms of payouts, investment, and offshoring have remained until these days. Even intangible intensive firms, like Apple, have engaged in important stock buybacks<sup>17</sup>. This seems to run counter to those who claim that the platform economy is characterized by patient capital. In order to explain this paradox, future research should address the role played by intangibles, and the different features associated to these assets which complement the offshoring dynamic.

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<sup>17</sup> See Lazonick (2015), and *Financial Times*, May 1, 2018. <https://www.ft.com/content/c0555be2-4d79-11e8-8a8e-22951a2d8493>.



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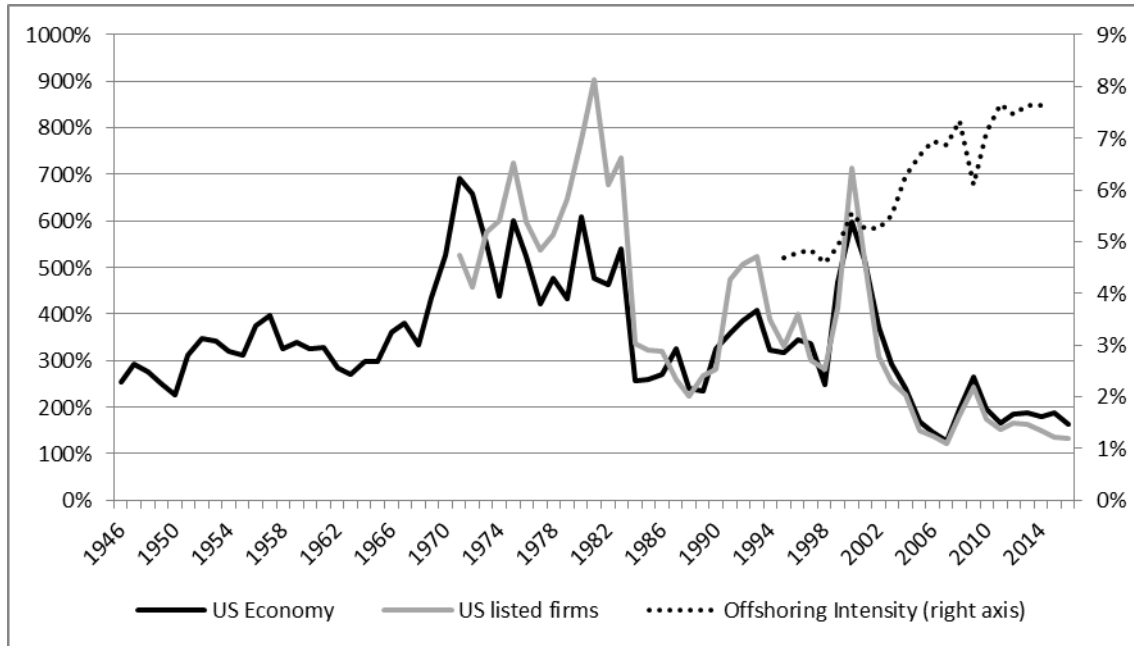
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## Figures

Figure 1. Investment as a ratio of Net Financial Payouts for the U.S. Economy and U.S. listed firms, and Offshoring Intensity, 1946-2016. Source: Table Z1, Financial Accounts of the USA, Compustat and WIOD. Authors' calculations.



Note: Offshoring Intensity is the industries' average of all Intermediate Imported Inputs over output.

Figure 2. Net financial payouts as percentage of operating surplus for the U.S. Economy and U.S. listed firms, 1971-2016. Source: Table Z1, Financial Accounts of the USA and Compustat. Authors' calculations.

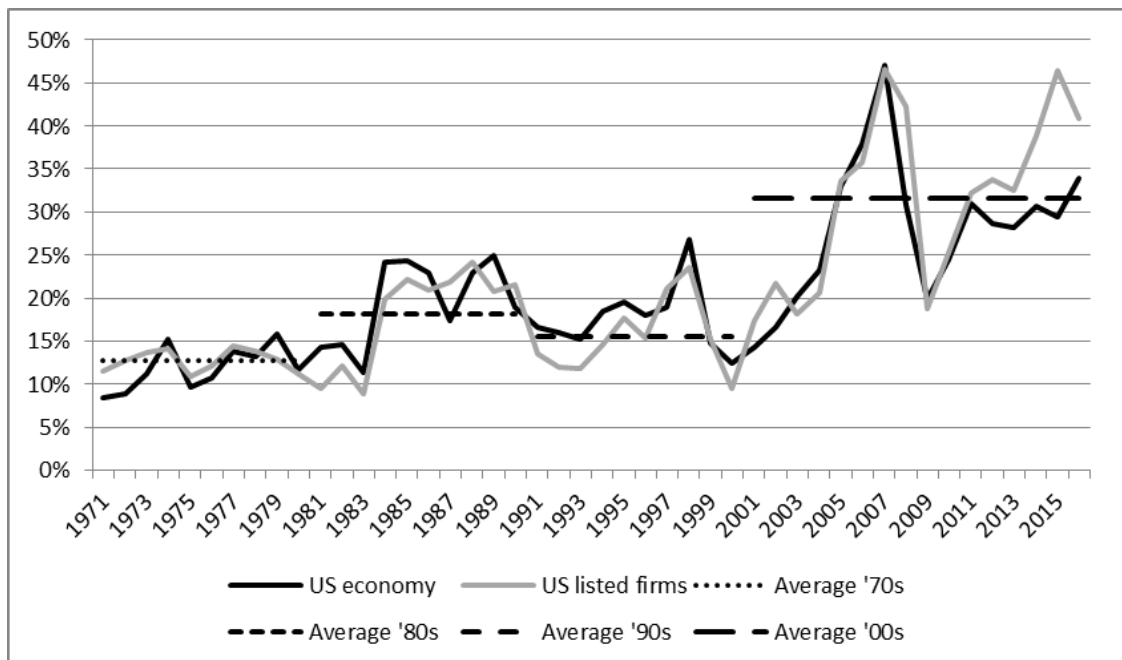




Figure 3. Stock and Flow of U.S. Outward FDI, 1985-2012. Source: Table Z1, Financial Accounts of the USA; OECD, FDI statistics according to Benchmark Definition 3rd Edition (BMD3), FDI positions by partner country. Authors' calculations.

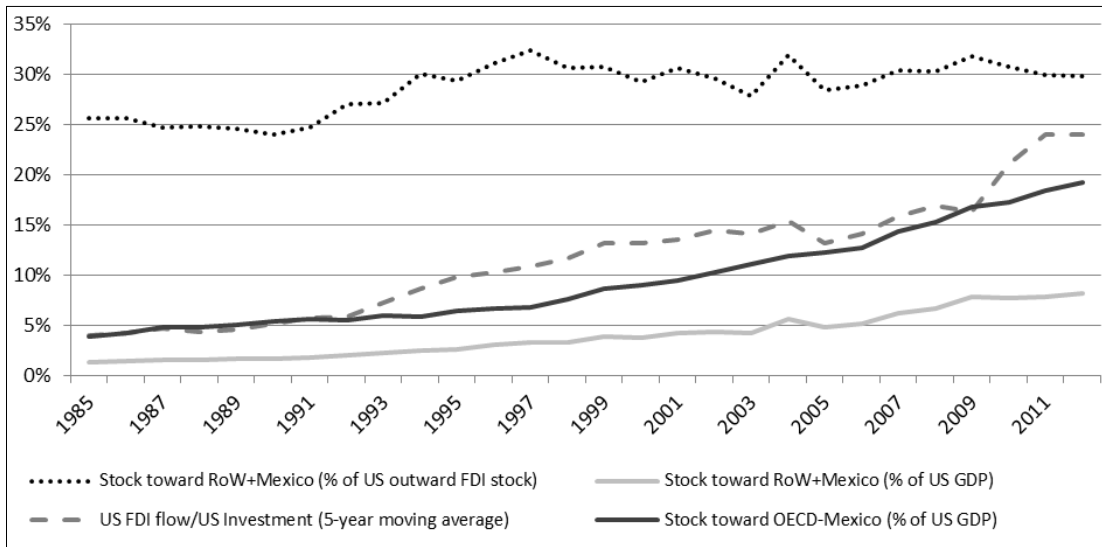
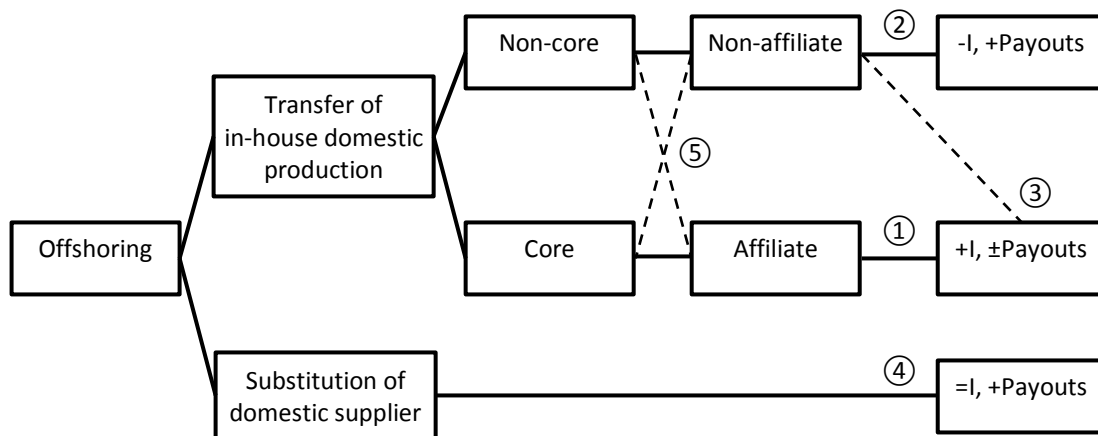
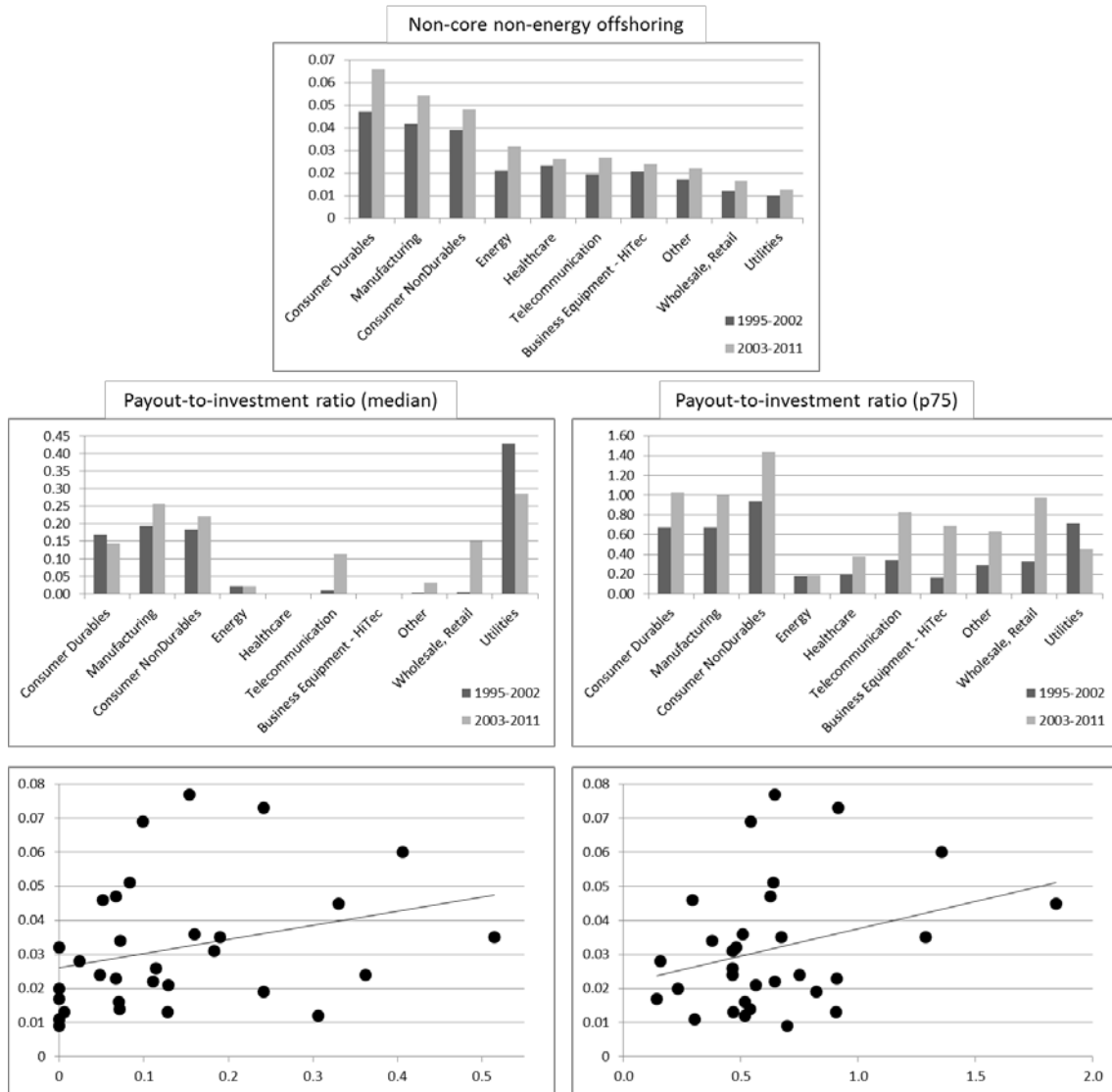


Figure 4. Offshoring, investment, and payouts from the firm's perspective.



Note: dotted lines indicate relationships that should be less frequent than the one designated by solid lines. Numbers correspond to the five situations detailed in the text.

Figure 5. Non-core offshoring and Payout-to-Investment ratio. Source: WIOD and Compustat. Authors' calculations.



This figure shows, over the period 1995-2011, the relationship between the mean non-core non-energy offshoring, i.e. the share of foreign input in total output, and either the median or the 75<sup>th</sup> percentile of the payout-to-investment ratio, i.e. dividends and share repurchases over capital expenditures. Sectors are grouped in 10 industries and are ranked according to the level of offshoring in bar charts. Scatter plots present the payout-to-investment ratio in the horizontal axis and offshoring in the vertical axis for the 31 sectors of our study.

## Tables

Table 1. Financialisation variables in investment functions.

Paper	Period	Data	Financialisation Variables	Effect on Investment
<i>Firm level studies</i>				
Orhangazi (2008)	1973-2003	Panel of U.S. nonfinancial firms	$(INT\ INC + DIV\ INC)/K$	Positive but non-significant for all and small NFC. Negative and significant for large NFC
			$(INT + DIV + STK\ REP)/K$	Negative and significant for all, large and small NFC
			LT DEBT/K	Negative and significant for all, large and small NFC
Demir (2009)	1991-2003	Panel of Argentinian, Mexican and Turkish nonfinancial firms	$(INT\ INC + DIV\ INC)/FA$	Negative and significant
Hecht (2014)	1998 - 2008	Panel of Chinese, French, German, British, Indian, Japanese and U.S. nonfinancial firms (results for the financialisation specification, for the whole sample and the USA subsample, varied results for the other countries)	$(STK\ ISSUE - STK\ REP)/K$	Positive but non-significant for the USA. Positive and significant for the whole sample.
			LT DEBT/K	Positive but non-significant for the USA. Positive and significant for the whole sample.
			$(INT\ INC + DIV\ INC)/K$	Negative but non-significant for the USA and the whole sample.
			INT/K	Negative and significant for the USA and the whole sample.
			DIV/SALES	Negative and significant for the USA. Positive but non-significant for the whole sample.
Schoder (2014)	1970-2007	Panel of U.S. nonfinancial firms	DEBT/A	Varied results
			$DIV/\pi$	Negative and significant for 1971–1985, positive and non-significant for 1986–2007
			DIV/MARKET VALUE	Positive and significant for 1971–1985, negative and non-significant for 1986–2007
			$(DIV + STK\ REP)/K$	Positive and significant for 1971–1985 and 1986–2007
			NON OPERATING INC/ $\pi$	Positive and significant for 1971–1985, positive and non-significant for 1986–2007
Sea et al (2016)	1990-2010	Panel of Korean firms	DEBT/K	Negative and significant
			$(DIV\ INC + INT\ INC)/K$	Positive and non-significant
			$(DIV + INT)/K$	Negative and non-significant
Davis (2017)	1971-2013	Panel of U.S. nonfinancial firms	NON OPERATING INC/FA	Negative and non-significant for all firms. Positive and significant for large firms
			INT/DEBT	Positive and non-significant for all firms. Negative and significant for large firms
			FA/A	Positive and significant for all firms and quartiles
			DEBT/A	Negative and significant for all firms and quartiles
			STK REP/EQUITY	Negative and significant for all

				and large firms
Tori and Onaran (2018)	1983 - 2013	Panel of UK nonfinancial firms	DIV/K	Negative and significant
			INT/K	Negative and significant
			(INT INC + DIV INC)/K	Negative and significant. Positive and significant for lower 25 percentile
			FA/K	Negative and significant
<i>Industry and aggregate level studies</i>				
Stockhammer (2004)	1963 - 1997	Individual estimations for Germany, France, UK and USA	(INT INC + DIV INC)/VA	Negative but non-significant for France and the USA. Positive but non-significant for Germany and UK
			(INT+DIV)/VA	Negative but non-significant for Germany, France and UK. Positive for the USA
Van Treeck (2008)	1965-2004	Estimation for the USA	(INT INC - INT)/K	Negative and significant
Clévenot, Guy and Mazier (2010)	1978 - 2003	Estimations for France	(DIV INC - DIV)/K	Negative and significant
			(DIV+CAPITAL GAIN)/FA	Negative and significant
			$\Delta FA/FA$	Negative and significant
Onaran et al (2011)	1962-2007	USA	(INT INC + DIV INC - INT - DIV)/VA	Negative and non-significant
Tomaskovic-Devey et al. (2015) <sup>1</sup>	1970-2008	Panel of U.S. nonfinancial industries	FA/A	Negative and significant
Barradas (2017)	1995-2013	Panel of European countries	(INT INC + DIV INC)/GDP	Positive and significant
			(INT + DIV)/VA	Negative and significant
			DEBT/VA	Positive and non-significant
Note: INT = interest, DIV = dividend, INC=income, VA=gross value added, K = stock of capital (net property plant and equipment), STK = stock, REP= repurchase, LT = long term, FA = financial assets, A=assets, $\pi$ = profit.				

Table 2. Definition of offshoring and outsourcing. Source: Contractor et al (2011).

	Home nation	"Offshore"
<i>In-house</i> Domestic or foreign	Value of entirely in-house activities in home nation	Value of entirely in-house activities within owned foreign affiliates
<i>Outsourcing</i> Domestic or foreign	Value outsourced domestically in home nation	Value outsourced contractually from foreign providers

Table 3. Industries' non-core non-energy offshoring and financial payout-to-investment ratios.

Source: WIOD and Compustat. Authors' calculations.

ISIC	Industry	Offshoring		Total obs.	%	Offshoring (mean)	Payout-to-investment ratio		
		High	Low				(mean)	(p50)	(p75)
25	Rubber and Plastics	458	0	458	1%	0.077	0.593	0.154	0.644
29	Machinery, Nec	1532	0	1532	5%	0.073	0.940	0.242	0.915
34t35	Transport Equipment	827	0	827	3%	0.069	0.557	0.099	0.541
36t37	Manufacturing, Nec; Recycling	586	0	586	2%	0.060	1.181	0.406	1.357
17t18	Textiles and Textile Products	575	0	575	2%	0.051	0.766	0.083	0.640
F	Construction	458	0	458	1%	0.047	1.148	0.067	0.626
	Sale, Maintenance and Repair of Motor								
50	Vehicles and Motorcycles; Retail Sale of Fuel	192	0	192	1%	0.046	0.776	0.051	0.295
15t16	Food, Beverages and Tobacco	1012	0	1012	3%	0.045	1.358	0.330	1.845
19	Leather, Leather and Footwear	94	0	94	0%	0.036	0.529	0.160	0.508
27t28	Basic Metals and Fabricated Metal	1074	0	1074	4%	0.035	0.571	0.190	0.674
21t22	Pulp, Paper, Paper, Printing and Publishing	838	0	838	3%	0.035	1.073	0.515	1.289
20	Wood and Products of Wood and Cork	195	0	195	1%	0.034	0.381	0.072	0.379
<b>Sub-total</b>		<b>7841</b>	<b>0</b>	<b>7841</b>	<b>26%</b>	<b>0.054</b>	<b>0.892</b>	<b>0.203</b>	<b>0.912</b>
30t33	Electrical and Optical Equipment	4541	0	4541	15%	0.032	0.940	0,000	0.480
26	Other Non-Metallic Mineral	224	0	224	1%	0.031	0.775	0.183	0.466
C	Mining and Quarrying	1348	335	1683	6%	0.028	0.326	0.024	0.156
61	Water Transport	55	66	121	0%	0.026	0.378	0.114	0.466
64	Post and Telecommunications	878	640	1518	5%	0.024	0.791	0.048	0.465
<b>Sub-total</b>		<b>7046</b>	<b>1041</b>	<b>8087</b>	<b>26%</b>	<b>0.030</b>	<b>0.771</b>	<b>0.005</b>	<b>0.376</b>
23	Coke, Refined Petroleum and Nuclear Fuel	111	128	239	1%	0.024	0.502	0.362	0.749
24	Chemicals and Chemical Products	1262	1412	2674	9%	0.023	0.922	0.067	0.909
H	Hotels and Restaurants	30	132	162	1%	0.022	1.498	0.111	0.644
AtB	Agriculture, Hunting, Forestry and Fishing	9	111	120	0%	0.021	0.588	0.129	0.565
N	Health and Social Work	0	819	819	3%	0.020	0.702	0,000	0.232
60	Inland Transport	0	177	177	1%	0.019	0.592	0.242	0.822
62	Air Transport	0	287	287	1%	0.017	0.260	0,000	0.142
O	Other Community, Social and Personal Services	0	756	756	2%	0.016	1.244	0.070	0.519
52	Retail Trade, Except of Motor Vehicles and Motorcycles; Repair of Household Goods	0	2774	2774	9%	0.014	0.612	0.071	0.540
<b>Sub-total</b>		<b>1412</b>	<b>6596</b>	<b>8008</b>	<b>26%</b>	<b>0.019</b>	<b>0.786</b>	<b>0.061</b>	<b>0.626</b>
51	Wholesale Trade and Commission Trade, Except of Motor Vehicles and Motorcycles	0	1334	1334	4%	0.013	1.234	0.128	0.905
M	Education	0	132	132	0%	0.013	0.820	0.006	0.467
E	Electricity, Gas and Water Supply	0	1965	1965	6%	0.012	0.461	0.306	0.518
63	Other Supporting and Auxiliary Transport Activities; Activities of Travel Agencies	0	49	49	0%	0.011	0.547	0,000	0.303
71t74	Renting of M&Eq and Other Business Activities	0	3146	3146	10%	0.009	1.215	0,000	0.697
<b>Sub-total</b>		<b>0</b>	<b>6626</b>	<b>6626</b>	<b>22%</b>	<b>0.011</b>	<b>0.983</b>	<b>0.161</b>	<b>0.611</b>
<b>Total</b>		<b>16299</b>	<b>14263</b>	<b>30562</b>	<b>100%</b>	<b>0.029</b>	<b>0.852</b>	<b>0.082</b>	<b>0.629</b>

This table displays the number of observations in high and low non-core non-energy offshoring sectors over the 1995-2011 period. It reports also the mean value of non-core non-energy offshoring by sectors, i.e. the share of foreign input in total output, and the mean, the median, and the 75th percentile of the payout-to-investment ratio by sectors. Industries are ranked by the level of offshoring. The four group of offshoring are built to be closed to 25% of the sample for descriptive purpose.

Table 4. Descriptive Statistics

<i>Variable name &amp; variable label</i>		<i>Mean</i>	<i>Std. Dev.</i>	<i>Observations</i>
Capital expenditures <i>I/K</i>	overall	0.242	0.229	N = 30,562
	between		0.223	n = 4,674
	within		0.137	T-bar = 6.539
Profits $\pi/K$	overall	-0.052	4.400	N = 30,562
	between		6.460	n = 4,674
	within		2.355	T-bar = 6.539
Sales <i>S/K</i>	overall	9.112	18.502	N = 30,562
	between		19.519	n = 4,674
	within		8.125	T-bar = 6.539
Long Term Debt <i>LONGDEBT/K</i>	overall	2.110	6.002	N = 30,562
	between		7.047	n = 4,674
	within		3.138	T-bar = 6.539
Interest Expenditure <i>INTEXP/K</i>	overall	0.253	1.191	N = 30,562
	between		1.594	n = 4,674
	within		0.690	T-bar = 6.539
Interest and Investment Income <i>INTINC/K</i>	overall	0.041	0.167	N = 30,562
	between		0.190	n = 4,674
	within		0.098	T-bar = 6.539
Dividends <i>DIV/K</i>	overall	0.036	0.101	N = 30,562
	between		0.087	n = 4,674
	within		0.055	T-bar = 6.539
Stock Issue <i>STKISSUE/K</i>	overall	0.484	2.921	N = 30,562
	between		3.499	n = 4,674
	within		2.026	T-bar = 6.539
Stock Repurchase <i>STKREP/K</i>	overall	0.109	0.422	N = 30,562
	between		0.330	n = 4,674
	within		0.311	T-bar = 6.539
Net Debt Issue <i>NETDEBTISSUE/K</i>	overall	0.255	2.399	N = 30,562
	between		2.743	n = 4,674
	within		1.859	T-bar = 6.539
Internal Finance <i>INTERNF/K</i>	overall	1.302	4.887	N = 30,562
	between		5.698	n = 4,674
	within		2.645	T-bar = 6.539
Tobin's <i>q</i> <i>Q</i>	overall	1.927	2.572	N = 30,562
	between		3.317	n = 4,674
	within		1.424	T-bar = 6.539
Narrow or core offshoring <i>COREOFF</i>	overall	0.024	0.028	N = 30,562
	between		0.028	n = 4,674
	within		0.005	T-bar = 6.539
Non-core non-energy offshoring <i>NONCORENONENERGYOFF</i>	overall	0.028	0.018	N = 30,562
	between		0.017	n = 4,674
	within		0.005	T-bar = 6.539

Table 5. Correlation Matrix

<i>Variable name</i>	<i>Variable label</i>	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Capital expenditures	$\ln(I/K)_{i,t-1}$	1.000												
2. Profits	$\ln(\pi/K)_{i,t-1}$	0.016	1.000											
3. Sales	$\ln(S/K)_{i,t-1}$	0.313	0.274	1.000										
4. Long Term Debt	$\ln(\text{LONGDEBT}/K)_{i,t}$	0.234	0.039	0.457	1.000									
5. Interest Expenditure	$\ln(\text{INTEXP}/K)_{i,t-1}$	0.217	-0.215	0.410	0.671	1.000								
6. Interest and Investment Income	$\ln(\text{INTINC}/K)_{i,t-1}$	0.238	-0.258	0.166	0.272	0.281	1.000							
7. Dividends	$\ln(\text{DIV}/K)_{i,t-1}$	-0.006	0.227	0.135	0.105	0.037	0.023	1.000						
8. Stock Issue	$\ln(\text{STKISSUE}/K)_{i,t-1}$	0.252	-0.374	0.167	0.212	0.354	0.379	-0.025	1.000					
9. Stock Repurchase	$\ln(\text{STKREP}/K)_{i,t-1}$	0.126	0.261	0.228	0.164	0.052	0.127	0.223	0.062	1.000				
10. Net Debt Issue	$\ln(\text{NETDEBTISSUE}/K)_{i,t-1}$	0.162	-0.144	0.011	0.240	0.156	0.071	0.004	0.086	0.093	1.000			
11. Internal Finance	$\ln(\text{INTERNF}/K)_{i,t-1}$	0.330	-0.164	0.387	0.376	0.345	0.673	0.060	0.502	0.197	0.081	1.000		
12. Tobin's $q$	$\ln(Q)_{i,t-1}$	0.132	-0.202	0.019	0.073	0.204	0.117	0.031	0.286	0.062	0.102	0.182	1.000	
13. Narrow or core offshoring	$\ln(\text{COREOFF})_{j,t-1}$	0.038	-0.077	-0.005	-0.003	0.021	0.127	0.030	0.107	0.024	0.010	0.198	0.089	1.000
14. Non-core non-energy offshoring	$\ln(\text{NONCORENONENERGYOFF})_{j,t-1}$	-0.085	0.051	-0.004	-0.017	-0.042	-0.049	0.071	-0.064	-0.016	-0.039	-0.024	-0.040	0.483

Table 6. Estimation results based on equations (1) and (2). Period: 1995-2011.

Dependent variable:ln(I/K) <sub>i,t</sub>	Financialisation model			Financialisation and offshoring model			High non-core non-energy offshoring sectors			Low non-core none-nergy offshoring sectors		
	All	Large	Small	All	Large	Small	All	Large	Small	All	Large	Small
ln(I/K) <sub>i,t-1</sub>	0.239*** (0.017)	0.318*** (0.032)	0.185*** (0.018)	0.240*** (0.016)	0.322*** (0.031)	0.180*** (0.018)	0.205*** (0.020)	0.165*** (0.049)	0.155*** (0.023)	0.242*** (0.022)	0.378*** (0.039)	0.157*** (0.027)
ln( $\pi$ /K) <sub>i,t-1</sub>	0.015** (0.007)	0.036*** (0.012)	0.011 (0.007)	0.015** (0.007)	0.036*** (0.011)	0.013* (0.007)	0.019** (0.009)	0.019 (0.013)	0.016 (0.010)	0.006 (0.009)	0.042*** (0.013)	0.000 (0.008)
ln(S/K) <sub>i,t-1</sub>	0.031*** (0.012)	0.034* (0.021)	0.033** (0.013)	0.028** (0.011)	0.036* (0.019)	0.032** (0.013)	0.039*** (0.014)	0.092*** (0.023)	0.024 (0.016)	0.034** (0.014)	-0.011 (0.020)	0.057*** (0.017)
ln(LONGDEBT/K) <sub>i,t</sub>	-0.010 (0.008)	-0.000 (0.014)	-0.007 (0.010)	-0.009 (0.008)	0.001 (0.013)	-0.006 (0.010)	0.009 (0.010)	0.034** (0.017)	0.002 (0.012)	-0.010 (0.011)	-0.014 (0.013)	-0.013 (0.012)
ln(Q) <sub>i,t-1</sub>	0.070*** (0.007)	0.065*** (0.008)	0.071*** (0.009)	0.070*** (0.007)	0.069*** (0.008)	0.070*** (0.009)	0.073*** (0.009)	0.066*** (0.013)	0.074*** (0.012)	0.056*** (0.010)	0.052*** (0.010)	0.046*** (0.013)
ln(INTEXP/K) <sub>i,t-1</sub>	0.003 (0.017)	-0.033 (0.034)	0.011 (0.019)	0.005 (0.016)	-0.035 (0.032)	0.008 (0.018)	-0.005 (0.022)	-0.084* (0.046)	0.005 (0.025)	0.003 (0.020)	0.007 (0.035)	-0.013 (0.023)
ln(INTINC/K) <sub>i,t-1</sub>	0.006 (0.025)	0.040 (0.038)	0.030 (0.028)	0.008 (0.025)	0.020 (0.037)	0.035 (0.028)	0.090** (0.043)	0.056 (0.050)	0.087 (0.065)	-0.075* (0.040)	-0.027 (0.057)	-0.062 (0.056)
ln(DIV/K) <sub>i,t-1</sub>	-0.050* (0.029)	-0.056 (0.043)	-0.034 (0.036)	-0.045 (0.029)	-0.056 (0.044)	-0.034 (0.037)	-0.081** (0.032)	-0.098** (0.045)	-0.080* (0.047)	0.004 (0.037)	-0.024 (0.059)	0.014 (0.035)
ln(STKISSUE/K) <sub>i,t-1</sub>	0.020*** (0.004)	0.012** (0.006)	0.020*** (0.004)	0.020*** (0.004)	0.012** (0.006)	0.020*** (0.004)	0.027*** (0.005)	0.008 (0.010)	0.025*** (0.006)	0.009* (0.005)	0.009 (0.005)	0.011* (0.006)
ln(STKREP/K) <sub>i,t-1</sub>	-0.009 (0.007)	-0.016** (0.008)	-0.013 (0.011)	-0.009 (0.007)	-0.016** (0.007)	-0.014 (0.011)	-0.015* (0.008)	-0.010 (0.011)	-0.014 (0.012)	-0.002 (0.010)	-0.015 (0.010)	0.005 (0.014)
ln(NETDEBT ISSUE/K) <sub>i,t-1</sub>	0.007*** (0.002)	0.006** (0.002)	0.006** (0.003)	0.007*** (0.002)	0.007*** (0.002)	0.006** (0.002)	0.003 (0.003)	0.008** (0.004)	-0.001 (0.004)	0.009*** (0.002)	0.007* (0.004)	0.008*** (0.003)
ln(INTERNF/K) <sub>i,t-1</sub>	0.043*** (0.007)	0.031*** (0.009)	0.051*** (0.009)	0.046*** (0.007)	0.034*** (0.009)	0.053*** (0.009)	0.033*** (0.010)	0.027* (0.016)	0.049*** (0.013)	0.054*** (0.009)	0.036*** (0.012)	0.057*** (0.012)
ln(COREOFF) <sub>i,t-1</sub>				0.026** (0.013)	0.012 (0.010)	0.009 (0.022)	0.023 (0.014)	0.026 (0.017)	0.033 (0.023)	0.010 (0.011)	0.004 (0.008)	0.011 (0.022)
ln(NONCORE NONENERGYOFF) <sub>i,t-1</sub>				-0.039** (0.018)	-0.013 (0.015)	-0.019 (0.029)	-0.029 (0.018)	-0.026 (0.019)	-0.050 (0.031)	0.030** (0.015)	0.016 (0.010)	0.055 (0.038)
N. obs	30562	15282	15280	30562	15282	15280	16299	7874	8425	14263	7408	6855
N. firms	4674	2119	3211	4674	2119	3211	2659	1204	1832	2687	1252	1743
Instruments	375	375	375	433	433	433	433	433	433	433	433	433
ar1p	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ar2p	0.060	0.872	0.106	0.058	0.840	0.124	0.081	0.977	0.255	0.285	0.145	0.317
hansenp	0.001	0.010	0.027	0.000	0.000	0.040	0.000	0.002	0.009	0.013	0.024	0.300
Time effects	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Age	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes

Large and small are those firms in the upper and lower median of total asset. High and low offshoring sectors are those belonging upper and lower median of non-core non-energy offshoring. Estimations are all obtained by the Arellano-Bond two-step difference GMM. All instruments include up to two-years lags. ar1p and ar2p are Arellano-Bond test of first order and second order autocorrelation in the errors. hansep is the Hansen-Sargan test of overidentifying restrictions. P-values are reported for all tests. \* indicates significance at 10%, \*\* significance at 5% and \*\*\* significance at 1%



Table 7. Estimation results based on equation (2). Periods: 1995-2002 and 2003-2011.

Dependent variable: $\ln(I/K)_{i,t}$	1995-2002						2003-2011					
	High non-core non-energy offshoring sectors			Low non-core non-energy offshoring sectors			High non-core non-energy offshoring sectors			Low non-core non-energy offshoring sectors		
	All	Large	Small	All	Large	Small	All	Large	Small	All	Large	Small
$\ln(I/K)_{i,t-1}$	0.218*** (0.028)	0.143** (0.060)	0.213*** (0.030)	0.223*** (0.039)	0.339*** (0.055)	0.101** (0.047)	0.140*** (0.036)	0.151*** (0.057)	0.070* (0.039)	0.244*** (0.031)	0.347*** (0.061)	0.158*** (0.035)
$\ln(\pi/K)_{i,t-1}$	0.030** (0.012)	0.031 (0.022)	0.018 (0.014)	0.003 (0.018)	0.072*** (0.018)	-0.014 (0.016)	0.001 (0.014)	0.022 (0.017)	0.003 (0.016)	0.002 (0.012)	0.002 (0.016)	0.001 (0.011)
$\ln(S/K)_{i,t-1}$	-0.011 (0.019)	0.081* (0.042)	-0.012 (0.023)	0.059** (0.029)	-0.026 (0.035)	0.104*** (0.033)	0.087*** (0.026)	0.070*** (0.025)	0.056* (0.034)	0.039* (0.021)	0.044* (0.027)	0.047* (0.024)
$\ln(\text{LONGDEBT}/K)_{i,t}$	-0.010 (0.017)	0.028 (0.031)	-0.010 (0.024)	-0.023 (0.019)	-0.041** (0.020)	-0.022 (0.021)	0.030* (0.016)	0.023 (0.016)	0.022 (0.017)	-0.004 (0.013)	0.003 (0.015)	-0.012 (0.015)
$\ln(Q)_{i,t-1}$	0.110*** (0.014)	0.073*** (0.019)	0.126*** (0.019)	0.059*** (0.013)	0.047*** (0.015)	0.060*** (0.018)	0.047*** (0.013)	0.105*** (0.020)	0.034** (0.016)	0.059*** (0.017)	0.051*** (0.016)	0.041** (0.021)
$\ln(\text{INTEXP}/K)_{i,t-1}$	0.012 (0.028)	-0.108 (0.091)	0.008 (0.034)	-0.045 (0.049)	0.021 (0.066)	-0.053 (0.050)	-0.019 (0.032)	0.007 (0.042)	0.007 (0.038)	0.021 (0.025)	0.016 (0.040)	0.016 (0.028)
$\ln(\text{INTINC}/K)_{i,t-1}$	0.123* (0.069)	0.102 (0.080)	0.098 (0.091)	-0.075 (0.100)	-0.115 (0.146)	0.052 (0.102)	0.116* (0.063)	-0.075 (0.070)	0.153** (0.077)	-0.081* (0.044)	0.036 (0.062)	-0.104* (0.060)
$\ln(\text{DIV}/K)_{i,t-1}$	-0.081** (0.041)	-0.068 (0.059)	-0.072 (0.061)	-0.002 (0.059)	-0.048 (0.129)	0.020 (0.056)	-0.091* (0.053)	-0.081 (0.055)	-0.091 (0.086)	0.015 (0.052)	-0.013 (0.061)	0.014 (0.050)
$\ln(\text{STKISSUE}/K)_{i,t-1}$	0.022*** (0.007)	-0.001 (0.013)	0.023*** (0.008)	0.009 (0.010)	-0.002 (0.013)	0.013 (0.011)	0.028*** (0.008)	0.006 (0.010)	0.024** (0.010)	0.010* (0.006)	0.013* (0.007)	0.009 (0.007)
$\ln(\text{STKREP}/K)_{i,t-1}$	-0.026* (0.015)	-0.022 (0.018)	-0.035* (0.019)	-0.013 (0.021)	-0.024 (0.018)	-0.013 (0.030)	-0.004 (0.010)	-0.003 (0.009)	0.002 (0.017)	-0.001 (0.012)	-0.014 (0.012)	0.009 (0.017)
$\ln(\text{NETDEBT}/K)_{i,t-1}$	0.006 (0.004)	0.007 (0.006)	0.000 (0.005)	0.011** (0.005)	0.007 (0.007)	0.008 (0.006)	-0.001 (0.003)	0.010*** (0.003)	-0.006 (0.005)	0.009*** (0.003)	0.006* (0.003)	0.010*** (0.004)
$\ln(\text{INTERNF}/K)_{i,t-1}$	0.067*** (0.015)	0.064** (0.028)	0.073*** (0.019)	0.053*** (0.015)	0.046** (0.022)	0.045*** (0.017)	0.022 (0.014)	-0.011 (0.013)	0.049*** (0.019)	0.043*** (0.013)	0.019 (0.015)	0.050*** (0.017)
$\ln(\text{COREOFF})_{i,t-1}$	0.113*** (0.044)	0.095* (0.052)	0.106 (0.074)	-0.000 (0.022)	0.006 (0.024)	0.023 (0.036)	0.005 (0.015)	0.019 (0.015)	0.003 (0.025)	0.008 (0.016)	0.013 (0.009)	-0.052 (0.040)
$\ln(\text{NONCORE}/\text{NONENERGYOFF})_{i,t-1}$	-0.202** (0.082)	-0.257*** (0.080)	-0.272* (0.154)	-0.017 (0.030)	0.032* (0.019)	-0.082 (0.076)	-0.013 (0.018)	-0.018 (0.018)	-0.026 (0.030)	0.047** (0.023)	0.017 (0.013)	0.138** (0.057)
N. obs	7404	3525	3879	6133	3244	2889	8895	4349	4546	8130	4164	3966
N. firms	2033	945	1247	1914	976	1095	1941	904	1253	1924	874	1202
Instruments	172	172	172	172	172	172	261	261	261	261	261	261
ar1p	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ar2p	0.218	0.485	0.466	0.693	0.186	0.516	0.117	0.933	0.223	0.242	0.295	0.449
hansenp	0.063	0.037	0.113	0.003	0.030	0.127	0.002	0.017	0.045	0.021	0.001	0.095
Time effects	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Age	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes

Large and small are those firms in the upper and lower median of total asset. High and low offshoring sectors are those belonging upper and lower median of non-core non-energy offshoring. Estimations are all obtained by the Arellano-Bond two-step difference GMM. All instruments include up to two-years lags. ar1p and ar2p are Arellano-Bond test of first order and second order autocorrelation in the errors. hansenp is the Hansen-Sargan test of overidentifying restrictions. P-values are reported for all tests. \* indicates significance at 10%, \*\* significance at 5% and \*\*\* significance at 1%

Table 8. Estimation results based on equation (2), different quartiles of non-core non-energy offshoring. Period: 1995-2011.

Dependent variable: $\ln(l/K)_i,t$	Top 25% non-core non-energy offshoring sectors			75%-50% non-core non-energy offshoring sectors			50%-25% non-core non-energy offshoring sectors			Low 25% non-core non-energy offshoring sectors			Low 25% non-core non-energy offshoring sectors without retail, wholesale trade and utilities		
	All	Large	Small	All	Large	Small	All	Large	Small	All	Large	Small	All	Large	Small
$\ln(l/K)_i,t-1$	0.172*** (0.030)	0.112 (0.072)	0.115*** (0.031)	0.148*** (0.026)	0.104** (0.050)	0.093*** (0.033)	0.219*** (0.031)	0.258*** (0.037)	0.123*** (0.040)	0.161*** (0.035)	0.352*** (0.076)	0.049 (0.037)	0.143*** (0.044)	0.362*** (0.101)	0.024 (0.043)
$\ln(\pi/K)_i,t-1$	0.026** (0.012)	0.034*** (0.013)	0.025** (0.012)	0.014 (0.014)	0.043*** (0.016)	0.003 (0.012)	-0.012 (0.016)	0.028* (0.016)	-0.013 (0.013)	0.005 (0.010)	0.047*** (0.014)	0.003 (0.008)	0.008 (0.010)	0.041*** (0.015)	0.005 (0.009)
$\ln(S/K)_i,t-1$	0.041** (0.018)	0.070*** (0.026)	0.037* (0.020)	0.028** (0.013)	0.022 (0.024)	0.025* (0.015)	0.049*** (0.016)	-0.009 (0.019)	0.058*** (0.017)	0.040* (0.023)	-0.008 (0.030)	0.057** (0.026)	0.033 (0.023)	-0.025 (0.034)	0.045* (0.024)
$\ln(\text{LONGDEBT}/K)_i,t$	0.009 (0.013)	0.049** (0.024)	-0.003 (0.016)	0.010 (0.012)	-0.008 (0.018)	0.005 (0.013)	-0.002 (0.014)	-0.014 (0.014)	-0.002 (0.015)	0.011 (0.012)	-0.001 (0.016)	0.012 (0.014)	0.014 (0.013)	0.013 (0.021)	0.017 (0.014)
$\ln(Q)_i,t-1$	0.069*** (0.015)	0.082*** (0.017)	0.049** (0.023)	0.075*** (0.013)	0.060*** (0.019)	0.073*** (0.016)	0.061*** (0.013)	0.070*** (0.015)	0.043** (0.017)	0.045*** (0.012)	0.040*** (0.013)	0.036** (0.017)	0.044*** (0.014)	0.032** (0.014)	0.037* (0.019)
$\ln(\text{INTEXP}/K)_i,t-1$	-0.029 (0.024)	-0.065 (0.054)	-0.019 (0.027)	0.023 (0.029)	-0.108** (0.051)	0.015 (0.030)	-0.020 (0.027)	-0.045 (0.043)	-0.016 (0.029)	0.038 (0.024)	0.061 (0.045)	0.019 (0.025)	0.040 (0.027)	0.097** (0.044)	0.013 (0.025)
$\ln(\text{INTINC}/K)_i,t-1$	0.034 (0.050)	-0.042 (0.077)	0.137* (0.073)	0.026 (0.036)	0.172*** (0.065)	-0.019 (0.062)	-0.087 (0.072)	-0.043 (0.042)	-0.049 (0.078)	-0.020 (0.057)	0.069 (0.085)	-0.040 (0.071)	-0.034 (0.070)	0.110 (0.106)	-0.084 (0.081)
$\ln(\text{DIV}/K)_i,t-1$	-0.060 (0.045)	-0.087 (0.057)	0.016 (0.053)	-0.117** (0.054)	0.023 (0.046)	-0.131** (0.063)	0.008 (0.049)	0.012 (0.092)	0.023 (0.066)	0.005 (0.048)	-0.000 (0.120)	0.013 (0.051)	0.059 (0.058)	0.139 (0.124)	0.047 (0.055)
$\ln(\text{STKISSUE}/K)_i,t-1$	0.032*** (0.008)	0.002 (0.018)	0.027*** (0.008)	0.023*** (0.006)	0.008 (0.012)	0.026*** (0.007)	0.015** (0.007)	0.009 (0.010)	0.019*** (0.007)	0.009 (0.006)	0.018** (0.009)	0.001 (0.008)	0.005 (0.007)	0.029** (0.012)	-0.007 (0.009)
$\ln(\text{STKREP}/K)_i,t-1$	-0.021* (0.012)	-0.009 (0.017)	-0.013 (0.017)	-0.018 (0.014)	-0.011 (0.016)	-0.020 (0.023)	0.022 (0.014)	0.014 (0.013)	0.032 (0.023)	-0.000 (0.012)	-0.028** (0.012)	0.002 (0.019)	-0.009 (0.015)	-0.025 (0.015)	0.000 (0.021)
$\ln(\text{NETDEBT}/K)_i,t-1$	0.004 (0.003)	0.008 (0.006)	-0.000 (0.004)	0.002 (0.004)	0.009* (0.005)	-0.003 (0.006)	0.003 (0.003)	-0.001 (0.005)	0.004 (0.004)	0.015*** (0.003)	0.016*** (0.006)	0.013*** (0.004)	0.013*** (0.004)	0.016** (0.007)	0.011** (0.005)
$\ln(\text{INTERNF}/K)_i,t-1$	0.025** (0.011)	0.025 (0.019)	0.036** (0.015)	0.057*** (0.015)	0.035** (0.017)	0.061*** (0.016)	0.050*** (0.013)	0.056*** (0.019)	0.055*** (0.016)	0.049*** (0.012)	0.008 (0.015)	0.073*** (0.016)	0.059*** (0.015)	0.017 (0.016)	0.090*** (0.018)
$\ln(\text{COREOFF})_i,t-1$	-0.019 (0.015)	0.003 (0.021)	-0.011 (0.024)	0.002 (0.011)	0.007 (0.013)	-0.007 (0.023)	0.000 (0.011)	0.010 (0.008)	-0.029 (0.022)	-0.007 (0.010)	0.004 (0.010)	-0.024 (0.018)	-0.007 (0.018)	0.016 (0.018)	-0.044 (0.031)
$\ln(\text{NONCORE}/\text{NONENERGYOFF})_i,t-1$	-0.007 (0.022)	-0.023 (0.023)	-0.008 (0.034)	-0.022 (0.022)	-0.038* (0.020)	-0.022 (0.037)	0.028** (0.013)	0.015 (0.014)	0.098*** (0.035)	0.025* (0.015)	0.017 (0.020)	0.059** (0.030)	0.017 (0.032)	-0.009 (0.039)	0.046 (0.058)
N. obs	9781	4813	4968	6518	3061	3457	8140	4293	3847	6123	3115	3008	3585	1370	2215
N. firms	1731	797	1149	1683	753	1130	1845	931	1099	1377	627	891	785	264	614
Instruments	433	433	433	432	431	432	433	433	433	432	432	432	429	428	429
ar1p	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000
ar2p	0.475	0.807	0.824	0.234	0.440	0.288	0.616	0.006	0.549	0.443	0.988	0.735	0.689	0.967	0.921
hanserp	0.008	0.020	0.180	0.002	0.047	0.054	0.002	0.024	0.077	0.122	0.062	0.173	0.252	1.000	0.312
Time effects	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Age	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes

Large and small are those firms in the upper and lower median of total asset. High and low offshoring sectors are those belonging upper and lower median of non-core non-energy offshoring. Estimations are all obtained by the Arellano-Bond two-step difference GMM. All instruments include up to two-years lags. ar1p and ar2p are Arellano-Bond test of first order and second order autocorrelation in the errors. hanserp is the Hansen-Sargan test of overidentifying restrictions. P-values are reported for all tests. \* indicates significance at 10%, \*\* significance at 5% and \*\*\* significance at 1%

## Appendix

Table A1. Definitions of variables in figures and estimations

Variable	Source
<i>Figure 1, Figure 2, Figure 3, Figure 5, Table 3</i>	
Net Financial Payouts - U.S. Economy = Dividends Paid - Equity and Investment Fund Shares	Financial Accounts of the USA, Table Z.1
Investment - U.S. Economy = Gross Fixed Capital Formation	Financial Accounts of the USA, Table Z.1 Compustat Data Items 115, 127 and 108
Net Financial Payouts - U.S. Listed Firms = Stock Repurchases + Dividends Paid - Share Buybacks	Compustat Data Item 128
Investment - U.S. Listed Firms = Capital Expenditures	World Input-Output Database
Offshoring = $\Sigma$ Intermediate Imported Inputs/Output (average of industries)	
<i>Figure 2</i>	
Operating Surplus - U.S. Economy = Net Operating Surplus + Consumption of Fixed Capital, Structures, Equipment, and Intellectual Property Products, including Equity REIT Residential Structures	Financial Accounts of the USA, Table Z.1
Operating Surplus - U.S. Listed Firms = Pretax income - Income Taxes + Interest Expense + Depreciation and Amortization	Compustat Data Items 170, 16, 15, 14
<i>Figure 3</i>	
U.S. Outward FDI stock	OECD
U.S. Outward FDI flow	Financial Accounts of the USA, Table Z.1
<i>Estimations</i>	
Capital Expenditures	Compustat Data Item 128
Net Property, Plant and Equipment	Compustat Data Item 8
Operating Income	Compustat Data Item 13
Sales	Compustat Data Item 12
Tobin's Q	Compustat Data Items 6, 34, 142
Long Debt	Compustat Data Item 142
Interest Expense	Compustat Data Item 15
Interest and Investment Income	Compustat Data Items 62, 55
Cash Dividends	Compustat Data Item 127
Sale of Common and Preferred Stock	Compustat Data Item 108
Purchase of Common and Preferred Stock	Compustat Data Item 115
Net Debt Issue	Compustat Data Items 111, 114, 301
Internal Finance	Compustat Data Item 1

Table A2. Estimation results based on equations (1) and (2), instruments collapsed. Period: 1995-2011.

Dependent variable: $\ln(I/K)_i,t$	Financialisation model			Financialisation and offshoring model			High non-core non-energy offshoring sectors			Low non-core non-energy offshoring sectors		
	All	Large	Small	All	Large	Small	All	Large	Small	All	Large	Small
$\ln(I/K)_i,t-1$	0.274*** (0.018)	0.386*** (0.041)	0.219*** (0.020)	0.270*** (0.018)	0.389*** (0.041)	0.219*** (0.020)	0.230*** (0.026)	0.254*** (0.062)	0.200*** (0.026)	0.301*** (0.029)	0.507*** (0.057)	0.221*** (0.033)
$\ln(\pi/K)_i,t-1$	0.012 (0.008)	0.045*** (0.014)	0.005 (0.008)	0.014* (0.008)	0.053*** (0.014)	0.007 (0.008)	0.022* (0.012)	0.036* (0.020)	0.017 (0.013)	0.009 (0.011)	0.067*** (0.022)	0.002 (0.011)
$\ln(S/K)_i,t-1$	0.018 (0.014)	-0.031 (0.031)	0.027* (0.016)	0.013 (0.014)	-0.044 (0.030)	0.025 (0.017)	0.035 (0.023)	-0.019 (0.048)	0.034 (0.027)	-0.017 (0.023)	-0.129*** (0.041)	0.008 (0.028)
$\ln(\text{LONGDEBT}/K)_i,t$	-0.007 (0.012)	0.004 (0.024)	-0.015 (0.015)	-0.009 (0.012)	-0.010 (0.023)	-0.012 (0.015)	0.012 (0.019)	-0.047 (0.039)	0.025 (0.021)	-0.032** (0.015)	-0.038* (0.022)	-0.043** (0.020)
$\ln(Q)_i,t-1$	0.062*** (0.010)	0.073*** (0.011)	0.057*** (0.013)	0.062*** (0.010)	0.075*** (0.011)	0.058*** (0.013)	0.051*** (0.014)	0.068*** (0.017)	0.049*** (0.019)	0.072*** (0.015)	0.080*** (0.014)	0.064*** (0.020)
$\ln(\text{INTEXP}/K)_i,t-1$	-0.001 (0.020)	0.011 (0.040)	-0.007 (0.023)	0.001 (0.021)	0.006 (0.041)	-0.003 (0.023)	-0.007 (0.027)	-0.033 (0.054)	0.010 (0.030)	0.032 (0.034)	0.123** (0.048)	0.004 (0.039)
$\ln(\text{INTINC}/K)_i,t-1$	0.008 (0.040)	0.090* (0.053)	0.002 (0.050)	0.012 (0.040)	0.113** (0.053)	-0.003 (0.050)	0.081 (0.050)	0.204*** (0.074)	0.075 (0.062)	-0.028 (0.073)	0.073 (0.092)	-0.016 (0.084)
$\ln(\text{DIV}/K)_i,t-1$	-0.076** (0.034)	-0.108** (0.052)	-0.052 (0.043)	-0.072** (0.034)	-0.090* (0.053)	-0.048 (0.043)	-0.077* (0.043)	-0.089 (0.057)	0.002 (0.067)	-0.061 (0.055)	0.012 (0.104)	-0.045 (0.060)
$\ln(\text{STKISSUE}/K)_i,t-1$	0.021*** (0.004)	0.018*** (0.007)	0.020*** (0.005)	0.022*** (0.004)	0.018*** (0.007)	0.020*** (0.005)	0.030*** (0.006)	0.027*** (0.010)	0.029*** (0.007)	0.014** (0.006)	0.006 (0.009)	0.012 (0.007)
$\ln(\text{STKREP}/K)_i,t-1$	-0.015** (0.008)	-0.020* (0.010)	-0.012 (0.012)	-0.014* (0.008)	-0.024** (0.010)	-0.011 (0.012)	-0.024** (0.009)	-0.038*** (0.014)	-0.028* (0.015)	-0.006 (0.011)	-0.009 (0.014)	0.003 (0.017)
$\ln(\text{NETDEBT}/\text{ISSUE}/K)_i,t-1$	0.006** (0.002)	0.006* (0.003)	0.005* (0.003)	0.006*** (0.002)	0.008*** (0.003)	0.006* (0.003)	0.002 (0.003)	0.008* (0.004)	-0.001 (0.004)	0.010*** (0.003)	0.008* (0.004)	0.011*** (0.004)
$\ln(\text{INTERNF}/K)_i,t-1$	0.050*** (0.009)	0.017 (0.012)	0.062*** (0.011)	0.046*** (0.009)	0.011 (0.012)	0.060*** (0.012)	0.034*** (0.012)	-0.001 (0.018)	0.052*** (0.015)	0.051*** (0.013)	0.033* (0.017)	0.060*** (0.016)
$\ln(\text{COREOFF})_i,t-1$				0.036 (0.049)	-0.031 (0.049)	0.059 (0.090)	0.044 (0.182)	0.347 (0.248)	0.118 (0.230)	0.078 (0.057)	-0.023 (0.056)	0.103 (0.099)
$\ln(\text{NONCORE}/\text{NONENERGYOFF})_i,t-1$				0.061 (0.083)	0.054 (0.072)	0.056 (0.172)	0.025 (0.100)	-0.207 (0.171)	-0.061 (0.125)	0.140*** (0.044)	0.087** (0.037)	0.266*** (0.098)
N. obs	30562	15282	15280	30562	15282	15280	16299	7874	8425	14263	7408	6855
N. firms	4674	2119	3211	4674	2119	3211	2659	1204	1832	2687	1252	1743
Instruments	39	39	39	43	43	43	43	43	43	43	43	43
ar1p	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ar2p	0.021	0.802	0.052	0.020	0.889	0.041	0.044	0.913	0.117	0.117	0.076	0.113
hansenp	0.035	0.281	0.117	0.020	0.089	0.107	0.161	0.070	0.263	0.043	0.375	0.245
Time effects	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Age	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes

Large and small are those firms in the upper and lower median of total asset. High and low offshoring sectors are those belonging upper and lower median of non-core non-energy offshoring. Estimations are all obtained by the Arellano-Bond two-step difference GMM. All instruments include up to two-years lags. ar1p and ar2p are Arellano-Bond test of first order and second order autocorrelation in the errors. hansenp is the Hansen-Sargan test of overidentifying restrictions. P-values are reported for all tests. \* indicates significance at 10%, \*\* significance at 5% and \*\*\* significance at 1%

Table A3. Estimation results based on equations (1) and (2), without nonsignificant variables. Period: 1995-2011.

Dependent variable: $\ln(I/K)_i,t$	Financialisation model			Financialisation and offshoring model			High non-core non-energy offshoring sectors			Low non-core non-energy offshoring sectors		
	All	Large	Small	All	Large	Small	All	Large	Small	All	Large	Small
$\ln(I/K)_i,t-1$	0.246*** (0.016)	0.324*** (0.030)	0.192*** (0.017)	0.246*** (0.016)	0.329*** (0.028)	0.187*** (0.017)	0.216*** (0.020)	0.203*** (0.043)	0.164*** (0.023)	0.250*** (0.022)	0.379*** (0.036)	0.184*** (0.025)
$\ln(\pi/K)_i,t-1$	0.017** (0.007)	0.053*** (0.012)	0.009 (0.007)	0.017** (0.007)	0.050*** (0.012)	0.011 (0.007)	0.026*** (0.010)	0.035** (0.017)	0.019* (0.011)	0.011 (0.010)	0.052*** (0.013)	0.007 (0.009)
$\ln(S/K)_i,t-1$	0.026** (0.011)	0.004 (0.019)	0.032*** (0.012)	0.023** (0.011)	0.009 (0.017)	0.029** (0.012)	0.038*** (0.013)	0.052* (0.028)	0.023* (0.013)	0.015 (0.014)	-0.009 (0.018)	0.030** (0.014)
$\ln(\text{LONGDEBT}/K)_i,t$												
$\ln(Q)_i,t-1$	0.069*** (0.007)	0.066*** (0.008)	0.071*** (0.009)	0.069*** (0.007)	0.069*** (0.009)	0.070*** (0.009)	0.070*** (0.009)	0.068*** (0.013)	0.081*** (0.013)	0.063*** (0.010)	0.058*** (0.011)	0.058*** (0.012)
$\ln(\text{INTEXP}/K)_i,t-1$												
$\ln(\text{INTINC}/K)_i,t-1$												
$\ln(\text{DIV}/K)_i,t-1$	-0.051* (0.031)	-0.039 (0.039)	-0.033 (0.037)	-0.044 (0.030)	-0.041 (0.040)	-0.031 (0.038)	-0.072** (0.032)	-0.087** (0.041)	-0.057 (0.048)	-0.011 (0.039)	-0.017 (0.069)	-0.009 (0.035)
$\ln(\text{STKISSUE}/K)_i,t-1$	0.018*** (0.004)	0.010* (0.005)	0.020*** (0.005)	0.018*** (0.004)	0.009* (0.005)	0.020*** (0.004)	0.024*** (0.005)	0.011 (0.012)	0.023*** (0.006)	0.007 (0.005)	0.006 (0.006)	0.008 (0.006)
$\ln(\text{STKREP}/K)_i,t-1$	-0.008 (0.007)	-0.013** (0.007)	-0.015 (0.010)	-0.008 (0.007)	-0.014** (0.006)	-0.015 (0.010)	-0.014* (0.008)	-0.015 (0.010)	-0.012 (0.013)	-0.004 (0.010)	-0.012 (0.009)	-0.004 (0.015)
$\ln(\text{NETDEBT}/\text{ISSUE}/K)_i,t-1$	0.004* (0.002)	0.007*** (0.003)	0.003 (0.002)	0.004** (0.002)	0.007** (0.003)	0.003 (0.002)	0.001 (0.003)	0.012*** (0.004)	-0.003 (0.003)	0.007*** (0.003)	0.005* (0.003)	0.007** (0.003)
$\ln(\text{INTERNF}/K)_i,t-1$	0.047*** (0.008)	0.030*** (0.010)	0.054*** (0.010)	0.051*** (0.008)	0.032*** (0.010)	0.055*** (0.010)	0.039*** (0.012)	0.018 (0.015)	0.059*** (0.015)	0.055*** (0.010)	0.032** (0.013)	0.056*** (0.012)
$\ln(\text{COREOFF})_i,t-1$				0.021 (0.013)	0.015 (0.011)	0.012 (0.022)	0.021 (0.015)	0.030* (0.016)	0.030 (0.023)	0.007 (0.011)	0.012 (0.008)	0.016 (0.022)
$\ln(\text{NONCORE}/\text{NONENERGYOFF})_i,t-1$				-0.046** (0.019)	-0.012 (0.017)	-0.020 (0.029)	-0.020 (0.017)	-0.024 (0.019)	-0.047 (0.029)	0.052*** (0.017)	0.011 (0.010)	0.072* (0.039)
N. obs	30562	15282	15280	30562	15282	15280	16299	7874	8425	14263	7408	6855
N. firms	4674	2119	3211	4674	2119	3211	2659	1204	1832	2687	1252	1743
Instruments	285	285	285	343	343	343	343	343	343	343	343	343
ar1p	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ar2p	0.055	0.984	0.103	0.057	0.917	0.117	0.059	0.747	0.192	0.255	0.153	0.185
hanserp	0.001	0.033	0.057	0.000	0.001	0.108	0.003	0.001	0.007	0.022	0.028	0.537
Time effects	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Age	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes

Large and small are those firms in the upper and lower median of total asset. High and low offshoring sectors are those belonging upper and lower median of non-core non-energy offshoring. Estimations are all obtained by the Arellano-Bond two-step difference GMM. All instruments include up to two-years lags. ar1p and ar2p are Arellano-Bond test of first order and second order autocorrelation in the errors. hanserp is the Hansen-Sargan test of overidentifying restrictions. P-values are reported for all tests. \* indicates significance at 10%, \*\* significance at 5% and \*\*\* significance at 1%

Table A4. Estimation results based on equations (1) and (2), different sizes. Period: 1995-2011.

Dependent variable: $\ln(l/K)_i,t$	Financialisation model		Financialisation and offshoring model		High non-core non-energy offshoring sectors		Low non-core non-energy offshoring sectors	
	Large	Small	Large	Small	Large	Small	Large	Small
$\ln(l/K)_i,t-1$	0.355*** (0.049)	0.134*** (0.022)	0.346*** (0.047)	0.119*** (0.022)	0.177*** (0.065)	0.074** (0.029)	0.376*** (0.061)	0.051 (0.036)
$\ln(\pi/K)_i,t-1$	0.020 (0.013)	0.008 (0.008)	0.016 (0.012)	0.008 (0.008)	0.054*** (0.018)	0.006 (0.011)	0.003 (0.014)	0.000 (0.008)
$\ln(S/K)_i,t-1$	0.004 (0.023)	0.036** (0.016)	0.009 (0.020)	0.043*** (0.015)	-0.000 (0.023)	0.018 (0.014)	0.000 (0.026)	0.073*** (0.019)
$\ln(\text{LONGDEBT}/K)_i,t$	0.012 (0.019)	0.015 (0.013)	0.015 (0.019)	0.011 (0.013)	0.047* (0.028)	0.004 (0.014)	-0.008 (0.021)	0.009 (0.016)
$\ln(Q)_i,t-1$	0.053*** (0.009)	0.064*** (0.012)	0.057*** (0.009)	0.062*** (0.012)	0.061*** (0.015)	0.069*** (0.017)	0.045*** (0.012)	0.046*** (0.016)
$\ln(\text{INTEXP}/K)_i,t-1$	-0.128*** (0.048)	0.016 (0.021)	-0.136*** (0.046)	0.008 (0.019)	-0.124** (0.053)	0.023 (0.022)	-0.050 (0.070)	-0.007 (0.025)
$\ln(\text{INTINC}/K)_i,t-1$	-0.045 (0.076)	0.021 (0.031)	-0.059 (0.075)	0.023 (0.029)	0.048 (0.084)	0.072 (0.058)	-0.068 (0.075)	-0.073 (0.052)
$\ln(\text{DIV}/K)_i,t-1$	-0.082 (0.099)	-0.007 (0.045)	-0.074 (0.100)	-0.012 (0.046)	-0.064 (0.062)	-0.044 (0.058)	-0.142 (0.124)	0.017 (0.065)
$\ln(\text{STKISSUE}/K)_i,t-1$	0.010 (0.013)	0.018*** (0.006)	0.009 (0.012)	0.017*** (0.006)	0.011 (0.014)	0.029*** (0.008)	0.008 (0.015)	0.012 (0.009)
$\ln(\text{STKREP}/K)_i,t-1$	-0.021* (0.011)	-0.011 (0.016)	-0.023** (0.011)	-0.013 (0.016)	-0.030* (0.018)	-0.014 (0.022)	-0.017 (0.014)	-0.005 (0.024)
$\ln(\text{NETDEBT}/\text{ISSUE}/K)_i,t-1$	0.013*** (0.005)	0.001 (0.004)	0.013*** (0.005)	0.001 (0.003)	0.015** (0.007)	-0.002 (0.005)	0.018** (0.007)	0.005 (0.004)
$\ln(\text{INTERNF}/K)_i,t-1$	0.039*** (0.012)	0.069*** (0.012)	0.040*** (0.011)	0.068*** (0.012)	0.025 (0.020)	0.064*** (0.015)	0.043** (0.017)	0.066*** (0.016)
$\ln(\text{COREOFF})_i,t-1$			0.013 (0.012)	0.011 (0.033)	0.061* (0.035)	0.044 (0.037)	0.023*** (0.009)	-0.038 (0.037)
$\ln(\text{NONCORE}/\text{NONENERGYOFF})_i,t-1$			0.014 (0.012)	-0.059 (0.045)	-0.037 (0.028)	0.002 (0.045)	0.019* (0.011)	0.095 (0.079)
N. obs	7643	7640	7643	7640	3783	4284	3860	3356
N. firms	1019	1910	1019	1910	586	1090	616	1006
Instruments	375	375	433	433	433	433	433	433
ar1p	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000
ar2p	0.893	0.258	0.877	0.332	0.657	0.572	0.323	0.699
hansenp	0.027	0.441	0.037	0.591	0.073	0.198	0.239	0.517
Time effects	yes	yes	yes	yes	yes	yes	yes	yes
Age	yes	yes	yes	yes	yes	yes	yes	yes

Large and small are those firms in the upper and lower 25% of total asset. High and low offshoring sectors are those belonging upper and lower median of non-core non-energy offshoring. Estimations are all obtained by the Arellano-Bond two-step difference GMM. All instruments include up to two-years lags. ar1p and ar2p are Arellano-Bond test of first order and second order autocorrelation in the errors. hansenp is the Hansen-Sargan test of overidentifying restrictions. P-values are reported for all tests. \* indicates significance at 10%, \*\* significance at 5% and \*\*\* significance at 1%

