

A stylized illustration of a South African landscape. The top half shows a bright yellow sky with a sun or moon. Below the sky are rolling hills in shades of green and yellow. In the middle ground, there is a silhouette of a city skyline with various buildings and a church spire. To the right, there are three wind turbines. The bottom half of the banner is a solid dark green color.

SA-TIED

Southern Africa – Towards Inclusive Economic Development

WORKING PAPER 231

Market power and merger control in South Africa

C. Friedrich Kreuser,¹ Michael Kilumelume,² and Rulof P. Burger³

May 2024



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Market power and merger control in South Africa

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Abstract: We estimate structural, materials, and labour markups for the South African economy at the three-digit industry level for 2012–19. The fall in structural labour and materials markups found for the numerical majority of industries are generally isolated to smaller industries, with industries accounting for a higher proportion of sales generally experiencing smaller downward shifts. We show that materials-based markups are increasing over this period. Upward markup pressure in structural and labour markups are primarily driven by compositional shifts of surviving firms, while materials markup growth is driven by the average firm in a given sector. We show that merger intensity is positively related to structural markup growth, with a 1% increase in the proportion of cumulative mergers over 2013–18 being related to around a 0.27% increase in structural markup growth over the period from 2012 to 2019. We find that large vertical mergers are positively related to structural and materials markup growth while being negatively related to labour markup growth. Large horizontal mergers generally increase labour and structural markups.

Key words: market power, markups, merger control

JEL classification: G34, L11, L4

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1 Introduction

Increasing the competitiveness of the South African economy is key to improving productivity and economic growth in the country and has been the focus of government policy for at least the past decade.¹ Concentration, market power,² and productivity growth³ have received extensive attention in the recent South African literature. At present, there is no direct evidence on the extent to which anti-competitive behaviour or changes in ownership structure are behind welfare-reducing trends in the South African economy. Kreuser and Brink (2021) suggest that industries with low and declining allocative efficiency growth have been subject to Competition Commission (CC) activity, implying that anti-competitive behaviour may be behind these welfare-reducing trends. In this paper, we explore the role of mergers in explaining recent markup trends and seek to identify the types of mergers that may cause upward pressure in firm market power as well as the channels through which this pressure is exerted.

We estimate markups using the Structural-Leontief approach of De Loecker and Scott (2022), as well as the more commonly used labour and materials markup measures based on a Translog gross output production function. We show that except for materials markups, markups are generally falling for the numerical majority of industries despite higher total sales industries experiencing more stable changes in markups. We estimate the effect of mergers on changes in markups overall in a combination of periods over 2012–19 and find a generally positive relationship for both labour and structural markups. Conditional mergers are related to falling labour markups and increasing structural markups for periods longer than three years. Unconditional mergers tend to sharply increase labour-based markups. Together, these results suggest that firms extract rents where it is easier. We show that large mergers generally drive markup trends, but importantly, we show that vertical mergers are crucial in affecting materials markup growth. Our results suggest that the integration of the supply chain of the South African economy is crucial to understanding the aggregate effect of economic policies.

This paper is organized as follows. In Section 2, we provide a general background of the markup literature in the South African economy and introduce our markup measures and the decomposition approach; Section 3 discusses the data along with the main trends in input share, factor elasticity, and markup growth; Section 4 provides our empirical methodology and results; and Section 5 concludes.

2 Background and related literature

The literature on markup growth in South Africa is relatively mixed in its conclusions, with methods and underlying variables used likely explaining much of the difference. Budlender (2019) provides an extensive overview of the South African literature on concentration and markups and argues that no strong conclusions can be made based on the firm-level administrative data from 2010 to 2014. In this section, we discuss the measurement of markups to inform our discussion of the literature relevant to this paper. This section draws from Kreuser (2022).

¹ See, for example, the New Growth Path of 2010 (Economic Development Department 2011) and the National Development Plan of 2012 (National Planning Commission 2012).

² See, for example, Dauda et al. (2019), Budlender (2019), Fedderke et al. (2018), Amodio et al. (2020), and Aterido et al. (2019).

³ See, for example, Kilumelume et al. (2021), Kreuser and Newman (2018), Kreuser and Brink (2021), and Newman et al. (2019).

2.1 Measuring market power

When discussing competition and market power, the main object of interest is the extent to which firms can extract rents from consumers (De Loecker et al. 2020). Concentration measures are generally viewed as imperfect measures of market power as they generally fail to measure the extent to which firms can extract rents, meaning to price above their marginal costs (De Loecker et al. 2020). In this paper, we focus on markups as the most consistent measure of market power as it directly maps to the extent to which firms are pricing above their marginal costs (De Loecker et al. 2020). The theoretical measure of markup is defined as in (1), where P is the price charged by the firm and c is the marginal costs of the firm.

$$\mu \equiv \frac{P}{c} \quad (1)$$

In a standard heterogeneous firm model, the economy has N firms that differ in their productivity, $\Omega_{i,t}$, and potentially production technology, $Q_{i,t}(\cdot)$. These firms are described in (2) where $\mathbf{V}_{i,t} = \{V_{i,t}^1, \dots, V_{i,t}^J\}$ is the vector of J potential variable inputs and $\mathbf{K}_{i,t} = \{K_{i,t}^1, \dots, K_{i,t}^D\}$ is a vector of D potential dynamic inputs. Variable inputs can adjust frictionlessly—that is, they can respond to shocks in this period—whereas dynamic inputs take time to adjust. Here, we only discuss variable inputs, but the same results must hold for dynamic inputs where the amount paid to the input will include its adjustment costs.

$$Q_{i,t} = Q_{i,t}(\Omega_{i,t}, \mathbf{V}_{i,t}, \mathbf{K}_{i,t}) \quad (2)$$

The firm seeks to minimize the cost function in (3) subject to their output constraint, $Q_{i,t}(\cdot) - \bar{Q}_{i,t}$. In (3), $\mathbf{R}_{i,t} = \{R_{i,t}^1, \dots, R_{i,t}^J\}$ represents the payments to variable inputs, $\underline{\mathbf{R}}_{i,t} = \{\underline{R}_{i,t}^1, \dots, \underline{R}_{i,t}^D\}$ represents the payments to dynamic inputs $d \in D$, these payments include adjustment costs. Finally, $F_{i,t}$ represents the firm's fixed costs.

$$\min_{\mathbf{V}_{i,t}, \mathbf{K}_{i,t}} \mathbf{R}_{i,t} \mathbf{V}_{i,t} + \underline{\mathbf{R}}_{i,t} \mathbf{K}_{i,t} + F_{i,t} \quad (3)$$

The firm's minimization leads to the Lagrangian in (4).

$$\mathcal{L} = \mathbf{R}_{i,t} \mathbf{V}_{i,t} + \underline{\mathbf{R}}_{i,t} \mathbf{K}_{i,t} + F_{i,t} - \lambda_{i,t} (Q_{i,t}(\cdot) - \bar{Q}_{i,t}) \quad (4)$$

Following De Loecker and Warzynski (2012)(DLW), for any variable input $j \in J$, the first order condition will yield (5), which can be rewritten to yield the elasticity of output for each variable input j as in (6).⁴

$$\frac{\partial \mathcal{L}}{\partial V_{i,t}^j} = R_{i,t}^j - \lambda_{i,t} \frac{\partial Q(\cdot)}{\partial V_{i,t}^j} = 0 \quad \forall j \in J \quad (5)$$

$$\theta_{i,t}^j = \frac{V_{i,t}^j}{Q_{i,t}} \frac{\partial Q(\cdot)}{\partial V_{i,t}^j} = \frac{1}{\lambda_{i,t}} \frac{R_{i,t}^j V_{i,t}^j}{Q_{i,t}} \quad \forall j \in J \quad (6)$$

Then, since λ is the marginal value of relaxing the constraint, it is a direct measure of marginal cost to the firm so that $\mu_{i,t} = \frac{P_{i,t}}{\lambda_{i,t}}$, where $P_{i,t}$ is the price of the firm's output. The relationship between markups and the elasticity of output with respect to the variable input can be written as in (7), where the markup

⁴ The multiplying $V_{i,t}^j / F_{i,t}(\cdot)$ on both sides and rewriting will yield an equation for the elasticity of output for variable input j ,
 $\theta_{i,t}^j = \frac{\partial Q_{i,t}(\cdot)}{\partial V_{i,t}^j}$

is the ratio of the output elasticity of any variable input j to its share in total output $\frac{R_{i,t}^j V_{i,t}^j}{P_{i,t} Q_{i,t}} = o_{i,t}^j$.

$$\mu_{i,t} = \theta_{i,t}^j \frac{P_{i,t} Q_{i,t}}{R_{i,t}^j V_{i,t}^j} = \frac{\theta_{i,t}^j}{o_{i,t}^j} \quad \forall j \in J \quad (7)$$

The majority of the literature obtains the value of markups in (7) by estimating the value added production function (De Loecker and Warzynski 2012; Mertens 2022). This approach requires that the production function is as in (8), where $g(M_{i,t})$ is some linear function of materials inputs which are then purged from variable inputs so that $\mathbf{V}_{\notin M} = \tilde{\mathbf{V}}$. $\tilde{Q}_{i,t}$ is the value added production function. The value added approach yields the same result as (7) except that the elasticity of inputs is measured with respect to the share of the variable input in value added $s_{i,t}^j = \frac{R_{i,t}^j V_{i,t}^j}{P_{i,t} \tilde{Q}_{i,t}}$.

$$Q_{i,t} = \min\{g(M_{i,t}), \tilde{Q}_{i,t}(\Omega_{i,t}, \tilde{\mathbf{V}}_{i,t}, \mathbf{K}_{i,t})\} \quad (8)$$

$$\mu_{i,t} = \frac{\theta_{i,t}^j}{s_{i,t}^j} \quad \forall j \in J \quad (9)$$

Mertens (2022) and Dobbelaere and Mairesse (2013) argue that the markup measure of De Loecker and Warzynski (2012) using only the labour share of the firm should not be interpreted as indicative of purely output market power but rather as the weighted market power of the firm in its relevant input and output markets. Where imperfect competition exists in input markets, the price vector becomes $\mathbf{R}' = \{\mathbf{R}, \underline{\mathbf{R}}\} = \{(1 + \tau_{i,t}^1)^{-1} R_{i,t}^1, \dots, (1 + \tau_{i,t}^J)^{-1} R_{i,t}^{J+D}\}$ so that $\tau_{i,t}^j > -1$ reflects the firm-time-specific wedge for input j , where $\tau < 0$ reflects firm power in the input markets for both dynamic and variable inputs. The first order condition of the firm's problem then yields (10), and the resulting markup implied by this condition is given in (11), which now includes a measure of the firm's market power for input j $\gamma_{i,t}^j = \frac{1}{1 + \tau_{i,t}^j}$. Where the wedge is zero, $\gamma_{i,t}^j = 1$, (11) coincides with (7), where the firm has monopsony power in the input market $\gamma > 1$ so that, if $\gamma = 1$ is assumed, product market power is incorrectly assigned to firms where they actually have input market power (Mertens 2019).

$$\frac{\partial Q(\cdot)}{\partial V_{i,t}^j} = \frac{R_{i,t}^j}{(1 + \tau_{i,t}^j) \lambda_{i,t}} \quad (10)$$

$$\mu_{i,t} = \theta_{i,t}^j \frac{1}{o_{i,t}^j} \frac{1}{\gamma_{i,t}^j} \quad (11)$$

The result in (11) implies that the firm's true product market markup can only be obtained by using an input over which the firm is a pure price taker. The approach further allows for the identification of input market power in (12), where the output market markup must be constant across all inputs so that the ratios of markups, (12), exactly identifies input market power of an input, $\gamma_{i,t}^j$, when compared to a perfectly competitive input, $\gamma_{i,t}^M = 1$. We do not assert that materials are fully flexible inputs in this paper and instead focus on the markup growth of both labour and material inputs within the context of mergers in the South African economy.

$$\frac{\gamma_{i,t}^j}{\gamma_{i,t}^M} = \frac{\theta_{i,t}^j R_{i,t}^M M_{i,t}}{\theta_{i,t}^M R_{i,t}^j V_{i,t}^j} \quad (12)$$

The standard markup result in (9) must hold for all variable inputs. Under the assumption of no pure profits accruing to variable inputs and no imperfect competition in input markets, De Loecker et al. (2020) and Baqaee and Farhi (2020) use a composite of all variable inputs to estimate markup. Their approach allows them to estimate the gross output production function with two inputs, the cost of goods sold and fixed capital stock, and then back out markup as in (9). Note, however, that this approach does not solve the misattribution of input market power to output market power.⁵ The resulting markup from this function will then be the weighted average of input market powers, where $R_{i,t} V_{i,t}$ can be interpreted as the weight of market power through input γ .⁶ Where the firm has input market power, the true marginal costs of labour are not observed directly. In recent work, Hashemi et al. (2022) formalize the consequences of the above and show that measures using the labour cost only likely capture input distortions.

De Loecker and Scott (2022) propose using the structural value added production function of Gandhi et al. (2017) to estimate markups. In this formulation, markups are calculated by estimating a value added production function, but instead of using value added measured as the output minus materials, output by itself is used. In this approach, the production function is estimated as discussed in Kreuser and Brink (2021) using the Akerberg et al. (2015) (ACF) approach, but instead of estimating markups as in (9), markups are estimated as in (13). Note that this approach does not entirely solve the misattribution error described above but allows for the estimation of a markup measure that captures both sources of costs for the firms in a manner consistent with the implied Leontief production function. We estimate this function using the Cobb-Douglas functional form to remain consistent with previous literature while using the Translog production function when estimating markups for inputs as in (11).

$$\mu_{i,t}^S = \frac{1}{\frac{1}{\theta_{i,t}^L} \frac{w_{i,t} L_{i,t}}{Sales_{i,t}} + \frac{Materials_{i,t}}{Sales_{i,t}}} \quad (13)$$

2.2 South African literature

Aghion et al. (2008) use a variety of industry-level data from 1970–2004, as well as publicly listed firm data from the early 1980s onward, to show that markups are higher in South African manufacturing than in other countries. Aghion et al. (2008) also show that historically higher markups are related to lower productivity growth. They employ two proxies of the Lerner index to support their findings. We only report the first as it is readily calculable for the purposes of this paper.⁷ The first calculates the differential between the value added and the total wage bill as a portion of gross output as in equation (14).⁸ In terms of level, Fedderke and Hill (2011) find that markups in South African manufacturing were on average around 50% for the period 1970–2004.

⁵ Since the vector of aggregate variable inputs solves the cost minimization, the treatment of $\mathbf{R}_{i,t} \mathbf{V}_{i,t}$ as a scalar seems unproblematic.

⁶ See Mertens (2022) for a more detailed discussion.

⁷ Aghion et al. (2008) calculate two additional measures of markups; we do not calculate these measures as we do not calculate the real cost of capital in this paper.

⁸ The second is the difference between output, wage, and capital costs as a proportion of output as: $PCM2 = \frac{pY - wL - rK}{pY}$

$$PCM1 = \frac{VA - Wages}{Sales} \quad (14)$$

Fedderke et al. (2018) use the CITIRP5 data from 2010–2012 to calculate markups at the four-digit industry level. They find high markups and concentration in the South African economy. They calculate markups as in (15), where $Sales_{i,t}$ are the sales of a firm and $Cost_{i,t}$ is the variable cost of the firm (including its labour costs). Comparing their estimates to those found by Fedderke and Hill (2011), they find that markups in 2010–2012 were lower than in the period 1985–95, which they attribute to economic liberalization. They show that three-digit industry concentration, measured using the CR4, CR8, and CR5% measures of concentration, has increased compared to 2001.

$$\mu_i^F = \frac{Sales_{i,t} - Cost_{i,t}}{Cost_{i,t}} \quad (15)$$

Fedderke et al. (2018) find no relationship between markups and concentration levels. They argue that barriers to entry may play a role in explaining market structure and show that industries with high concentration rates and high average assets tended to have higher markups.

There exists varied South African literature on markups and concentration using the methodology of De Loecker and Warzynski (2012). Budlender (2019) provides markup estimates using both the accounting and De Loecker and Warzynski (2012) approach. Accounting markups are calculated as in (16), where Budlender (2019) notes that this measure still requires the assumption that $AVC = MC$. Note that the measure below is related to the Lerner index of (15) by subtracting unity.⁹

$$\mu_i^A = \frac{TR_{i,t}}{TVC_{i,t}} = \frac{P_{i,t}Q_{i,t}}{C_{i,t}Q_{i,t}} = \frac{P_{i,t}Q_{i,t}/Q_{i,t}}{C_{i,t}Q_{i,t}/Q_{i,t}} = \frac{P_{i,t}}{C_{i,t}} = \frac{AR_{i,t}}{AVC_{i,t}} \quad (16)$$

Budlender (2019) finds a decline in markups over the period 2010–14 but also finds that the DLW and accounting markup measures are strongly correlated. Budlender (2019) obtains $\theta_{i,t}^x$ for labour input using a value added Translog production function, while Dauda et al. (2019) do the same for material inputs using a gross output formulation. Dauda et al. (2019) find generally increasing markups over the 2010–14 period.¹⁰ The difference between these findings is most likely due to the fact that the authors use labour and materials as their input measures, where we interpret the functions in terms of wedges following the work of Mertens (2022) and Hashemi et al. (2022), which likely indicate that labour wedges have been declining in South Africa—or rather that materials wedges are increasing. Amodio et al. (2020) show that high employment concentration in high markup sectors is associated with higher unemployment and lower rates of transitions from unemployment to employment at the municipal level. It should be noted that Amodio et al. (2020) use the De Loecker and Warzynski (2012) approach for

⁹ Note $\frac{P}{C} - 1 = \frac{P-C}{C} \times \frac{Q}{Q} = \frac{PQ-CQ}{CQ} = \frac{Sales-Cost}{Cost}$.

¹⁰ It should be noted that both papers use the Akerberg et al. (2015) (ACF) approach. ACF, Bond et al. (2021), and Gandhi et al. (2020) (GNR) caution against using the standard control function approach in gross-output production functions as used in Dauda et al. (2019). Bond et al. (2021) question the validity of the use of the lag of a flexible input as an instrument in general. GNR shows that under the scalar unobservable assumption and the Markov assumption of the productivity process, the intermediate demand equation required for identification is a linear function of the TFP shock and a time-fixed effect, thereby removing all of the instrument's power. In this context, the paper will follow the suggestions of De Loecker (2021) and De Loecker et al. (2020) by adding joint controls for input price variation. Like Budlender (2019), we will add measures of market power in input and output markets, but we will expand the analysis to include trade intensity, multinational status, and other variables.

value added production functions where their markup measure is weighted by employment and their concentration measures use employment concentration.

2.3 Markup decomposition

In this paper we are mainly concerned with the growth of markups in the South African economy. In this context, our research is related to the global literature on the rise in concentration and market power in relation to productivity growth. Globally, markups and concentration have been on the increase (De Loecker et al. 2021), with substantial literature suggesting that the rise in markups and concentration is related to the shift of activity towards larger and more productive firms (Autor et al. 2020). In this context, there is limited evidence in the South African literature on the extent to which trends in markups are driven by shifts of activity towards high markup firms or due to increases in the average markups. In terms of productivity, Kreuser and Brink (2021) suggest that industries fined for anti-competitive behaviour were also those with lower allocative efficiency growth. In terms of the markup literature itself, Dauda et al. (2019) find that larger firms, higher intensity exporters, and firms accounting for higher proportions of output have higher markups. This result contradicts that of Fedderke et al. (2018) and Budlender (2019), who find that larger firms have lower markups using the accounting measure. Budlender (2019) finds mixed results on whether larger firms have higher markups depending on the industry. In this paper we use the Melitz-Polanec decomposition to track the movement of markups in industries.

The Melitz-Polanec (MP hereafter) decomposition is a dynamic version of the Olley-Pakes (OP hereafter) productivity decomposition, which allows for firm entry and exit (Melitz and Polanec 2015; Olley and Pakes 1996). In both cases, the aggregate value of some firm-specific variable $x_{i,t}$, such as labour share, productivity, or factor elasticity, is constructed as the share weighted average of that variable, as in (17), with $s_{i,t}$ being the share of firm i in the weighting measure such that the shares sum to unity.

$$X_t = \sum_i s_{i,t} x_{i,t} \quad (17)$$

The static OP approach decomposes this aggregate value into a within- and between-firm component, where the between-firm component captures the extent to which firms with larger market shares also have higher values of the variable of interest. The OP decomposition is shown in (18), where $\bar{x}_t = \frac{1}{n_t} \sum_i x_{i,t}$ is the simple unweighted average of the variable in question and \bar{s}_t is the average of the firm's share, usually market share, over the time period under consideration. The second component of the decomposition is the covariance between the firm's share and the variable of interest.

$$X_t = \bar{x}_t + \sum_i (s_{i,t} - \bar{s}_t)(x_{i,t} - \bar{x}_t) = \bar{x}_t + cov(s_{i,t}, x_{i,t}) \quad (18)$$

The MP decomposition makes the OP decomposition dynamic and allows for entry and exit. The approach defines firms according to their status across two periods. In period one, a firm can either be a would-be survivor ($S, 1$), or an exiter ($X, 1$), while in period two, a firm can either be a survivor ($S, 2$) or an entrant ($E, 2$). Defining the aggregate share of each group in a period as $s_{G,t} = \sum_{i \in G} s_{i,t}$, with $s_{i,1} = s_{S,1} + s_{X,1}$ and $s_{i,2} = s_{S,2} + s_{E,2}$, a group's aggregate value of some variable x is then simply $X_{G,t} = \sum_{i \in G} \frac{s_{i,t}}{s_{G,t}} x_{i,t}$. MP then decomposes the variable of interest in period one and two as in (19) and (20), respectively.

$$X_1 = s_{S,1} X_{S,1} + s_{X,1} X_{X,2} = X_{S,1} + s_{X,1} (X_{X,1} - X_{S,1}) \quad (19)$$

$$X_2 = s_{S,2}X_{S,2} + s_{E,2}X_{X,2} = X_{S,2} + s_{E,2}(X_{X,2} - X_{S,2}) \quad (20)$$

The change in the aggregate value of interest is defined as $\Delta X = X_2 - X_1$ and can be written as in (21), where $\Delta \bar{x}_s$ is the change in the average value in question, i.e. the within change, and $\Delta cov_s(s, x)$ is the change in the covariance of the firm's weight and variable of interest, i.e. the between change. The remaining terms are the entry and exit terms.

$$\begin{aligned} \Delta X_2 &= (X_{S,2} - X_{S,1}) + s_{E,2}(X_{E,2} - X_{S,2}) - s_{X,1}(X_{X,1} - X_{S,1}) \\ &= \Delta \bar{x}_s + \Delta cov_s(s, x) + s_{E,2}(X_{E,2} - X_{S,2}) - s_{X,1}(X_{X,1} - X_{S,1}) \end{aligned} \quad (21)$$

We decompose these effects in the functions below.

$$MP_{i,t-j}^{Aggregate} = \sum_{p=t-j}^t \Delta X_p \quad (22)$$

$$MP_{i,t-j}^{Stayers} = \sum_{p=t-j}^t (X_{S,p} - X_{S,p-1}) = X_{S,t} - X_{S,t-1} + X_{S,t-1} - X_{S,t-2} \dots = X_{S,t} - X_{S,t-j} \quad (23)$$

$$MP_{i,t-j}^{Within} = \sum_{p=t-j}^t (\Delta \bar{x}_{s,p}) \quad (24)$$

$$MP_{i,t-j}^{Between} = \sum_{p=t-j}^t (\Delta cov_{s,p}) \quad (25)$$

$$MP_{i,t-j}^{Entry} = \sum_{p=t-j}^t s_{E,p}(X_{E,p} - X_{S,p}) \quad (26)$$

$$MP_{i,t-j}^{Exit} = \sum_{p=t-j}^t -s_{X,p}(X_{X,p-1} - X_{X,p-1}) \quad (27)$$

3 Data

We use the beta version of the CITIRP5 in our analysis (NT and UNU-WIDER 2023).¹¹ We start by assigning each firm only one industry using their imputed main industry code from Budlender and Ebrahim (2020). Where firms switch industries, we use the most common industry for a firm in general, and in cases of a tie we use the most recent industry information. Where a firm does not have a main industry code, we impute a code by assigning the firm's profit code to the most common corresponding SIC code by firms with both profit and SIC codes. We construct our key measures of interest as follows. We calculate value added as in (28); this approach is similar to that used by Budlender (2019). Sales is simply the sales or turnover amount available in the data, whereas cost is the cost of sales amount reported. While it is still not clear whether labour costs are consistently reported in cost of sales, we use

¹¹ See Table A1 for a list of variables used.

this approach as it appears to get us closer to the EBITDA+ depreciation definition used in the wider literature (Gal 2013; Kreuser 2022). Our materials measure generally purges labour costs.

$$VA_{i,t} = Sales_{i,t} - Cost_{i,t} + Labour_{i,t} + Depreciation_{i,t} \quad (28)$$

We assume a depreciation rate of 10% of the perpetual inventory fixed capital stock measure where available. The construction of this measure is discussed in Kreuser and Brink (2021). Where the perpetual inventory capital stock measure is missing for a firm, we use the deflated fixed assets variable calculated as the sum of property, plant, and equipment and other fixed capital stock. We use the sum of these two variables to construct the depreciation rate, where appropriate.¹² Our factor input markup estimates are based on the Gross-Output Translog production function, whereas we estimate a structural Leontief production function in its Cobb-Douglas form for our structural markup measures. The South African literature has discussed the application of these approaches to the CIT data extensively, and the reader is directed to Kreuser and Brink (2021), Budlender (2019), and Dauda et al. (2019). We estimate the coefficients of interest using the Prodest package on two-digit industries. In our decomposition results, we use three-digit industries.

In Table A2 we show the number of firms by one-digit industry for the differing samples. We see that, despite the large numbers of firms in each industry year, the majority of firms are lost due to missing observations or negative values in any of the key variables. As seen, this restriction leaves relatively few firms—around 7% of agricultural; 10% of mining; 30% of manufacturing; 7.5% of construction; 27% of trade; 10% of transport; 13% of accommodation; 14% of information and communication; 2% of financial and insurance activities; 1% of real estate activities; 9% of professional, scientific, and technical activities; 8% of administrative and support service activities; 6% of arts, entertainment, and recreation; and 4% of other service activities. We exclude the electricity, water, education, and healthcare sectors due to substantial government involvement in said industries. Once restricting the sample to firms with consistent data for all periods of reported data, our remaining sample contains on average 70% of the firms in the valid sample above. While a small final sample may limit the analysis’s power and generalizability, the restrictions are applied to improve the quality of the data by reducing the impact of errors and inconsistencies. In Table A3 we show that the firms in our final sample generally account for between 20% and 77% of total sales across industries. The best-represented sectors are manufacturing at around 80% of total sales, wholesale and retail trade at around 78%, and agriculture at around 50%. The sample captures around 60% of all sales of the industries we examine. In our regression sample, we remove all industries that have less than 20 firms in any year between 2011 and 2019. We do not report the actual sales in any of the three-digit industries or of the remaining two-digit industries due to confidentiality concerns.

In Table A4 we show that our sample restrictions appear to slightly favour firms with lower labour shares in the majority of industries, with the exception of transportation and storage and real estate. We do find, however, that the majority of the fall is due to missing and negative data points.

3.1 Trends in input shares

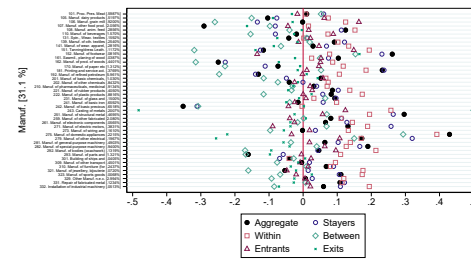
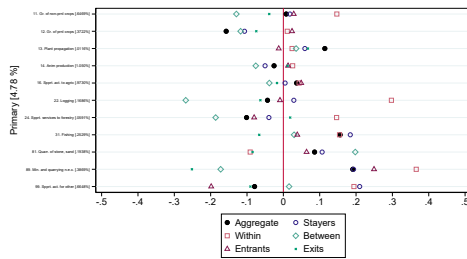
In this section we decompose changes in input shares in the South African economy following the approach of Kreuser (2022) and Autor et al. (2020). Recalling that markups are decreasing in the labour share, if all else stays equal, we should anticipate markup growth to be inversely related to changes in the labour share even under mismeasurement in the production function. In Figure 1, we show the Melitz-Polanec decomposition from 2012–19 for labour shares of value added weighted by value added of the

¹² See Appendix A for more detail.

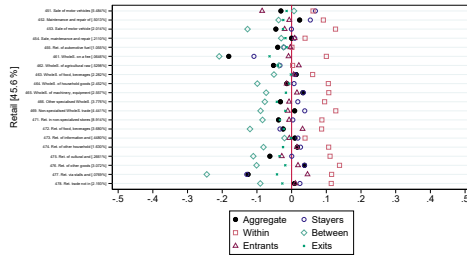
firm. We do not find evidence of consistently falling labour shares as found in developed economies; instead, we find that around 60% of industries have increasing aggregate labour shares of value added. This result is mostly driven by an increase in the labour share of the average firm in the given three-digit industry. A total of 92% of industries show increases in the labour share over 2012–19 due to this component. At the same time, around 71% of industries experience downward pressure on labour share growth due to the co-movement of activity and lower labour share firms. The entry and exit components appear vastly different, with about 55% of industries experiencing upward pressure in aggregate labour share due to new firms entering the market, whereas the exit of firms is generally related to a fall in the labour share in around 78% of industries. These results are expected. If exiting firms are smaller and not yet able to get returns to economies of scale, we should expect them to have higher labour shares in the average industry. At the same time, entering firms are the converse of this. Figure 2 provides the same decomposition as Figure 1 but here takes the labour share of sales and weighting firms by sales. The figures are more stark than the value added equation, with 65% of industries experiencing increasing aggregate labour shares but 85% experiencing downward pressure through the co-movement of sales and the labour share. That is, larger firms expand output while having lower or declining labour shares. Note that while our figures may indicate the majority of sectors experiencing an increase in labour shares, some even with dramatic increases, the total increase in the labour share of sales from 2012–19 is around 7.5% and a total increase in aggregate labour share of value added of about 1.4%. Given the sample restrictions and differences in underlying data, our figure compares well to the increase of 2.4% reported in the National Accounts.¹³ In Figure 3, we show the movement of the materials share of sales weighted by sales between 2012 and 2019. Whereas the labour share component is increasing for the majority of three-digit industries, the materials share is falling in its aggregate component generally. The upward pressure on the materials share of sales is generally coming from the between component, however, indicating that larger firms generally have growing materials shares. Assuming constant elasticities of output for all industries, we would expect these results to suggest that labour-based markups are falling on aggregate despite larger firms being able to insulate themselves from this pressure compared to smaller ones. The problematic nature of this interpretation is shown when applying it to the materials shares, which would then imply that higher materials input firms have lower markups. We discuss markup trends in the next section.

¹³ Note that we exclude several sectors in our analysis. We use codes KBP6000J/KBP6003J of the South African Reserve Bank's National Accounts data.

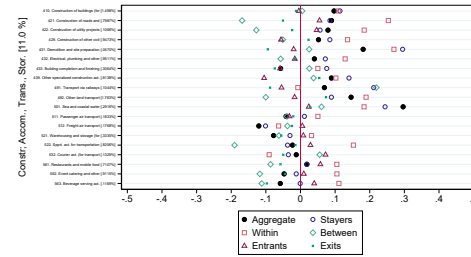
Figure 1: Labour share of value added weighted by value added
 (a) Primary (b) Manufacturing



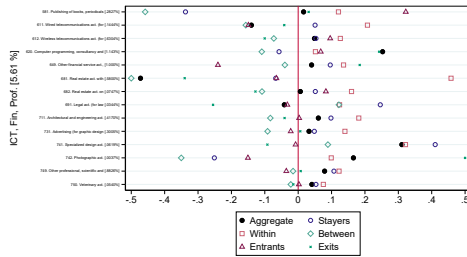
(c) Trade



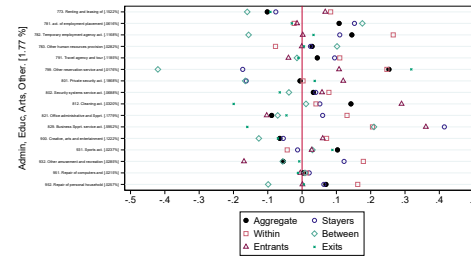
(d) Constr., Accom., Trans., Stor.



(e) ICT, Fin., Prof.



(f) Admin., Arts, Other



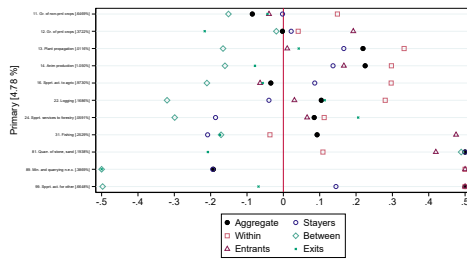
Note: this figure shows the Melitz-Polancz decomposed change of labour share of value added, with firms' labour share weighted by value added, over the period 2012–19 for each industry labeled on the y-axis. The change in each value is relative to that industry's aggregate value in 2012. The black circle labeled *Aggregate* reflects the aggregate change, defined in Equation (22). The unfilled blue circle labeled *Stayers* reflects the component of change represented by firms staying in the market as in Equation (23). The unfilled pink square labeled *Within* is within component of the MP decomposition, provided in Equation (24). The green diamond labeled *Between* is the between component of the MP decomposition, defined in Equation (25). The dark-pink triangle, labeled *Entrant*, and green x, labeled *Exits*, represent, respectively, the entrant (26) and exit (27) components of the MP decomposition. The number on the y-axis label in each panel is the percentage of sales of all industries in the panel of total sales in the sample. The number in square brackets on the y-axis is the percentage of sales each three-digit industry contributes to total sales in the sample over the period.

Industries are defined by their SIC-7 classification. Panel (a) Primary includes industries in sections A—Agriculture, Forestry, and Fishing, and B—Mining and Quarrying. Panel (b) Manufacturing includes industries in section C—Manufacturing. Panel (c) Trade includes industries in section G—Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles. Panel (d) Constr., Accom., Trans., Stor. includes industries in sections F—Construction; H—Transportation and Storage; and I—Accommodation and Food Service Activities. Panel (e) ICT, Fin., Prof. includes industries in sections J—Information and Communication; K—Financial and Insurance Activities; L—Real Estate Activities; and M—Professional, Scientific, and Technical Activities. Panel (f) Admin., Arts, and Other include industries in sections N—Administrative and Support Service Activities; R—Arts, Entertainment, and Recreation; and S—Other Service Activities.

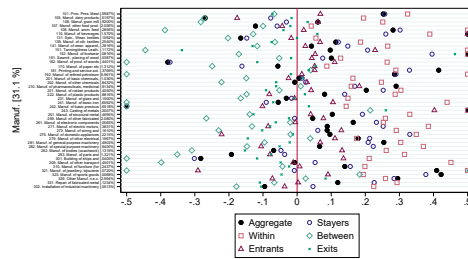
Source: authors' own figure based on version 5, beta, of the CIT-IRP5 (NT and UNU-WIDER 2023).

Figure 2: Labour share of sales weighted by sales

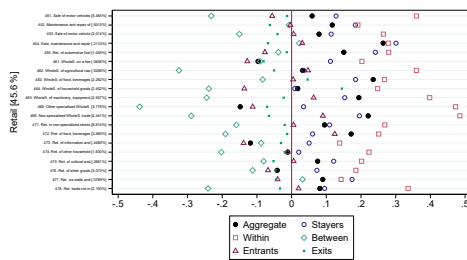
(a) Primary



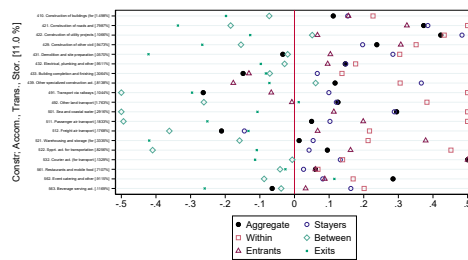
(b) Manufacturing



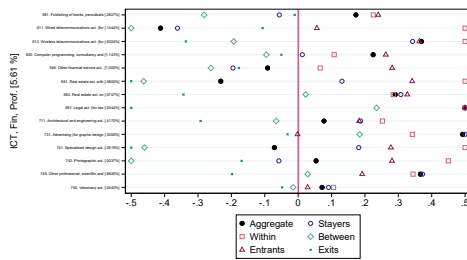
(c) Trade



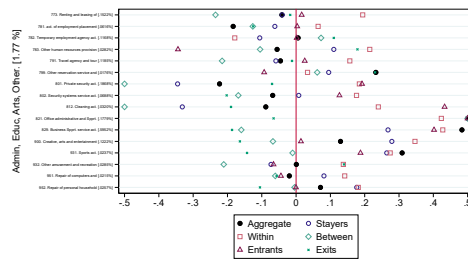
(d) Constr., Accom., Trans., Stor.



(e) ICT, Fin., Prof.



(f) Admin., Arts, Other



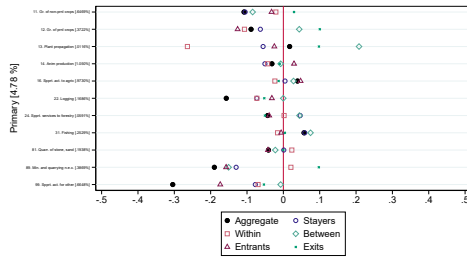
Note: this figure shows the Melitz-Polaneć decomposed change of labour share of sales, with firms' labour share weighted by sales, over the period 2012–19 for each industry labeled on the y-axis. The change in each value is relative to that industry's aggregate value in 2012. The black circle labeled *Aggregate* reflects the aggregate change, defined in Equation (22). The unfilled blue circle labeled *Stayers* reflects the component of change represented by firms staying in the market as in Equation (23). The unfilled pink square labeled *Within* is within component of the MP decomposition, provided in Equation (24). The green diamond labeled *Between* is the between component of the MP decomposition, defined in Equation (25). The dark-pink triangle, labeled *Entrant*, and green x, labeled *Exits*, represent, respectively, the entrant (26) and exit (27) components of the MP decomposition. The number on the y-axis label in each panel is the percentage of sales of all industries in the panel of total sales in the sample. The number in square brackets on the y-axis is the percentage of sales each three-digit industry contributes to total sales in the sample over the period.

Industries are defined by their SIC-7 classification. Panel (a) Primary includes industries in sections A—Agriculture, Forestry, and Fishing, and B—Mining and Quarrying. Panel (b) Manufacturing includes industries in section C—Manufacturing. Panel (c) Trade includes industries in section G—Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles. Panel (d) Constr., Accom., Trans., Stor. includes industries in sections F—Construction; H—Transportation and Storage; and I—Accommodation and Food Service Activities. Panel (e) ICT, Fin., Prof. includes industries in sections J—Information and Communication; K—Financial and Insurance Activities; L—Real Estate Activities; and M—Professional, Scientific, and Technical Activities. Panel (f) Admin., Arts, and Other include industries in sections N—Administrative and Support Service Activities; R—Arts, Entertainment, and Recreation; and S—Other Service Activities.

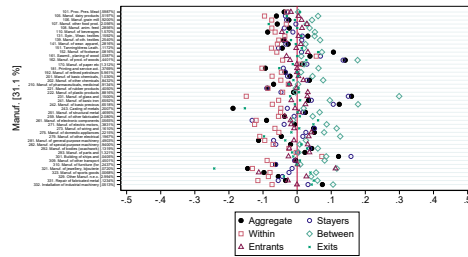
Source: authors' own figure based on version 5, beta, of the CIT-IRP5 (NT and UNU-WIDER 2023).

Figure 3: The materials share of sales weighted by sales

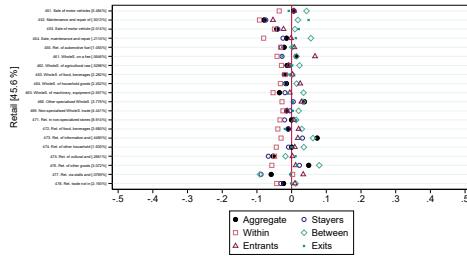
(a) Primary



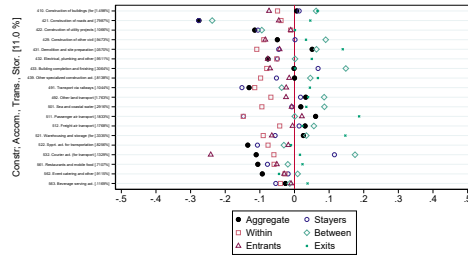
(b) Manufacturing



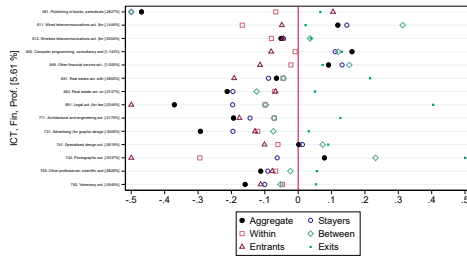
(c) Trade



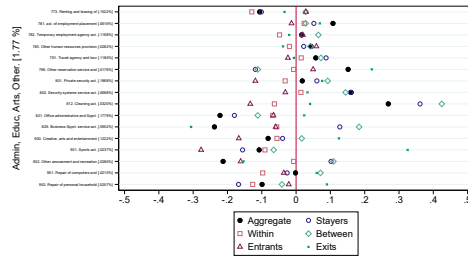
(d) Constr., Accom., Trans., Stor.



(e) ICT, Fin., Prof.



(f) Admin., Arts, Other



Note: this figure shows the Melitz-Polanec decomposed change of materials share of sales, with firms' materials share weighted by sales, over the period 2012–19 for each industry labeled on the y-axis. The change in each value is relative to that industry's aggregate value in 2012. The black circle labeled *Aggregate* reflects the aggregate change, defined in Equation (22). The unfilled blue circle labeled *Stayers* reflects the component of change represented by firms staying in the market as in Equation (23). The unfilled pink square labeled *Within* is within component of the MP decomposition, provided in Equation (24). The green diamond labeled *Between* is the between component of the MP decomposition, defined in Equation (25). The dark-pink triangle, labeled *Entrant*, and green x, labeled *Exits*, represent, respectively, the entrant (26) and exit (27) components of the MP decomposition. The number on the y-axis label in each panel is the percentage of sales of all industries in the panel of total sales in the sample. The number in square brackets on the y-axis is the percentage of sales each three-digit industry contributes to total sales in the sample over the period.

Industries are defined by their SIC-7 classification. Panel (a) Primary includes industries in sections A—Agriculture, Forestry, and Fishing, and B—Mining and Quarrying. Panel (b) Manufacturing includes industries in section C—Manufacturing. Panel (c) Trade includes industries in section G—Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles. Panel (d) Constr., Accom., Trans., Stor. includes industries in sections F—Construction; H—Transportation and Storage; and I—Accommodation and Food Service Activities. Panel (e) ICT, Fin., Prof. includes industries in sections J—Information and Communication; K—Financial and Insurance Activities; L—Real Estate Activities; and M—Professional, Scientific, and Technical Activities. Panel (f) Admin., Arts, and Other include industries in sections N—Administrative and Support Service Activities; R—Arts, Entertainment, and Recreation; and S—Other Service Activities.

Source: authors' own figure based on version 5, beta, of the CIT-IRP5 (NT and UNU-WIDER 2023).

3.2 Markup trends

The MP decompositions for markups from the various production function approaches are provided in Figures 4 and 5. In Figure 4 we show the results for the Primary Sector (Agricultural, Forestry, and Fishing, and Mining), Manufacturing, and Retail Sector in each column, while Figure 5 shows the results for Construction, Accommodation and Food, Transportation, and Storage; Information and Communication Technologies, Financial and Real Estate Services, and Professional Services; and Administrative Services, Education, Arts, and Other Social Services.

The average trend of structural markups is one of decline, with around 72% of unique three-digit industries reporting a decline in aggregate markups. This effect is mostly driven by within shifts on aggregate with 85% of industries experiencing downward pressure in markups through the fall in markups in the average firm, whereas 56% of industries experience upward pressure in markups due to between-firm movements in markups and sales. Entry appears to push up markups for around 60% of industries, whereas exit appears to only push up markups in about 42% of three-digit industries. Labour markups are also declining in about 64% of three-digit industries, with the within component falling in 69% of three-digit sectors and the between component increasing in 56%. Entrants are pushing up markups for both structural and labour markups, whereas exits generally push down markups in an industry. In terms of materials markups, the trend is reversed with materials markups increasing for on average 62% of three-digit industries. The effect is mainly driven by within-firm effects—that is, the average firm in 74% of three-digit industries have increasing materials markups. The between effect, in contrast, is only positive for about 39% of three-digit industries. Entry is still related to markup growth while exit is related to falls in the markup for material inputs.

While the trends above hold for the average three-digit sector, they hide differences in sectors by size. In Appendix B we show the relationships between the markup components and industry size measured in terms of number of unique firms and total sales in the industry averaged over the period 2012–19. We rank industries by total size with the smallest industries at the bottom and the largest industries at the top. In terms of size distribution, we show that the bottom 20% of sales are captured by around 83 (69%) industries and around 18,700 (34%) firms in the sample. The next 20% of output is accounted for by 20 (14%) industries and around 11,200 (20%) firms. The 10,800 (19%) firms contributing the 40%–60% band of output belong to one of 11 industries (9%). The top 40% of output is accounted for by 10 three-digit industries and about 14,500 firms, with the top 20% of sales in our sample being accounted for by 4 (3%) three-digit industries and around 5,000 (9%) firms.¹⁴

In panel B1a of Figure B1, we show that industries with markedly declining markups are generally those that account for the first 20% of the sales distribution, with markup growth being relatively stable for larger industries. Aggregate labour markups, in panel B1b, are falling except for industries around 20% of the sales distribution whose increases are generally driven by the between shifts shown in panel B1h. The downward pressure in labour markups is generally driven by the fall in labour markups for the average firm, shown by the entire line being below the horizontal line in panel B1e. Aggregate materials markup growth, shown in panel B1c, is generally increasing for firms in the bottom 40% of industries and stable for the remainder of industries. The upward push in materials markups is generally due to increases in average markups across the industry size distribution.

Taken together, these results imply that while markups in the average industry are falling, while markups in the economically larger sectors are more or less stable. While labour markups are falling on aggregate, or alternatively the wedge between labour's marginal cost and marginal revenue is falling, the materials markup is rising on aggregate due to average firm shifts. In Figure B2, we provide the MP decomposition

¹⁴ We also exclude general utilities and lose the remainder of industries due to estimates of implausible markup growth—generally more than a doubling of growth in a factor in a single year.

of input elasticities and shares against industry size over the period 2012–19. In panel B2a, we show that the growth of the labour share has outpaced the growth in output elasticity of labour while panel B2b suggests that both materials share and elasticity has fallen over time. On the latter, it appears that materials share has been falling a bit faster than materials elasticity in industries close to the bottom 20th percentile of the output distribution. In panel B2c, we see that high total sales industries have faster growth in both labour output elasticity and labour shares. We do not see a similar strong trend for materials shares or elasticities.¹⁵

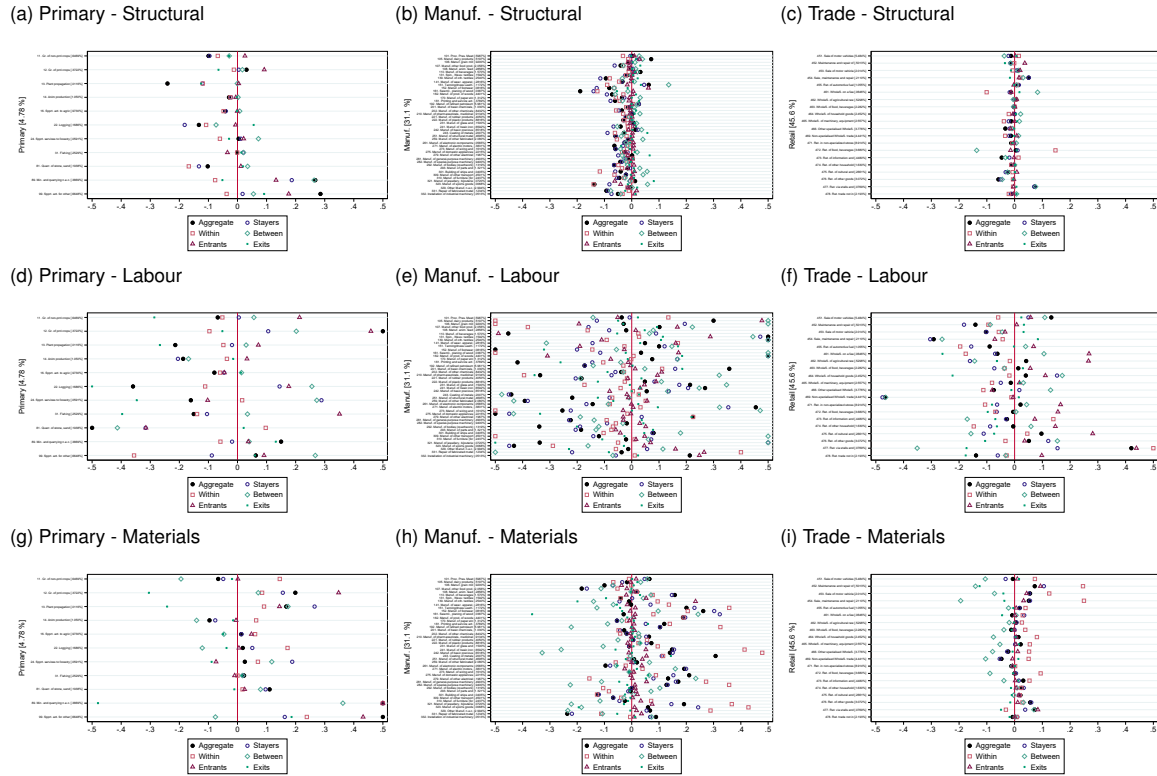
In Figure B3, we provide the decomposition of labour and materials against aggregate HHI in the industry over 2012–19. The sales HHI in each three-digit industry are averaged over the period in question. In Panel B3b we show a clear positive relationship between aggregate industry concentration for materials markups, while Panel B3a shows that labour markups are only increasing over time for very concentrated sectors.¹⁶ In Panel B3c we show greater falls in average labour markups for more concentrated sectors. At the same time, in Panel B3d, it is materials markups that are generally increasing for more concentrated sectors. We interpret this as suggesting that the average firm is able to shift rents between inputs.

In Panel B3e we show that the increase in aggregate labour markups for more concentrated sectors are almost entirely driven by high markup firms capturing more sales. In Panel B3f we show that materials markups are generally falling due to reallocation. Reallocation-driven labour and materials markup growth have largely opposite slopes for concentration levels below an HHI of .15, after which they coincide. This suggests that there is an elasticity to the ability of large firms to move rent extraction based on their size. Note that while markups should generally be close to the gap between the elasticity and share, we correct for the share component following De Loecker et al. (2020) and De Loecker and Warzynski (2012). We also see that labour markups are increasing faster in their between component in very high concentration industries to an extent not shared by materials, suggesting that higher concentration industries have more market power in labour inputs compared to material inputs.

¹⁵ Note that the differences in the elasticity to factor share ratio implied by these figures do not map exactly on to the markup calculation, as the factor shares in those regressions are adjusted for the predicted value in the first stage as in De Loecker and Warzynski (2012).

¹⁶ Very concentrated sectors here are those with an HHI above 0.28.

Figure 4: Structural, labour, and material markups



Note: this figure shows the Melitz-Polanec decomposed change of structural, labour, and materials markups over the period 2012–19 for each industry labeled on the y-axis. Materials in and labour markups are defined as in Equation (7), and structural markups are defined as in Equation (13). The change in each value is relative to that industry's aggregate value of the relevant markup in 2012. The black circle labeled *Aggregate* reflects the aggregate change, defined in Equation (22). The unfilled blue circle labeled *Stayers* reflects the component of change represented by firms staying in the market as in Equation (23). The unfilled pink square labeled *Within* is the within component of the MP decomposition, provided in Equation (24). The unfilled green diamond labeled *Between* is the between component of the MP decomposition, defined in Equation (25). The dark-pink triangle, labeled *Entrant*, and green x, labeled *Exits*, represent, respectively, the entrant (26) and exit (27) components of the MP decomposition. The number on the y-axis label in each panel is the percentage of sales of all industries in the panel of total sales in the sample. The number in square brackets on the y-axis is the percentage of sales each three-digit industry contributes to total sales in the sample over the period.

Markup growth is winsorized to the $[-.5, .5]$ interval.

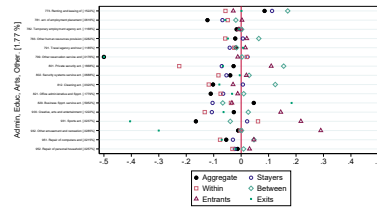
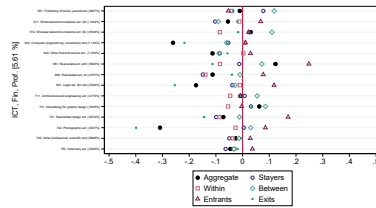
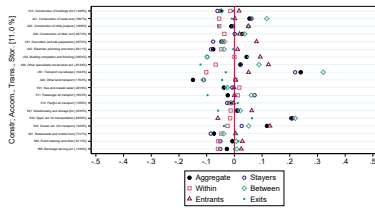
Industries are defined by their SIC-7 classification. Primary includes industries in sections A—Agriculture, Forestry, and Fishing, and B—Mining and Quarrying. Manuf. includes industries in section C—Manufacturing. Trade includes industries in section G—Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles.

Source: authors' own figure based on version 5, beta, of the CIT-IRP5 (NT and UNU-WIDER 2023).

Figure 5: Structural, labour, and material markups

(a) Constr., Accom., Trans., Stor. - Structural (b) ICT, Fin., Prof. - Structural

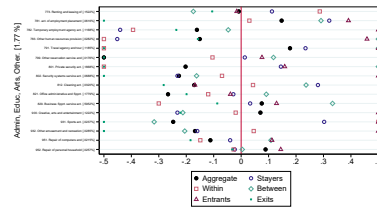
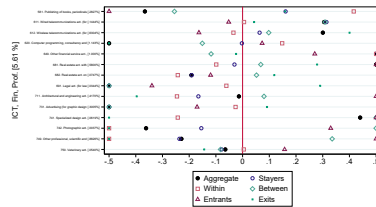
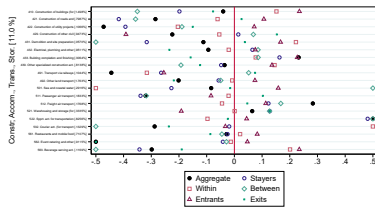
(c) Admin., Educ., Arts, Other - Structural



(d) Constr., Accom., Trans., Stor. - Labour

(e) ICT, Fin., Prof. - Labour

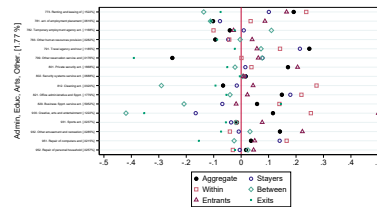
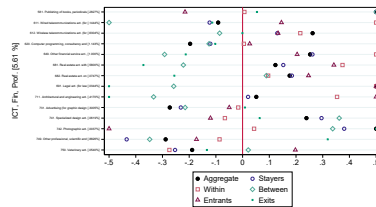
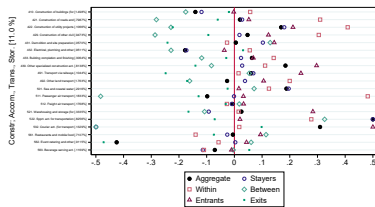
(f) Admin., Educ., Arts, Other - Labour



(g) Constr., Accom., Trans., Stor. - Materials

(h) ICT, Fin., Prof. - Materials

(i) Admin., Educ., Arts, Other - Materials



Note: this figure shows the Melitz-Polanec decomposed change of structural, labour, and materials markups over the period 2012–19 for each industry labeled on the y-axis. Materials in and labour markups are defined as in Equation (7), and structural markups are defined as in Equation (13). The change in each value is relative to that industry's aggregate value of the relevant markup in 2012. The black circle labeled *Aggregate* reflects the aggregate change, defined in Equation (22). The unfilled blue circle labeled *Stayers* reflects the component of change represented by firms staying in the market as in Equation (23). The unfilled pink square labeled *Within* is the within component of the MP decomposition, provided in Equation (24). The green diamond labeled *Between* is the between component of the MP decomposition, defined in Equation (25). The dark-pink triangle, labeled *Entrant*, and green x, labeled *Exits*, represent, respectively, the entrant (26) and exit (27) components of the MP decomposition. The number on the y-axis label in each panel is the percentage of sales of all industries in the panel of total sales in the sample. The number in square brackets on the y-axis is the percentage of sales each three-digit industry contributes to total sales in the sample over the period.

Markup growth is winsorized to the $[-.5, .5]$ interval.

Constr.; Accom., Trans., Stor. includes industries in section F—Construction; H—Transportation and Storage; and I—Accommodation and Food Service Activities. ICT, Fin., Prof. includes industries in sections J—Information and Communication; K—Financial and Insurance Activities; L—Real Estate Activities; and M—Professional, Scientific and Technical Activities. Admin., Arts, and Other includes industries in sections N—Administrative and Support Service Activities; R—Arts, Entertainment, and Recreation; and S—Other Service Activities.

Source: authors' own figure based on version 5, beta, of the CIT-IRP5 (NT and UNU-WIDER 2023).

3.3 Merger data

We primarily use an adjusted version of the merger database released by the Competition Commission (Competition Commission of South Africa 2022). This data set is relatively recent, released in late 2022, and contains the universe of merger cases from 2011 to 2022. The data include information on the industries of the parties involved, an idea of their size (small, medium, or large), their relationship, their geographic market, and any assessments or obstacles identified in the merger. It should be noted that this data set uses different industry coding schemes, specifically SIC5 and SIC7, throughout its run. We attempt to harmonize the industry classification by using information on the industry code itself, determining whether it is SIC5 or SIC7, and information on the Product Market field included in the data. Our main adjustments to the Competition Commission’s data are to confirm the industry assignment of firms and to impute it when missing, using either the merger case files or filing records of companies. We aggregate mergers by their various classifications across industries and use determine intensity by using the number of mergers within an industry as a proportion of firms with valid data in the industry.

4 Mergers and markups

In this section, we briefly discuss the relationship between mergers and markups at the three-digit level. We regress changes in markup in the relevant component of the MP decomposition $Y \in \{Aggregate, Stayers, Within, Between, Entry, Exit\}$ on the number of mergers as a proportion of all valid firms in the industry in the given year. We weigh all the regressions reported in this section by the average sales in the three-digit industry over 2012–19 following Autor et al. (2020) and Kreuser (2022). All regressions are clustered at the two-digit level, including time fixed effects, and controls for trends at the one-digit level. The first specification is provided by (29), where we regress the markup as the MP decomposition growth relative to the aggregate markup in the sector. This allows us to normalize the differences between industries and interpret our results as percentage growth rates. We regress against mergers that occurred in at least the previous period.

$$\frac{MP(X)_{2012+col;i,t}^Y}{X_{i,2012+col-row}} = \beta_0 + \beta_1 Mergers_{i,t-col} + FE' \alpha +_{i,t} \quad (29)$$

In Table 1 we show the results of a regression of structural markup growth over the number of years reported in the first row against the proportion of mergers approved in the number of periods reported in the first column. Our sample includes 124 industries in 59 two-digit clusters. We report significance stars as $\dagger p < .1$, $* p < .05$, $** p < .01$, and $*** p < .001$ as each table provides the results of 49 individual regressions. The interpretation of the coefficients changes depending on the lagged structure. The main diagonal measures the change in markups measured starting from the same period where the mergers were approved. The entries left of the diagonal are similar to treatment effects. They measure markups over p years against mergers that were approved $j < p$ years ago. Similarly, entries to the right of the diagonal measure the growth in periods after the mergers were approved. If mergers have a delayed impact on markups, we would see the effect in these cells. This would be the case where, for example, a merger allows for initial efficiency gains that do not show up in exertion of market power while allowing the firm to only start acting on its power later. As an example, in cell [3,4], with 3 as the x coordinate and 4 as the y coordinate, we measure the change in markups for each span in 2012–2016, 2013–2017, 2014–2018, and 2015–2019 against mergers approved in 2013, 2014, 2015, and 2016, respectively. In [6,2], we regress markup growth between 2016–2018 and 2017–2019 against mergers approved in 2012 and 2013, respectively.

In panel 1a of Table 1, we find limited evidence that mergers generally increase aggregate markups in the short run, with the coefficients on mergers only becoming statistically significant over very long periods. In panel 1b, we show that stayers account for the bulk of the change in markups, with the effect becoming large and statistically significant for periods longer than 5 years. We find that net entry generally results in a fall in markups in the three-digit industry, with mergers generally being related to a fall in markups due to the exit of firms, as in panel 1f. This result suggests that acquiring firms may be absorbing higher markup firms in general. In decomposing the effects into within and between effects, we find, surprisingly, a more substantial effect on the within component of merger growth than the between effect in earlier periods. In Table C12, we show the results of the same regression when weighting industries by the average number of firms. We find similar trends in general but find significantly larger and statistically significant between effects. This result suggests that industries with greater numbers of competitors are more likely to have markups increase due to compositional shifts following a merger. In the appendix, in Tables C13 and C14, we find limited and generally insignificant effects of mergers on labour and materials markups, respectively.

Where the coefficients in Table 1 represent the one-shot effect of mergers, the coefficients in Table 2 measure the impact of cumulative mergers within an industry. That is, we use the same functional form as in (29) but instead measure mergers as in (30), where we take the aggregate proportion of mergers over the period in question. The relevant periods work exactly the same as in the previous table, but now cell [4,5] estimates the change of markups over five years against all mergers approved in the year after the first markup measurement up to the year before the last measurement of markups relevant to the regression.

$$\text{Cumulative mergers}_{i,t-j} = \sum_{p=t-j}^{T-1} \text{Mergers}_{i,p} \quad (30)$$

The coefficients in Table 2 are generally more muted than those presented in Table 1, although the effect is shown to primarily work through stayers, with the effect working through the within and between components at statistically similar rates. In Table C22, we show that this result is again driven by large industries with a few number of firms. Once weighting industries by the number of firms, we find that the between effect generally starts dominating the within effect after about four years. In the appendix, Tables C23 and C24 again show small and generally insignificant effects for cumulative labour and materials markups, respectively. In panel C23a, we find weak evidence that cumulative mergers are positively related to labour markups in the short run, with the effect largely coming from the between effect, in panel C23d. Materials markups do not show any similar statistically significant trend for general mergers. The firm weighted regressions show roughly similar results in Tables C25 and C26, respectively. That is, the aggregate effects of all mergers appear to push up aggregate markups over the very long run with what appears to be a slight impact on labour markups in the short run, but these effects are generally small. If anything, mergers are related to a short-run fall in materials markups due to between shifts, as shown in Table C26. The coefficient in [6,7] of panel 2a suggests that for a 1% increase in the aggregate proportion of acquiring firms, which had mergers approved between 2013–2018, the average industry will experience an increase in aggregate structural markup of growth of about .27% over 2012–2019 compared to other industries in its one-digit sector. These hide differential impacts of different types of mergers on markups, which we attempt to identify in the section below.

4.1 Markups and merger types

In this section, we estimate the effect of mergers of different sizes, conditions, and overlapping types. As we estimate the effects by three-digit industries, we ensure that the effect of any specific merger cannot be identified by only estimating the effect of the cumulative proportion of mergers. We also remove the one-period effects in the cell [1, 7] period as they directly link to mergers in 2018.¹⁷ The regressions presented in this section take the same shape as (29) and decompose the merger component into its distinguishing components. Unless otherwise noted, the different merger components will sum to the same total merger share provided in the previous cumulative regressions.

In Table 3 we show the results of the cumulative effects of conditional and unconditional mergers on markup growth, weighting each industry by its mean sales contribution. When weighing industries in this way, we find very limited evidence of unconditional mergers being related to a rise in markups through any part of the markup decomposition. Conditional mergers, on the other hand, appear to be related to markup growth in the long run when looking at the coefficients on and below the diagonals in panel 3b. In panel 3d and 3f, we see that this effect is driven by changes in markups due to staying firms with the markups of the average firm driving the results. In Table C32, we show that this trend changes once weighting industries by average number of firms, as unconditional mergers appear to push up markups to a greater extent than conditional mergers. This result suggests that larger industries with more firms relative to their sales contribution, potentially sectors with relatively lower entry costs, may not be scrutinized as closely as more economically important sectors.¹⁸ While the within component dominates the economic impact of mergers in the sales-weighted regressions, the between effects dominate the within effect in the firm weighted regressions in all periods except the final time horizon.

In Tables C33 and C34, we show the impact of conditional and unconditional mergers on labour and materials markups, respectively. In panel C33a we show generally increasing markups through the labour wedge related to unconditional mergers, although this effect appears to be driven by shifts in the short run and net entry in the long run. The relationship between conditional mergers and labour markups, shown in panel C33b, is extremely negative even over the long run, with limited evidence of any specific channel driving the results. This result is likely attributable to the fact that more than two thirds of conditional mergers include a public interest component mainly related to employment conditions. In Table C34, materials markup growth is generally positively related to conditional mergers and negatively to unconditional mergers on aggregate. The latter effect is driven primarily by the between component. That is, where conditional mergers are generally related to increases in aggregate markups in economically larger sectors, this shift happens through reducing the markup component in labour and increasing markups in the materials component, meaning that these industries may exert their market power up or down the supply chain. In Tables C35 and C36, we show the firm weighted regressions for labour and only find evidence of unconditional mergers being related to increasing labour markups and some evidence of decreasing materials markups in the short run. The effect appears to be largely driven by net entry, however. While aggregate materials markups of stayers are relatively constant in relation to unconditional mergers, we show that unconditional mergers are related to an upward push in the materials wedge of the average firm in many firm industries, shown in panel C35e, whereas this effect is offset by high-sales firms reducing their materials markups in panel C35g. We find the opposite result for conditional mergers, where the conditions push down the materials markups for the average firms but allow large firms to increase their materials markup, as shown in panels C35f and C35h, respectively.

¹⁷ In cell [1, 6] we will include mergers of both 2017 and 2018 as we regress on the period 2013–19 and 2012–18.

¹⁸ As an example, the manufacture of petroleum is an industry with a relatively low number of firms despite having a substantial contribution to total sales.

Table 3: Cumulative lagged mergers and sales weighted structural markups by conditional or unconditional merger

(a) Aggregate change - Unconditional							(b) Aggregate change - Conditional								
	Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}		Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}
$\frac{MP_{t-1}^{un}}{X_{t-1}^{un}}$	-2339 (1918)	-088 (0623)	-0665 (0887)	.0045 (.0575)	.047 (.0474)	.069 (.069)	.0564 (.0858)		1986 (3147)	.2661 (.2231)	.807 (.5646)	.3388 (.24)	-.0918 (.1811)	.0407 (.319)	.1618 (.2642)
$\frac{MP_{t-2}^{un}}{X_{t-2}^{un}}$	-3009 (27)	-2121 (.1878)	-1244 (.1478)	-0454 (.1336)	.0767 (.0992)	.1921 [†] (.1114)	.2184 (.1407)		-397 (.3456)	-2102 (.1782)	.7212 (.6435)	.8496 (.646)	-1.403 (.2814)	-.5885 (.5311)	-.3472 (.5488)
$\frac{MP_{t-3}^{un}}{X_{t-3}^{un}}$	-0922 (3065)	-1844 (.2543)	-1571 (.1791)	-0722 (.14)	-0144 (.1534)	.2114 (.1307)	.2689 [†] (.1568)		-8207 (.11)	-2545 (.4758)	.7434 (.5394)	.7381 (.6942)	.4922 (.6095)	-.6458 (.4722)	-.6643 (.4715)
$\frac{MP_{t-4}^{un}}{X_{t-4}^{un}}$	.27 (.1823)	.1486 (.1546)	-.0001 (.1069)	-.0522 (.0982)	-.0181 (.0955)	.1142 (.1417)	.2045 (.2102)		-3876 (.1298)	-.8641 (.1063)	.3813 (.4379)	.9832 [†] (.4734)	.7002 (.4871)	-.3142 (.3737)	-.1465 (.4798)
$\frac{MP_{t-5}^{un}}{X_{t-5}^{un}}$	.3499 (.2465)	.2666 [†] (.1593)	.2017 (.1361)	.0364 (.1101)	-.0401 (.1191)	.0514 (.1166)	.1012 (.1912)		1.429** (.419)	.0466 (.6145)	-.0688 (.5869)	.9376 (.6987)	1.247 [†] (.6584)	.8506* (.4049)	1.017** (.3784)
$\frac{MP_{t-6}^{un}}{X_{t-6}^{un}}$	.8403*** (.2219)	.5724** (.2035)	.37 [†] (.1778)	.2873 [†] (.1519)	.1389 (.1358)	.0549 (.1174)	.1055 (.1323)		1.595** (.5439)	-.1488 (.8382)	-.0367 (.8339)	.5306 (.7008)	.9226* (.7224)	.4811 (.3985)	
$\frac{MP_{t-7}^{un}}{X_{t-7}^{un}}$	() (.2761)	() (.2397)	() (.1844)	() (.1752)	() (.1534)	() (.1174)	() (.1174)		() (.1023)	() (.119)	() (.9582)	() (.8778)	() (.5594)	() (.3607)	
	[0]	[124]	[124]	[124]	[124]	[124]	[124]		[0]	[124]	[124]	[124]	[124]	[124]	[124]
(c) Stayers change - Unconditional							(d) Stayers change - Conditional								
	Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}		Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}
$\frac{MP_{t-1}^{un}}{X_{t-1}^{un}}$	-1448 (1906)	-.0459 (.0538)	-.0966 (.0727)	-.0305 (.0428)	.004 (.0395)	.0193 (.0647)	-.02 (.0578)		-0.0022 (.202)	-.2977 (.2328)	.94 [†] (.539)	.4181 [†] (.1897)	-.0745 (.1565)	.0582 (.259)	.242 (.2489)
$\frac{MP_{t-2}^{un}}{X_{t-2}^{un}}$	-1255 (.2895)	-.0741 (.1726)	-.1012 (.1314)	-.0951 (.1089)	.0038 (.0785)	.0995 (.106)	.093 (.1176)		-5517 [†] (.2766)	.0878 (.1999)	1.046 [†] (.6366)	.0055 (.5764)	-.5131 (.1886)	-.2444 (.4426)	
$\frac{MP_{t-3}^{un}}{X_{t-3}^{un}}$	-0943 (.3001)	-.0887 (.2482)	-.0669 (.1627)	-.0767 (.1234)	-.0684 (.1334)	-.1266 (.1328)	-.1271 (.1287)		-884 (.1006)	-.1785 (.4184)	.736 (.5343)	.9629 (.6626)	.6848 (.5659)	-.5762 (.4181)	
$\frac{MP_{t-4}^{un}}{X_{t-4}^{un}}$	.307 (.1863)	.1687 (.1479)	.0813 (.1167)	.0206 (.0945)	-.0004 (.0978)	.0887 (.1427)	.1129 (.1705)		-.2965 (.1232)	-.7435 (.1016)	.4139 (.3747)	1.036* (.4658)	.8466 [†] (.4992)	.3607 (.3428)	-.0515 (.3759)
$\frac{MP_{t-5}^{un}}{X_{t-5}^{un}}$	.3768 [†] (.2186)	.2816 [†] (.1673)	.2087 (.151)	.0966 (.1151)	.0286 (.1167)	.0787 (.1326)	.0583 (.1487)		1.545*** (.4089)	-.2531 (.5019)	.0602 (.4975)	.9376 (.6405)	1.232 [†] (.6612)	.8816* (.4241)	1.05** (.3507)
$\frac{MP_{t-6}^{un}}{X_{t-6}^{un}}$	.8924*** (.2202)	.546* (.2335)	.3356 (.2044)	.266 (.1653)	.1591 (.1377)	.1062 (.1162)	.0849 (.1304)		1.829*** (.4987)	.192 (.7266)	.0882 (.6394)	.6237 (.5749)	.9197* (.6165)	.6342 [†] (.3881)	
$\frac{MP_{t-7}^{un}}{X_{t-7}^{un}}$	() (.221)	() (.2076)	() (.1623)	() (.1557)	() (.133)	() (.1089)	() (.1089)		() (.7716)	() (.9248)	() (.7266)	() (.6876)	() (.4843)	() (.3224)	
	[0]	[124]	[124]	[124]	[124]	[124]	[124]		[0]	[124]	[124]	[124]	[124]	[124]	[124]
(e) Within change - Unconditional							(f) Within change - Conditional								
	Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}		Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}
$\frac{MP_{t-1}^{un}}{X_{t-1}^{un}}$	-.0683 (.0664)	-.057 (.0461)	-.0617 (.0449)	-.0361 (.0261)	-.0535 (.0442)	-.0464 (.0409)	-.0702 (.0602)		2.162 (.1528)	-.4854 [†] (.2617)	.3961 [†] (.1505)	.2456* (.103)	.2285 (.1471)	.12 (.156)	.0101 (.1257)
$\frac{MP_{t-2}^{un}}{X_{t-2}^{un}}$	.0708 (.0755)	.0112 (.0658)	-.0428 (.0621)	-.0254 (.0342)	-.0333 [†] (.0351)	-.0207 (.042)	-.0514 (.0674)		-5231 [†] (.2617)	.1468 (.1724)	.5587 [†] (.2948)	.4127** (.1394)	.1013 (.1434)	-.0355 (.2225)	
$\frac{MP_{t-3}^{un}}{X_{t-3}^{un}}$	-.0905 (.1551)	.0038 (.1062)	-.0152 (.0729)	-.0299 (.0595)	-.05 (.0614)	-.0252 (.0376)	-.0551 (.0584)		-.3264 (.3969)	.0336 (.3185)	.4332 (.3154)	.6998 [†] (.4101)	.2618 (.3393)	.207 (.1623)	
$\frac{MP_{t-4}^{un}}{X_{t-4}^{un}}$	.1461 (.1192)	.0767 (.1052)	.0445 (.0791)	.0124 (.0559)	-.0395 (.0739)	.0024 (.041)	-.0476 (.0571)		-.3672 (.5817)	-.6196 (.6327)	-.1321 (.322)	.4583 (.2925)	.806 (.5127)	.3706 [†] (.1892)	.1398 (.1652)
$\frac{MP_{t-5}^{un}}{X_{t-5}^{un}}$	.4238* (.1629)	.2436 [†] (.138)	.1266 (.108)	.0723 (.0643)	.0112 (.0564)	.0035 (.0453)	-.0249 (.0584)		.6704* (.3296)	-.1566 (.5726)	-.1625 (.521)	.3279 (.2785)	.782 [†] (.4625)	.594* (.3056)	
$\frac{MP_{t-6}^{un}}{X_{t-6}^{un}}$	.3916* (.1896)	.3443 [†] (.185)	.1592 (.1295)	.0952 (.0848)	.02 (.0644)	-.0227 (.0615)	-.08 (.0602)		1.938** (.6162)	.7183 [†] (.4005)	.553 [†] (.3176)	.3063 (.312)	.6114 (.3991)	.9126* (.3984)	
$\frac{MP_{t-7}^{un}}{X_{t-7}^{un}}$	() (.1992)	() (.1878)	() (.0233)	() (.0085)	() (.061)	() (.0507)	() (.0713)		() (.5729)	() (.5993)	() (.4539)	() (.4041)	() (.3945)		
	[0]	[124]	[124]	[124]	[124]	[124]	[124]		[0]	[124]	[124]	[124]	[124]	[124]	[124]
(g) Between change - Unconditional							(h) Between change - Conditional								
	Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}		Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}
$\frac{MP_{t-1}^{un}}{X_{t-1}^{un}}$	-.0765 (.144)	.0111 (.0451)	-.0349 (.0423)	.0055 (.0352)	.0575 (.0538)	.0657 (.0791)	.0502 (.095)		-.2183 (.2717)	-.1877 (.1419)	.5439 (.4159)	-.1726 (.1549)	-.303 (.2502)	-.0618 (.2378)	.2319 (.3003)
$\frac{MP_{t-2}^{un}}{X_{t-2}^{un}}$	-.1964 (.2514)	-.0853 (.1318)	-.0584 (.0879)	-.0697 (.0886)	.0421 (.066)	.1202 (.1049)	.1444 (.1445)		-.0285 (.285)	-.059 (.1986)	.3088 (.3837)	-.3176 (.5102)	-.6144 [†] (.2013)	-.2089 (.3446)	
$\frac{MP_{t-3}^{un}}{X_{t-3}^{un}}$	-.0038 (.1834)	-.0925 (.1737)	-.0517 (.1188)	-.0467 (.0791)	-.0184 (.0848)	.1518 (.1251)	.1822 (.1408)		-.5576 (.8708)	.1449 (.3503)	.3029 (.3072)	.2631 (.3084)	.0891 (.2941)	-.7953 [†] (.3744)	
$\frac{MP_{t-4}^{un}}{X_{t-4}^{un}}$	.1609 (.1389)	.092 (.0974)	.0369 (.0894)	.0083 (.0741)	.0391 (.0774)	.0864 (.1285)	.1605 (.1869)		.0707 (.8049)	-.546 (.5686)	.5774* (.4036)	-.0099 (.2771)	-.1914 (.2475)		
$\frac{MP_{t-5}^{un}}{X_{t-5}^{un}}$	-.047 (.3326)	.038 (.1634)	.0821 (.127)	.0243 (.1038)	.0174 (.0946)	-.0752 (.1244)	.0831 (.157)		.8745 [†] (.4867)	.4098 (.5217)	.2227 (.3924)	.6098 (.5113)	.5062 (.3253)	.4701 (.335)	
$\frac{MP_{t-6}^{un}}{X_{t-6}^{un}}$	.5008* (.2128)	.2017 (.1839)	.1765 (.1628)	.1708 (.1372)	.1392 (.1325)	.1289 (.1232)	.1649 (.1569)		-.1084 (.757)	-.5521 (.672)	-.361 (.5822)	.0123 (.4885)	-.0529 (.5167)	-.2785 (.4317)	
$\frac{MP_{t-7}^{un}}{X_{t-7}^{un}}$	() (.296)	() (.2199)	() (.1654)	() (.1645)	() (.147)	() (.1309)	() (.1309)		() (.6406)	() (.7143)	() (.5855)	() (.5522)	() (.4888)		
	[0]	[124]	[124]	[124]	[124]	[124]	[124]		[0]	[124]	[124]	[124]	[124]	[124]	[124]

Note: this table shows the result of a regression on the MP decomposed change in markups defined in the first column over the cumulative proportion of mergers over the period that starts the number of years indicated in the column and ending one period before the last year of markup change. All regressions control for year effects and one-digit industry effects. All regressions are weighted by mean total sales per year in the three digit industry. All regressions are clustered at the two-digit level and there are 59 two-digit industries in the sample. Each regression includes both conditional and unconditional lagged mergers. Structural markups are defined as in Equation (13). The decompositions are defined in the following equations: Aggregate Change (22), Stayers Change (23), Within Change (24), and Between Change (25). We do not provide individual coefficients entry or exit individually these regressions due to confidentiality concerns; the measures are included in the main regressions to remain consistent with other results provided in this paper. Standard errors are in parentheses and the number of observations are in brackets below the coefficients. [†] $p < .1$, * $p < .05$, ** $p < .01$, *** $p < .001$

Source: authors' calculations based on NT and UNU-WIDER (2023).

We decompose the effects of mergers by size using the classification provided in the data. In Tables 4, C42, and C43, we show that the aggregate effect of mergers on markups is generally due to large mergers, with the aggregate effect of small and intermediate-sized mergers being statistically insignificant in the vast majority of specifications. In panel 4b, we show that the impact of large mergers generally work through changes in markups of firms staying in the market. Comparing panel 4c to panel 4d shows that the within effect generally dominates the between effect. Large mergers only appear to be related to markup growth over the very long term when weighting industries by the number of firms, as shown in Table C44, and the effect appears to be driven by compositional shifts. In Table C45, we show that large mergers generally do not have a consistent effect on labour markups. In panel C45a, we do not find large mergers to be driving the negative relationship. We find substantial off-diagonal increases in labour markups due to shifts in the between component, however. Intermediate mergers appear to put upward pressure on labour markup growth for stayers over the medium term, generally seen in the effects on the 4 and 5 diagonals in panel C45e. Small mergers, on the other hand, tend to be related to sizable increases in the within component of markups at the interior, shown in panel C45i, but appear to be related to falling labour markups in the long run with the effect predominantly driven by the between relationship shown in panel C45l. The net effect of small mergers is falling labour markups for stayers in the long run, as seen in panel C45f. In terms of materials markups, the effects are generally more muted with large mergers generally pushing up materials markups over the long run due to a shift in the between component, shown in Table C46. Intermediate mergers are generally related to a fall in materials markup growth while small mergers have relatively limited consistent effects.

Table 4: Cumulative lagged mergers and sales weighted structural markups by size classification - I - Large

(a) Aggregate change - Large								(b) Stayers change - Large							
	Mergers _{t,t-1}	Mergers _{t,t-2}	Mergers _{t,t-3}	Mergers _{t,t-4}	Mergers _{t,t-5}	Mergers _{t,t-6}	Mergers _{t,t-7}		Mergers _{t,t-1}	Mergers _{t,t-2}	Mergers _{t,t-3}	Mergers _{t,t-4}	Mergers _{t,t-5}	Mergers _{t,t-6}	Mergers _{t,t-7}
$\frac{MP_{t,t-1}^{int}}{X_{t,t-1}^{int}}$	-.3543 (.3279) [868]	.1686 (.2353) [744]	.4707* (.2234) [620]	.1776* (.088) [496]	-.1349 (.1687) [372]	-.0352 (.1926) [248]	.1621 (.156) [124]	$\frac{MP_{t,t-1}^{int}}{X_{t,t-1}^{int}}$	-.3555 (.3063) [868]	.2105 (.2034) [744]	.4181† (.2362) [620]	.1128 (.0775) [496]	-.193 (.1466) [372]	-.1115 (.1323) [248]	.1072 (.1452) [124]
$\frac{MP_{t,t-2}^{int}}{X_{t,t-2}^{int}}$	-.3769 (.2735) [744]	-.0314 (.2248) [744]	.5643 (.398) [620]	.6063* (.2499) [496]	.0057 (.1971) [372]	-.2165 (.3322) [248]	-.0175 (.32) [124]	$\frac{MP_{t,t-2}^{int}}{X_{t,t-2}^{int}}$	-.3001 (.2152) [744]	.0425 (.1717) [744]	.5552 (.3899) [620]	.4985† (.261) [496]	-.1069 (.1577) [620]	-.3439 (.236) [248]	-.1631 (.2532) [124]
$\frac{MP_{t,t-3}^{int}}{X_{t,t-3}^{int}}$	-.1508 (.7364) [620]	.1903 (.4959) [620]	.503 (.3557) [620]	.7159† (.4167) [496]	.3802* (.1715) [372]	-.1014 (.32) [248]	-.2254 (.2863) [124]	$\frac{MP_{t,t-3}^{int}}{X_{t,t-3}^{int}}$	-.2148 (.6536) [620]	.2995 (.3741) [620]	.5232 (.3256) [620]	.6838 (.43) [496]	.2812 (.1881) [372]	-.2253 (.2168) [248]	-.378† (.2095) [124]
$\frac{MP_{t,t-4}^{int}}{X_{t,t-4}^{int}}$	1.522 (1.009) [496]	.2783 (.6074) [496]	.7743 (.5066) [496]	.9322* (.3792) [496]	.7163** (.2494) [372]	.4806† (.2621) [248]	.1537 (.3114) [124]	$\frac{MP_{t,t-4}^{int}}{X_{t,t-4}^{int}}$	1.112 (.816) [496]	.2545 (.5288) [496]	.7616 (.4605) [496]	.8922* (.4041) [496]	.659* (.297) [372]	.3707† (.1951) [248]	.0035 (.233) [124]
$\frac{MP_{t,t-5}^{int}}{X_{t,t-5}^{int}}$	2.121* (.8344) [372]	1.26* (.6269) [372]	.7499 (.5003) [372]	1.043* (.4926) [372]	.8482*** (.2259) [248]	.6888*** (.1942) [248]	.7362** (.2522) [124]	$\frac{MP_{t,t-5}^{int}}{X_{t,t-5}^{int}}$	1.134† (.6283) [372]	.8639 (.538) [372]	.4348 (.4466) [372]	.8846† (.4953) [372]	.7298** (.2658) [372]	.6039** (.2145) [248]	.5934* (.2384) [124]
$\frac{MP_{t,t-6}^{int}}{X_{t,t-6}^{int}}$	2.865*** (.7771) [248]	2.094*** (.5603) [248]	1.554** (.5363) [248]	1.16* (.4866) [248]	.8644** (.3125) [248]	.8874*** (.2082) [248]	.6384** (.2103) [124]	$\frac{MP_{t,t-6}^{int}}{X_{t,t-6}^{int}}$	1.669* (.6721) [248]	1.291* (.5177) [248]	.7988† (.4729) [248]	.5664 (.4482) [248]	.6312* (.2864) [248]	.7013** (.2054) [248]	.4631* (.2137) [124]
$\frac{MP_{t,t-7}^{int}}{X_{t,t-7}^{int}}$	() [0]	(.9338) [124]	(.7079) [124]	(.7484) [124]	(.634) [124]	(.4326) [124]	(.2925) [124]	$\frac{MP_{t,t-7}^{int}}{X_{t,t-7}^{int}}$	() [0]	(.7895) [124]	(.4969) [124]	(.6014) [124]	(.4602) [124]	(.3147) [124]	(.2067) [124]

(c) Within change - Large								(d) Between change - Large							
	Mergers _{t,t-1}	Mergers _{t,t-2}	Mergers _{t,t-3}	Mergers _{t,t-4}	Mergers _{t,t-5}	Mergers _{t,t-6}	Mergers _{t,t-7}		Mergers _{t,t-1}	Mergers _{t,t-2}	Mergers _{t,t-3}	Mergers _{t,t-4}	Mergers _{t,t-5}	Mergers _{t,t-6}	Mergers _{t,t-7}
$\frac{MP_{t,t-1}^{int}}{X_{t,t-1}^{int}}$	.0414 (.1597) [868]	.2786† (.1445) [744]	.0704 (.0663) [620]	.0429 (.0864) [496]	-.0948 (.06) [372]	-.1329† (.0693) [248]	-.0975 (.1168) [124]	$\frac{MP_{t,t-1}^{int}}{X_{t,t-1}^{int}}$	-.3969 (.423) [868]	-.0681 (.1211) [744]	.3477† (.2029) [620]	.0699 (.1013) [496]	-.0983 (.1731) [372]	.0214 (.1382) [248]	.2047 (.1662) [124]
$\frac{MP_{t,t-2}^{int}}{X_{t,t-2}^{int}}$	-.1094 (.1172) [744]	.2551† (.1455) [744]	.3651† (.1835) [620]	.1971 (.1279) [496]	.0306 (.1034) [372]	-.1208 (.0809) [248]	-.1071 (.1625) [124]	$\frac{MP_{t,t-2}^{int}}{X_{t,t-2}^{int}}$	-.1907 (.2126) [744]	-.2126 (.1911) [744]	.19 (.2507) [620]	.3015 (.19) [496]	-.1376 (.2231) [372]	-.2231 (.24) [248]	-.056 (.2422) [124]
$\frac{MP_{t,t-3}^{int}}{X_{t,t-3}^{int}}$	.0032 (.4796) [620]	.2909* (.1416) [620]	.3886* (.1811) [496]	.4861† (.2649) [496]	.1406 (.1429) [372]	-.0771 (.0857) [248]	-.0942 (.1503) [124]	$\frac{MP_{t,t-3}^{int}}{X_{t,t-3}^{int}}$	-.2179 (.6301) [620]	.0087 (.3516) [620]	.1346 (.227) [496]	.1977 (.2108) [372]	.1406 (.1427) [248]	-.1482 (.2663) [124]	-.2838 (.2684) [124]
$\frac{MP_{t,t-4}^{int}}{X_{t,t-4}^{int}}$	.4071 (.3357) [496]	.2672 (.2357) [496]	.2616† (.1349) [496]	.5686* (.2655) [496]	.4782† (.2518) [372]	.1639 (.1048) [248]	-.0237 (.1156) [124]	$\frac{MP_{t,t-4}^{int}}{X_{t,t-4}^{int}}$	.7052 (.7008) [496]	-.0127 (.4404) [496]	.5 (.4627) [496]	.3236 (.2124) [496]	.1808 (.1535) [372]	.2068 (.2385) [248]	.0273 (.2758) [124]
$\frac{MP_{t,t-5}^{int}}{X_{t,t-5}^{int}}$	.9128† (.5109) [372]	.4299† (.2212) [372]	.2557 (.2047) [372]	.5259* (.2305) [372]	.5653* (.2637) [372]	.4684* (.1929) [248]	.3064 (.1848) [124]	$\frac{MP_{t,t-5}^{int}}{X_{t,t-5}^{int}}$	.2211 (.7028) [372]	.4341 (.4891) [372]	.1791 (.4247) [372]	.3586 (.3486) [372]	.1645 (.2016) [372]	.1355 (.2213) [248]	.2871 (.2395) [124]
$\frac{MP_{t,t-6}^{int}}{X_{t,t-6}^{int}}$	.2967 (.6161) [248]	.7476† (.3852) [248]	.3689 (.2572) [248]	.3064† (.1669) [248]	.2904* (.142) [248]	.4997* (.2097) [248]	.4576† (.2523) [124]	$\frac{MP_{t,t-6}^{int}}{X_{t,t-6}^{int}}$	1.372* (.6404) [248]	.5435 (.5291) [248]	.43 (.5134) [248]	.26 (.438) [248]	.3408 (.2928) [248]	.2016 (.2462) [248]	.0055 (.2779) [124]
$\frac{MP_{t,t-7}^{int}}{X_{t,t-7}^{int}}$	() [0]	(.4542) [124]	(.3544) [124]	(.2288) [124]	(.2277) [124]	(.2235) [124]	(.1867) [124]	$\frac{MP_{t,t-7}^{int}}{X_{t,t-7}^{int}}$	() [0]	(.8098) [124]	(.6495) [124]	(.6671) [124]	(.5279) [124]	(.3406) [124]	(.2345) [124]

Note: this table shows the result of a regression on the MP decomposed change in markups defined in the first column over the cumulative proportion of mergers over the period that starts the number of years indicated in the column and ending one period before the last year of markup change. All regressions control for year effects and one-digit industry effects. All regressions are weighted by mean total sales per year in the three digit industry. All regressions are clustered at the two-digit level and there are 59 two-digit industries in the sample. Each regression includes small, intermediate, and large mergers. This table includes the coefficients on large mergers, the coefficients on intermediate mergers is provided in Table C42, and the coefficients on small mergers are provided in Table C43. Structural markups are defined as in Equation (13). The decompositions are defined in the following equations: Aggregate Change (22), Stayers Change (23), Within Change (24), and Between Change (25). We do not provide individual coefficients entry or exit individually these regressions due to confidentiality concerns; the measures are included in the main regressions to remain consistent with other results provided in this paper. Standard errors are in parentheses and the number of observations are in brackets below the coefficients. † $p < .1$, * $p < .05$, ** $p < .01$, *** $p < .001$

Source: authors' calculations based on NT and UNU-WIDER (2023).

In Tables 5 and 6, we show the results of a regression where we separate mergers into horizontal, vertical, horizontal and vertical, and non-overlapping mergers based on the definitions in the merger data. We do not include mergers that are indicated as conglomerate mergers in any regression as these mergers are sparse and may lead to firm identification. We also do not include mergers with missing information along this dimension. In panel 5b, we show that vertical mergers are more consistently positively related to markup growth than horizontal mergers, shown in panel 5a. In Table 6, we show that mergers containing both horizontal and vertical components have an effect indistinguishable from zero with the general effect being negative. This effect is unchanged when weighting industries by mean number of firms, as shown in Table C511. Tables C52 and C54 show the same decomposition as Table 5 for labour and materials markup, respectively, with Tables C53 and C55 reflecting the coefficients for mergers as in Table 6.

We show in panel C52a that horizontal mergers are generally positively related to labour markup growth, but this effect is largely due to net entry. The negative relationship between labour markup growth and vertical mergers in the short run appears to be driven by the change in markups of staying firms. We show a large and significant increase in labour markups of staying firms in industries that had more mergers that are both horizontal and vertical, shown in panel C53c, with the effect clearly being due to compositional shifts in the industry, as shown in panel C53g. These mergers appear to reduce the markups of the average firm, meaning that it is markup growth related to these mergers that likely follows Autor et al. (2020)'s superstar explanation. In panel C54b, we find that vertical mergers are related to aggregate materials markup growth while horizontal mergers do not have a consistently negative effect, shown in panel C54a. The vertical effect is driven by the stayer component, which itself is driven by the within effect, while the between component is negatively related to vertical mergers. Mergers with both within and between components appear to have a limited effect on aggregate materials markup growth but appear to be related to falling average short-run materials markup growth, while compositional shifts puts upward pressure on materials markup growth in the long run. We do not find substantial differences in these relationships when weighting industries by firms. The signs and sizes are generally similar with differing levels of significance.

When weighting industries by the number of firms instead of total sales, Table C510 shows that horizontal mergers have a greater tendency to push up markup growth, with the effect being split between net entry and stayers. In Tables C56 and C57, we show the same decompositions for labour markups, while the results for the materials regressions are shown in Tables C58 and C59. When weighting by firms, we show that labour markup growth has similar responses as when weighting by sales. These tables show that it is only the mergers that have both horizontal and vertical components that have a consistent effect on labour and materials markups and find that both results are driven by between effects. There appears to be a negative within effect of firm weighted mergers in the short to medium run for labour markups with no statistically significant effect for the within component of materials markups. Recalling the definition of structural and input markups from above, the structural markup does not compensate for changes in materials output elasticity. Finally, the structural measures are driven primarily by changes in factor shares between firms as the point elasticity is identified for two-digit sectors in general. We find limited evidence of consistently positive effects on structural markups for no-overlap mergers, shown in panel 6b. The impact on stayers appears to become positive over the longer run, however. Labour markups are increasing for no-overlap mergers in the short run but are negatively related to labour markups in the long run. We find very limited evidence of material markups being consistently related to no-overlap mergers.

When restricting our attention to large mergers, Table C62 shows large and statistically significant effects of both horizontal and vertical mergers on structural markup growth. We show that horizontal mergers have a large positive effect on markup growth over periods greater than five years, whereas vertical mergers have a short-lived negative effect on aggregate markups initially after which it has a positive relationship with aggregate markup growth. Markup growth related to vertical mergers is generally

larger (at the 5% level) and more positive than markups related to mergers with both a vertical and horizontal component and mergers with no overlap. As with generally larger mergers, the effect of large mergers on markups are generally driven by stayers for vertical mergers and net entry for horizontal mergers. Looking at the left-of-diagonal entries in panels C62f and C62h, we see that shifts of output to high-markup firms are generally driving the vertical effect in the two- to three-year periods, whereas the within effects dominate over longer time periods. Similarly, we find that the effects of horizontal and vertical mergers described for labour and materials markups are primarily driven by large mergers, with the coefficients on large mergers only generally being positive and larger on the same components for both markups, as shown in Tables C64, C65, C66, and C67. In Table C63, we find no evidence of large mergers that have horizontal and vertical overlaps having consistent effects on markup growth. In the same table, no overlap large mergers seem to have weekly negative effects on structural markup growth in the short run, but this effect is not consistent over all time periods. No overlap large mergers have a negative effect on labour markup growth in the long run with the effect largely driven by stayers. There does seem to be upward pressure on labour markups in the short run due to compositional shifts, as shown in panel C65h. Large mergers where parties have no overlap appear to push down aggregate materials markups in general, but this effect only exists due to net entry in the medium term.

Taken together, markups in the average three-digit industry are falling in general. This fall in markups are greater in industries with lower aggregate sales than in industries accounting for a higher proportion of the South African economy. At the same time, labour markups are driving most of this result with the effect driven by the increase in labour share, which itself is driven by increases in the labour share of the average firm that offsets the movement of activity towards lower labour share firms within an industry. Materials markups are increasing on aggregate, and this shift is generally driven by the growth in materials markups of the average firm. We first showed that mergers are generally positively related to structural markup growth with the effect largely driven by between shifts inside the industry. We find a limited relationship between general mergers and both materials and labour markups, at least in the long run. We find increasing structural markup growth related to large mergers driven by within-firm movements. While the aggregate effect of horizontal mergers on structural markup growth is limited, large horizontal mergers are related to substantial structural markup growth. We show that vertical mergers have a consistently positive effect on markup growth when weighting industries by sales. The relationship between horizontal mergers and markup growth is only statistically significantly positive when weighting industries by number of firms. These results suggest that entry costs may be important in understanding the aggregate effects of mergers in market power. Labour markups are generally increasing with horizontal mergers. This relationship is generally driven by large firm mergers. We show that while conditional mergers sharply reduce labour markup growth, they substantially increase markup growth for materials to an extent unexplained by markups of any specific nature.

We find evidence of increasing short-run labour markup growth and long-run structural markup growth in response to mergers, but these effects are not enough to reverse the downward aggregate markup trend. What we do see, however, is that survivors in industries with greater conditional mergers are more likely to shift their markups from labour to materials in the long run. Vertical mergers increase markups through within shifts when weighting by sales, which suggests that this effect may have effects further along the supply chain. The fact that large firm mergers only push up these markups suggests that, while markups are generally falling, there is still a role to regulate markups. The impact of mergers on markups may be offset by productivity effects, but a pure distinction between sales-based productivity growth and separate materials and labour markups are beyond the scope of this paper.

5 Conclusion

In this paper we estimated structural, material, and labour markups for the South African economy. As found by Budlender (2019) and Fedderke et al. (2018), we find that markups have generally fallen when measured as either labour or structural markups. Materials markups, on the other hand, are increasing over the 2012–19 period with average firm markup growth explaining most of the trend. The extent to which markups have fallen is generally overstated when examining the sheer number of industries, with the downward trend in markups being relatively muted for larger industries. The decline in general markups is primarily driven by labour markups over the period, with increasing labour shares within firms serving as a key contributing factor. This trend balances the shift of economic activity towards firms with lower labour shares within their respective industries. We show that mergers are generally positively related to structural and labour markups but clearly not to an extent that reverses the aggregate declining trend. Of particular significance is the consistent positive effect of vertical mergers on markup growth, particularly when industries are weighted by sales. This result suggests potential ripple effects along the supply chain. Importantly, the role of large firm mergers in amplifying these effects underscores the importance of regulatory oversight despite an environment of general markup decline.

References

- Akerberg, D. A., Caves, K., and Frazer, G. (2015). ‘Identification Properties of Recent Production Function Estimators’. *Econometrica*, 83(6): 2411–51. <https://doi.org/10.3982/ECTA13408>
- Aghion, P., Braun, M., and Fedderke, J. (2008). ‘Competition and Productivity Growth in South Africa’. *Economics of Transition*, 16(4): 741–68. <https://doi.org/10.1111/j.1468-0351.2008.00336.x>
- Amodio, F., Di Maio, M., Li, Y., and Piraino, P. (2020). ‘Product Market Competition and the Labour Market: Evidence from South Africa’. Tech. Rep. No. 2020/39. Helsinki: UNU-WIDER. <https://doi.org/10.35188/UNU-WIDER/2020/796-5>
- Aterido, R., Hlatshwayo, A., Pieterse, D., and Steenkamp, A. (2019). ‘Firm Dynamics, Job Outcomes, and Productivity: South African Formal Businesses, 2010–14’. Policy Research Working Paper 8788. Washington, DC: World Bank. <https://doi.org/10.1596/1813-9450-8788>
- Autor, D., Dorn, D., Katz, L. F., Patterson, C., and Reenen, J. V. (2020). ‘The Fall of the Labor Share and the Rise of Superstar Firms’. *Quarterly Journal of Economics*, 135(2): 645–709. <https://doi.org/10.1093/qje/qjaa004>
- Baqae, D. R., and Farhi, E. (2020). ‘Productivity and Misallocation in General Equilibrium’. *The Quarterly Journal of Economics*, 135(1): 105–63. <https://doi.org/10.1093/qje/qjz030>
- Bond, S., Hashemi, A., Kaplan, G., and Zoch, P. (2021). ‘Some Unpleasant Markup Arithmetic: Production Function Elasticities and Their Estimation from Production Data’. *Journal of Monetary Economics*, 121(-): 1–14. <https://doi.org/10.1016/j.jmoneco.2021.05.004>
- Brink, D., and Kilumelume, M. (2021). *Deflator Variables Supplemental Data [dataset]. Version 1.0*. Pretoria: National Treasury and UNU-WIDER [distributor of the dataset], 2021.
- Budlender, J. (2019). ‘Markups and Market Structure in South Africa: What Can be Learnt from New Administrative Data?’. Tech. Rep. No. 2019/58. Helsinki: UNU-WIDER. <https://doi.org/10.35188/UNU-WIDER/2019/692-0>
- Budlender, J., and Ebrahim, A. (2020). ‘Industry Classification in the South African Tax Microdata’. WIDER Working Paper 99/2020. Helsinki: UNU-WIDER. <https://doi.org/10.35188/UNU-WIDER/2020/856-6>
- Competition Commission of South Africa (2022). *Merger Database January 2011 to March 2021 [dataset]*. Pretoria: Competition Commission of South Africa.
- Dauda, S., Nyman, S., and Cassim, A. (2019). ‘Product Market Competition, Productivity, and Jobs: The Case of South Africa’. Tech. Rep. No. 9084. Washington, DC: World Bank. <https://doi.org/10.1596/1813-9450-9084>
- De Loecker, J. (2021). ‘Comment on (Un)pleasant... by Bond et al (2020)’. *Journal of Monetary Economics*, 121(-): 15–8. <https://doi.org/10.1016/j.jmoneco.2021.04.009>
- De Loecker, J., Eeckhout, J., and Mongey, S. (2021). ‘Quantifying Market Power and Business Dynamism in the Macroeconomy’. NBER Working Paper 2876. Cambridge, MA: National Bureau of Economic Research.

<https://doi.org/10.3386/w28761>

- De Loecker, J., Eeckhout, J., and Unger, G. (2020, 01). ‘The Rise of Market Power and the Macroeconomic Implications’. *The Quarterly Journal of Economics*, 135(2): 561–644. <https://doi.org/10.1093/qje/qjz041>
- De Loecker, J., and Scott, P. T. (2022). *Markup Estimation Using Production and Demand Data. An Application to the US Brewing Industry*. (Unpublished paper)
- De Loecker, J., and Warzynski, F. (2012). ‘Markups and Firm-Level Export Status’. *American Economic Review*, 102(6): 2437–71. <https://doi.org/10.1257/aer.102.6.2437>
- Dobbelaere, S., and Mairesse, J. (2013). ‘Panel Data Estimates of the Production Function and Product and Labor Market Imperfections’. *Journal of Applied Econometrics*, 28(1): 1–46. <https://doi.org/10.1002/jae.1256>
- Ebrahim, A., Kreuser, F., and Kilumelume, M. (2021). ‘The guide to the cit-irp5 panel version 4.0’. *WIDER Working Paper*,(2021/173): .
- Economic Development Department (2011). *The New Growth Path: Framework*. Pretoria: Government of the Republic of South Africa.
- Fedderke, J., and Hill, A. J. (2011). ‘Industry Structure and Labor Market Flexibility in the South African Manufacturing Sector: A Time Series and Panel Data Approach’. *Economic Modelling*, 28(3): 1291–302. <https://doi.org/10.1016/j.econmod.2011.01.006>
- Fedderke, J., Obikili, N., and Vieg, N. (2018). ‘Markups and Concentration in South African Manufacturing Sectors: An Analysis with Administrative Data’. *South African Journal of Economics*, 86(S1): 120–40. <https://doi.org/10.1111/saje.12175>
- Gal, P. N. (2013). ‘Measuring Total Factor Productivity at the Firm Level Using OECD-ORBIS’. OECD Economics Department Working Paper 1049. Paris: OECD. <https://doi.org/10.1787/5k46dsb251s6-en>
- Gandhi, A., Navarro, S., and Rivers, D. (2017). ‘How Heterogeneous is Productivity? A Comparison of Gross Output and Value Added’. CHCP Working Paper 2017-27. London, ON: Centre for Human Capital and Productivity (CHCP), Department of Economics, University of Western Ontario.
- Gandhi, A., Navarro, S., and Rivers, D. A. (2020). ‘On the Identification of Gross Output Production Functions’. *Journal of Political Economy*, 128(8): 2973–3016. <https://doi.org/10.1086/707736>
- Hashemi, A., Kirov, I., and Traina, J. (2022). ‘The Production Approach to Markup Estimation Often Measures Input Distortions’. *Economics Letters*, 217(-): 110673. <https://doi.org/10.1016/j.econlet.2022.110673>
- Kerr, A. (2020). *Earnings in the south african revenue service irp5 data* (No. 2020/62). Available at: <https://www.wider.unu.edu/sites/default/files/Publications/Working-paper/PDF/wp2020-62.pdf>
- Kilumelume, M., Morando, B., Newman, C., and Rand, J. (2021). ‘Tariffs, Productivity, and Resource Misallocation’. WIDER Working Paper 2021/174. Helsinki: UNU-WIDER. <https://doi.org/10.35188/UNU-WIDER/2021/114-3>
- Kreuser, C. F. (2022). *Declining Allocative Efficiency, Falling Labour Shares, and Corporate Lobbying in European Manufacturing*. Available at: https://www.dropbox.com/s/iaqxb5u011u310/Kreuser_JMP.pdf?dl=0 (Unpublished paper)
- Kreuser, C. F., and Brink, D. (2021). ‘Total Factor Productivity in South African Manufacturing Firms 2010–17’. WIDER Technical Note 20/2021. Helsinki: UNU-WIDER. <https://doi.org/10.35188/UNU-WIDER/WTN/2021-20>
- Kreuser, C. F., and Newman, C. (2018). ‘Total Factor Productivity in South African Manufacturing Firms’. *South African Journal of Economics*, 86(S1): 40–78. <https://doi.org/10.1111/saje.12179>
- Melitz, M. J., and Polanec, S. (2015). ‘Dynamic Olley-Pakes Productivity Decomposition with Entry and Exit’. *The Rand Journal of Economics*, 46(2): 362–75. <https://doi.org/10.1111/1756-2171.12088>
- Mertens, M. (2019). ‘Micro-Mechanisms Behind Declining Labour Shares: Market Power, Production Processes, and Global Competition’. IWH-CompNet Discussion Paper. Halle: The Competitiveness Research Network, Halle Institute for Economic Research.
- Mertens, M. (2022). ‘Micro-Mechanisms Behind Declining Labor Shares: Rising Market Power and Changing Modes of Production’. *International Journal of Industrial Organization*, 81(-): 102808. <https://doi.org/10.1016/j.ijindorg.2021.102808>
- National Planning Commission (2012). *National Development Plan 2030 Our Future - Make It Work*. Pretoria: The Presidency of South Africa.
- National Treasury and UNU-WIDER (2023). ‘CIT-IRP5 Firm-Level Panel 2008–2021 [dataset]. Version 5.0 (beta)’. Pretoria: South African Revenue Service [producer of the original data], 2022. Pretoria: National Treasury and UNU-WIDER [producer and distributor of the harmonized dataset], 2023.
- Newman, C., Rand, J., and Tsebe, M. A. (2019). ‘Resource Misallocation and Total Factor Productivity: Manufacturing Firms in South Africa’. WIDER Working Paper 2019/46. Helsinki: UNU-WIDER. <https://doi.org/10.35188/UNU-WIDER/2019/680-7>

Olley, G. S., and Pakes, A. (1996). 'The Dynamics of Productivity in the Telecommunications Equipment Industry'. *Econometrica: Journal of the Econometric Society*, 64(6): 1263–97. <https://doi.org/10.2307/2171831>

A Data appendix

Table A1: Variable list and definitions

Variable's objective/role	Variable name	Variable notes
Measure of total sales of the firm.	g_sales^*	Variable is based on unadjusted data from tax returns. See section 3 for discussion and table A3. Deflated using $defl_grossvaladd$.
The preferred measure of non-labour input costs of the firm.	$matcost^*$	Variable is constructed: $matcost = g_cost - x_labcost$. Deflated using $defl_grossvaladd$.
Measure of total costs of the firm, also used in construction of preferred measure of input cost. Variable is also used in robustness checks.	g_cost	Variable is based on unadjusted data from tax returns. Deflated using $defl_grossvaladd$.
Measure of labour costs of the firm, also used in construction of preferred measure of input costs.	$x_labcost$	Variable is based on construction of data, see Ebrahim et al. (2021). Deflated using $defl_grossvaladd$.
Preferred capital stock measure.	kB^*	This variable is based on the imputed perpetual inventory capital stock, $pi_iv_k_fixed_p_10_a$, described in Kreuser and Brink (2021). As discussed in section 3, where this data is not available, we use the deflated version of the k_fixed variable.
Variable used to construct capital stock when not available.	k_fixed	Variable is constructed as: $k_fixed = k_ppe + k_faother$.
Property, Plant, and Equipment measure used in k_fixed and kB .	k_ppe	Variable based on unadjusted data from tax returns.
Other fixed assets measure used in k_fixed and kB .	$k_faother$	Variable based on unadjusted data from tax returns.
Depreciation measure used in value added construction.	$xdep_B$	Where the perpetual inventory variable is available we use $.1 \times pi_iv_k_fixed_p_10_a$. Where the $pi_iv_k_fixed_p_10_a$ variable is not available $xdep_B = .1 \times \frac{k_fixed}{defl_grosscapform} \times 100$

Table continues.

Table A1: (continued)

Variable's objective/role	Variable name	Variable notes
Preferred value added measure.	vC*	Variable is constructed as shown in (28) in section 3. In data terms: $vC = y_{gross} - (x_{admin} + x_{alt} + x_{other} + x_{maint} + x_{cprof} + x_{dntnx_provdd}) + x_{labcost} + x_{deprec}$. All except x_{deprec} are deflated using $defl_grossvaladd$.
Other Operating Expenses in construction of value added measure.	oope	$oope = x_{admin} + x_{alt} + x_{other} + x_{maint} + x_{cprof} + x_{dntnx_provdd}$. All variables in this list are defined in the code constructing the CIT panel.
Weighted Employment measure.	irp5_kerr_weight_b	Employment measure based on Kerr (2020) definition of employees and the approach of Ebrahim et al. (2021).
Industry information by digit.	imp_mic_sic7_Xd	$X \in \{1, 2, 3\}$ based on the approach of Budlender and Ebrahim (2020). Variable is adjusted as described in section 3.
Value Added Deflator	defl_grossvaladd	Data based on Brink and Kilumelume (2021).
Capital Stock Deflator	defl_grosscapform	Data based on Brink and Kilumelume (2021).

Note: this table describes the variables used in analysis. This section should be read with the data section (Section 3) and the `create_firms_data.do` file included with this paper. The merger data is described in Section 3.3. * data used in production function estimation are deflated.

Source: authors' choices based on work by Budlender (2019), Ebrahim et al. (2021), Kerr (2020), Kreuser and Newman (2018), Kreuser and Brink (2021), and NT and UNU-WIDER (2023).

Table A2: Firms by sample restrictions and one digit industries for VA C, capital stock B, weighted employees, and inputs materials

Industry	Samp.	2012	2013	2014	2015	2016	2017	2018	2019
A.F.F	Full	32,524	34,124	36,209	38,472	43,337	47,341	50,745	53,268
	Valid	2,846 (8.75%)	2,832 (8.3%)	2,915 (8.05%)	3,141 (8.16%)	3,353 (7.74%)	3,483 (7.36%)	3,697 (7.29%)	3,676 (6.9%)
	Fin. Samp.	1,833 (5.64%) [64.4%]	1,866 (5.47%) [65.9%]	1,948 (5.38%) [66.8%]	2,100 (5.46%) [66.9%]	2,246 (5.18%) [67%]	2,442 (5.16%) [70.1%]	2,670 (5.26%) [72.2%]	2,604 (4.89%) [70.8%]
M.Q.	Full	6,325	6,653	6,898	7,223	7,952	8,463	8,943	8,933
	Valid	720 (11.4%)	780 (11.7%)	781 (11.3%)	787 (10.9%)	827 (10.4%)	824 (9.74%)	903 (10.1%)	911 (10.2%)
	Fin. Samp.	480 (7.59%) [66.7%]	516 (7.76%) [66.2%]	531 (7.7%) [68%]	558 (7.73%) [70.9%]	574 (7.22%) [69.4%]	607 (7.17%) [73.7%]	660 (7.38%) [73.1%]	657 (7.35%) [72.1%]
Manuf.	Full	41,431	41,351	41,827	42,675	45,550	47,409	48,577	47,724
	Valid	14,200 (34.3%)	14,316 (34.6%)	14,544 (34.8%)	14,664 (34.4%)	14,729 (32.3%)	14,873 (31.4%)	14,671 (30.2%)	14,191 (29.7%)
	Fin. Samp.	10,611 (25.6%) [74.7%]	10,812 (26.1%) [75.5%]	10,985 (26.3%) [75.5%]	11,113 (26%) [75.8%]	11,267 (24.7%) [76.5%]	11,472 (24.2%) [77.1%]	11,451 (23.6%) [78.1%]	10,930 (22.9%) [77%]
Constr.	Full	108,955	113,116	119,037	123,971	136,044	143,028	146,052	139,842
	Valid	9,150 (8.4%)	9,479 (8.38%)	9,851 (8.28%)	10,238 (8.26%)	10,603 (7.79%)	10,926 (7.64%)	11,026 (7.55%)	10,901 (7.8%)
	Fin. Samp.	6,048 (5.55%) [66.1%]	6,272 (5.54%) [66.2%]	6,518 (5.48%) [66.2%]	6,882 (5.55%) [67.2%]	7,311 (5.37%) [69%]	7,772 (5.43%) [71.1%]	8,037 (5.5%) [72.9%]	7,804 (5.58%) [71.6%]
Trade.	Full	98,297	95,430	96,035	96,596	102,094	104,838	106,913	103,421
	Valid	27,119 (27.6%)	28,352 (29.7%)	28,689 (29.9%)	29,380 (30.4%)	29,848 (29.2%)	30,453 (29%)	30,581 (28.6%)	30,035 (29%)
	Fin. Samp.	22,071 (22.5%) [81.4%]	23,050 (24.2%) [81.3%]	23,456 (24.4%) [81.8%]	24,059 (24.9%) [81.9%]	24,676 (24.2%) [82.7%]	25,403 (24.2%) [83.4%]	25,769 (24.1%) [84.3%]	24,975 (24.1%) [83.2%]
Trans.	Full	25,528	25,143	25,505	25,887	27,952	28,743	29,185	27,794
	Valid	2,508 (9.82%)	2,643 (10.5%)	2,806 (11%)	2,856 (11%)	2,952 (10.6%)	3,058 (10.6%)	3,176 (10.9%)	3,227 (11.6%)
	Fin. Samp.	1,852 (7.25%) [73.8%]	1,979 (7.87%) [74.9%]	2,082 (8.16%) [74.2%]	2,127 (8.22%) [74.5%]	2,270 (8.12%) [76.9%]	2,398 (8.34%) [78.4%]	2,534 (8.68%) [79.8%]	2,508 (9.02%) [77.7%]
Accom.	Full	40,316	40,450	41,016	41,604	44,349	45,729	46,555	43,788
	Valid	4,605 (11.4%)	5,016 (12.4%)	5,197 (12.7%)	5,424 (13%)	5,669 (12.8%)	5,986 (13.1%)	6,173 (13.3%)	5,922 (13.5%)
	Fin. Samp.	3,524 (8.74%) [76.5%]	3,840 (9.49%) [76.6%]	3,983 (9.71%) [76.6%]	4,192 (10.1%) [77.3%]	4,467 (10.1%) [78.8%]	4,789 (10.5%) [80%]	5,067 (10.9%) [82.1%]	4,807 (11%) [81.2%]
Infor.	Full	18,285	19,432	20,460	21,839	24,463	26,235	27,430	27,244
	Valid	2,788 (15.2%)	2,832 (14.6%)	2,942 (14.4%)	3,063 (14%)	3,179 (13%)	3,250 (12.4%)	3,303 (12%)	3,352 (12.3%)
	Fin. Samp.	1,878 (10.3%) [67.4%]	1,923 (9.9%) [67.9%]	1,994 (9.75%) [67.8%]	2,090 (9.57%) [68.2%]	2,218 (9.07%) [69.8%]	2,325 (8.86%) [71.5%]	2,422 (8.83%) [73.3%]	2,428 (8.91%) [72.4%]
Financial.	Full	43,863	44,515	44,732	45,248	47,738	49,269	50,203	48,289
	Valid	1,010 (2.3%)	948 (2.13%)	929 (2.08%)	909 (2.01%)	919 (1.93%)	900 (1.83%)	908 (1.81%)	885 (1.83%)
	Fin. Samp.	720 (1.64%) [71.3%]	676 (1.52%) [71.3%]	659 (1.47%) [70.9%]	628 (1.39%) [69.1%]	641 (1.34%) [69.7%]	664 (1.35%) [73.8%]	689 (1.37%) [75.9%]	653 (1.35%) [73.8%]

Table continues.

Table A2: (continued)

Industry	Samp.	2012	2013	2014	2015	2016	2017	2018	2019
Real Est.	Full	122,816	112,434	108,398	105,416	106,348	104,543	101,630	93,931
	Valid	1,173 (.955%)	1,113 (.99%)	1,067 (.984%)	1,009 (.957%)	1,031 (.969%)	972 (.93%)	970 (.954%)	908 (.967%)
	Fin. Samp.	852 (.694%) [72.6%]	786 (.699%) [70.6%]	718 (.662%) [67.3%]	698 (.662%) [69.2%]	702 (.66%) [68.1%]	687 (.657%) [70.7%]	702 (.691%) [72.4%]	634 (.675%) [69.8%]
Prof.	Full	33,211	34,836	36,560	38,891	43,269	46,362	48,990	49,124
	Valid	3,253 (9.79%)	3,277 (9.41%)	3,361 (9.19%)	3,511 (9.03%)	3,676 (8.5%)	3,744 (8.08%)	3,835 (7.83%)	3,958 (8.06%)
	Fin. Samp.	2,150 (6.47%) [66.1%]	2,182 (6.26%) [66.6%]	2,267 (6.2%) [67.5%]	2,377 (6.11%) [67.7%]	2,552 (5.9%) [69.4%]	2,669 (5.76%) [71.3%]	2,826 (5.77%) [73.7%]	2,886 (5.87%) [72.9%]
Admin.	Full	23,425	24,871	25,923	27,199	30,135	32,186	33,594	33,612
	Valid	2,147 (9.17%)	2,137 (8.59%)	2,182 (8.42%)	2,254 (8.29%)	2,370 (7.86%)	2,454 (7.62%)	2,459 (7.32%)	2,460 (7.32%)
	Fin. Samp.	1,506 (6.43%) [70.1%]	1,517 (6.1%) [71%]	1,536 (5.93%) [70.4%]	1,593 (5.86%) [70.7%]	1,703 (5.65%) [71.9%]	1,812 (5.63%) [73.8%]	1,855 (5.52%) [75.4%]	1,807 (5.38%) [73.5%]
Arts.	Full	113,792	112,856	107,661	109,022	116,489	119,123	117,364	104,215
	Valid	6,816 (5.99%)	6,911 (6.12%)	6,871 (6.38%)	6,838 (6.27%)	6,872 (5.9%)	6,981 (5.86%)	7,062 (6.02%)	6,817 (6.54%)
	Fin. Samp.	4,910 (4.31%) [72%]	5,016 (4.44%) [72.6%]	4,919 (4.57%) [71.6%]	4,934 (4.53%) [72.2%]	5,033 (4.32%) [73.2%]	5,246 (4.4%) [75.1%]	5,418 (4.62%) [76.7%]	5,155 (4.95%) [75.6%]
O. Serv.	Full	1,719	1,784	1,768	1,796	2,019	2,074	2,120	2,026
	Valid	98 (5.7%)	93 (5.21%)	92 (5.2%)	90 (5.01%)	86 (4.26%)	78 (3.76%)	68 (3.21%)	52 (2.57%)
	Fin. Samp.	70 (4.07%) [71.4%]	66 (3.7%) [71%]	60 (3.39%) [65.2%]	63 (3.51%) [70%]	62 (3.07%) [72.1%]	53 (2.56%) [67.9%]	44 (2.08%) [64.7%]	32 (1.58%) [61.5%]

Note : this table shows the firms for each one digit industry by data availability. Full refers to the full sample and valid refers to firms with non-missing positive values for VA C, Capital B, Weighted Employees, Inputs mat, and total labour costs. Fin Samp. limits the sample to firms with no temporary missing variables. The figures in round parentheses are the aggregate of the variable in the restriction as percentage of the full sample. The figures in the square brackets are the same as a percentage of the valid sample. A.F.F stands for Agriculture, forestry and fishing. M.Q. stands for Mining and quarrying. Manuf. stands for Manufacturing. Constr. stands for Construction. Trade. stands for Wholesale and retail trade; repair of motor vehicles and motorcycles. Trans. stands for Transportation and storage. Accom. stands for Accommodation and food service activities. Infor. stands for Information and communication. Financial. stands for Financial and insurance activities. Real Est. stands for Real estate activities. Prof. stands for Professional, scientific and technical activities. Admin. stands for Administrative and support service activities. Public. stands for Public administration and defence; compulsory social security. Educa. stands for Education. Health. stands for Human health and social work activities. Arts. stands for Arts, entertainment and recreation. O. Serv. stands for Other service activities. External stands for Activities of extraterritorial organizations and bodies, not economically active people, unemployed people, etc.

Source: authors' calculations based on NT and UNU-WIDER (2023).

Table A3: (continued)

Industry	Samp.	2012	2013	2014	2015	2016	2017	2018	2019
Arts.	Full	194,802,027.625	200,211,951.912	202,587,197.544	203,029,482.832	207,093,924.224	196,079,616.605	198,528,088.204	196,645,205.058
	Valid	120,722,433.376 (62%)	127,859,636.06 (63.9%)	131,861,242.986 (65.1%)	130,734,749.072 (64.4%)	134,469,266.135 (64.9%)	127,823,976.475 (65.2%)	127,849,627.5 (64.4%)	123,012,915.406 (62.6%)
	Fin. Samp.	93,358,120.1353 (47.9%) [77.3%]	101,560,536.992 (50.7%) [79.4%]	103,987,354.017 (51.3%) [78.9%]	104,293,740.547 (51.4%) [79.8%]	110,980,113.123 (53.6%) [82.5%]	104,876,026.604 (53.5%) [82%]	107,653,271.434 (54.2%) [84.2%]	103,488,478.917 (52.6%) [84.1%]
O. Serv.	Full	2,569,736.58767	2,619,029.07564	2,537,355.67713	2,495,193.93	2,365,280.0516	2,216,676.50119	1,653,952.11866	1,227,074.52222
	Valid	1,784,475.41356 (69.4%)	1,816,326.65587 (69.4%)	1,861,143.93888 (73.3%)	1,734,797.47159 (69.5%)	1,609,235.2612 (68%)	1,524,691.45708 (68.8%)	1,040,881.95038 (62.9%)	719,980.829625 (58.7%)
	Fin. Samp.	1,565,966.21706 (60.9%) [87.8%]	1,568,802.41156 (59.9%) [86.4%]	1,531,918.702 (60.4%) [82.3%]	1,403,799.02116 (56.3%) [80.9%]	1,293,879.13653 (54.7%) [80.4%]	1,206,191.96831 (54.4%) [79.1%]	704,805.189125 (42.6%) [67.7%]	412,350.04325 (33.6%) [57.3%]

Note: this table shows the real sales for each one digit industry by data availability. Full refers to the full sample and valid refers to firms with non-missing positive values for VA C, Capital B, Weighted Employees, Inputs mat, and total labour costs. Fin Samp. limits the sample to firms with no temporary missing variables. The figures in round parentheses are the aggregate of the variable in the restriction as percentage of the full sample. The figures in the square brackets are the same as a percentage of the valid sample. A.F.F stands for Agriculture, forestry and fishing. M.Q. stands for Mining and quarrying. Manuf. stands for Manufacturing. Constr. stands for Construction. Trade. stands for Wholesale and retail trade; repair of motor vehicles and motorcycles. Trans. stands for Transportation and storage. Accom. stands for Accommodation and food service activities. Infor. stands for Information and communication. Financial. stands for Financial and insurance activities. Real Est. stands for Real estate activities. Prof. stands for Professional, scientific and technical activities. Admin. stands for Administrative and support service activities. Public. stands for Public administration and defence; compulsory social security. Educa. stands for Education. Health. stands for Human health and social work activities. Arts. stands for Arts, entertainment and recreation. O. Serv. stands for Other service activities. External stands for Activities of extraterritorial organizations and bodies, not economically active people, unemployed people, etc.

Source: authors' calculations based on NT and UNU-WIDER (2023).

Table A4: Labour share of VA (C) by sample restrictions and one digit industries for VA C, capital stock B, weighted employees, and inputs materials

Industry	Samp.	2012	2013	2014	2015	2016	2017	2018	2019
A.F.F	Full	.352	.358	.347	.346	.34	.35	.343	.343
	Valid	.297	.34	.317	.318	.311	.313	.306	.322
		(84.1%)	(95.2%)	(91.5%)	(92%)	(91.3%)	(89.4%)	(89.4%)	(94%)
Fin. Samp.		.298	.347	.326	.321	.316	.321	.306	.324
		(84.4%)	(97.1%)	(94.1%)	(92.8%)	(92.9%)	(91.7%)	(89.2%)	(94.5%)
		[100%]	[102%]	[103%]	[101%]	[102%]	[103%]	[99.8%]	[101%]
M.Q.	Full	.311	.259	.263	.316	.269	.296	.282	.265
	Valid	.197	.256	.243	.295	.292	.246	.245	.245
		(63.3%)	(98.5%)	(92.4%)	(93.3%)	(109%)	(83.2%)	(86.8%)	(92.6%)
Fin. Samp.		.193	.254	.248	.298	.302	.25	.245	.243
		(62.3%)	(97.9%)	(94.1%)	(94.4%)	(113%)	(84.5%)	(86.8%)	(91.7%)
		[98.4%]	[99.4%]	[102%]	[101%]	[103%]	[102%]	[100%]	[99%]
Manuf.	Full	.303	.315	.319	.322	.331	.329	.337	.349
	Valid	.307	.327	.332	.326	.322	.326	.33	.339
		(101%)	(104%)	(104%)	(101%)	(97.2%)	(99%)	(97.9%)	(97.1%)
Fin. Samp.		.302	.325	.33	.33	.326	.327	.333	.342
		(99.7%)	(103%)	(103%)	(102%)	(98.4%)	(99.2%)	(98.7%)	(98.2%)
		[98.4%]	[99.3%]	[99.3%]	[101%]	[101%]	[100%]	[101%]	[101%]
Constr.	Full	.425	.357	.429	.434	.438	.436	.452	.456
	Valid	.398	.41	.393	.398	.389	.394	.402	.41
		(93.7%)	(115%)	(91.7%)	(91.8%)	(88.9%)	(90.4%)	(89%)	(89.9%)
Fin. Samp.		.387	.403	.382	.399	.381	.398	.403	.412
		(91%)	(113%)	(89.1%)	(92.1%)	(87.1%)	(91.4%)	(89.1%)	(90.2%)
		[97.1%]	[98.2%]	[97.1%]	[100%]	[98%]	[101%]	[100%]	[100%]
Trade.	Full	.348	.381	.381	.371	.371	.369	.371	.378
	Valid	.331	.362	.359	.354	.355	.353	.357	.359
		(95.1%)	(95%)	(94.3%)	(95.5%)	(95.5%)	(95.8%)	(96.2%)	(95.1%)
Fin. Samp.		.347	.361	.359	.353	.354	.352	.355	.358
		(99.8%)	(94.7%)	(94.1%)	(95.2%)	(95.3%)	(95.5%)	(95.8%)	(94.7%)
		[105%]	[99.7%]	[99.8%]	[99.8%]	[99.8%]	[99.6%]	[99.6%]	[99.5%]
Trans.	Full	.312	.318	.314	.304	.307	.308	.313	.32
	Valid	.303	.32	.329	.332	.335	.326	.334	.347
		(96.9%)	(101%)	(105%)	(109%)	(109%)	(106%)	(107%)	(108%)
Fin. Samp.		.28	.31	.315	.317	.325	.32	.316	.324
		(89.6%)	(97.5%)	(100%)	(104%)	(106%)	(104%)	(101%)	(101%)
		[92.5%]	[96.9%]	[95.8%]	[95.4%]	[97.1%]	[98.2%]	[94.6%]	[93.4%]
Accom.	Full	.372	.395	.403	.4	.399	.394	.401	.406
	Valid	.33	.379	.383	.382	.383	.38	.379	.38
		(88.7%)	(96.1%)	(95.1%)	(95.6%)	(95.8%)	(96.4%)	(94.7%)	(93.6%)
Fin. Samp.		.32	.375	.381	.38	.382	.378	.378	.377
		(86.2%)	(95.1%)	(94.4%)	(95%)	(95.6%)	(96%)	(94.4%)	(92.9%)
		[97.1%]	[98.9%]	[99.3%]	[99.3%]	[99.8%]	[99.5%]	[99.7%]	[99.3%]
Infor.	Full	.279	.297	.302	.305	.303	.292	.29	.291
	Valid	.204	.238	.245	.248	.259	.251	.252	.252
		(73%)	(80.1%)	(81%)	(81.2%)	(85.6%)	(85.9%)	(86.9%)	(86.6%)
Fin. Samp.		.186	.222	.232	.231	.235	.224	.227	.232
		(66.8%)	(74.9%)	(76.6%)	(75.5%)	(77.5%)	(76.7%)	(78.5%)	(79.7%)
		[91.5%]	[93.5%]	[94.6%]	[92.9%]	[90.5%]	[89.3%]	[90.3%]	[92%]
Financial.	Full	.871	.959	.911	.816	.266	.811	.932	.826
	Valid	.427	.425	.428	.44	.444	.45	.45	.45
		(49%)	(44.3%)	(47%)	(53.9%)	(167%)	(55.5%)	(48.3%)	(54.5%)
Fin. Samp.		.447	.437	.435	.446	.456	.455	.458	.475
		(51.3%)	(45.5%)	(47.7%)	(54.6%)	(171%)	(56.1%)	(49.2%)	(57.5%)
		[105%]	[103%]	[102%]	[101%]	[103%]	[101%]	[102%]	[106%]
Real Est.	Full	.065	.147	.154	.147	.151	.148	.148	.154
	Valid	.223	.236	.216	.215	.224	.211	.191	.154
		(345%)	(160%)	(140%)	(146%)	(149%)	(143%)	(129%)	(100%)
Fin. Samp.		.208	.219	.202	.203	.219	.194	.171	.138
		(321%)	(149%)	(131%)	(138%)	(145%)	(131%)	(116%)	(89.7%)
		[93.1%]	[92.9%]	[93.6%]	[94.3%]	[97.5%]	[91.9%]	[89.7%]	[89.5%]
Prof.	Full	.48	.487	.485	.791	.501	.509	.508	.503
	Valid	.404	.422	.425	.42	.392	.389	.394	.401
		(84.2%)	(86.6%)	(87.6%)	(53.1%)	(78.3%)	(76.4%)	(77.6%)	(79.7%)
Fin. Samp.		.423	.43	.435	.429	.393	.385	.396	.398
		(88.1%)	(88.3%)	(89.8%)	(54.2%)	(78.5%)	(75.6%)	(78%)	(79.1%)
		[105%]	[102%]	[103%]	[102%]	[100%]	[99%]	[100%]	[99.3%]
Admin.	Full	.493	.514	.513	.56	.563	.541	.562	.574
	Valid	.311	.322	.339	.364	.372	.337	.337	.35
		(63.1%)	(62.6%)	(66%)	(65%)	(66%)	(62.3%)	(60.1%)	(61.1%)
Fin. Samp.		.304	.313	.334	.365	.379	.342	.333	.342
		(61.6%)	(60.9%)	(65.1%)	(65.3%)	(67.4%)	(63.2%)	(59.2%)	(59.6%)
		[97.7%]	[97.2%]	[98.7%]	[100%]	[102%]	[101%]	[98.7%]	[97.6%]

Table continues.

Table A4: (continued)

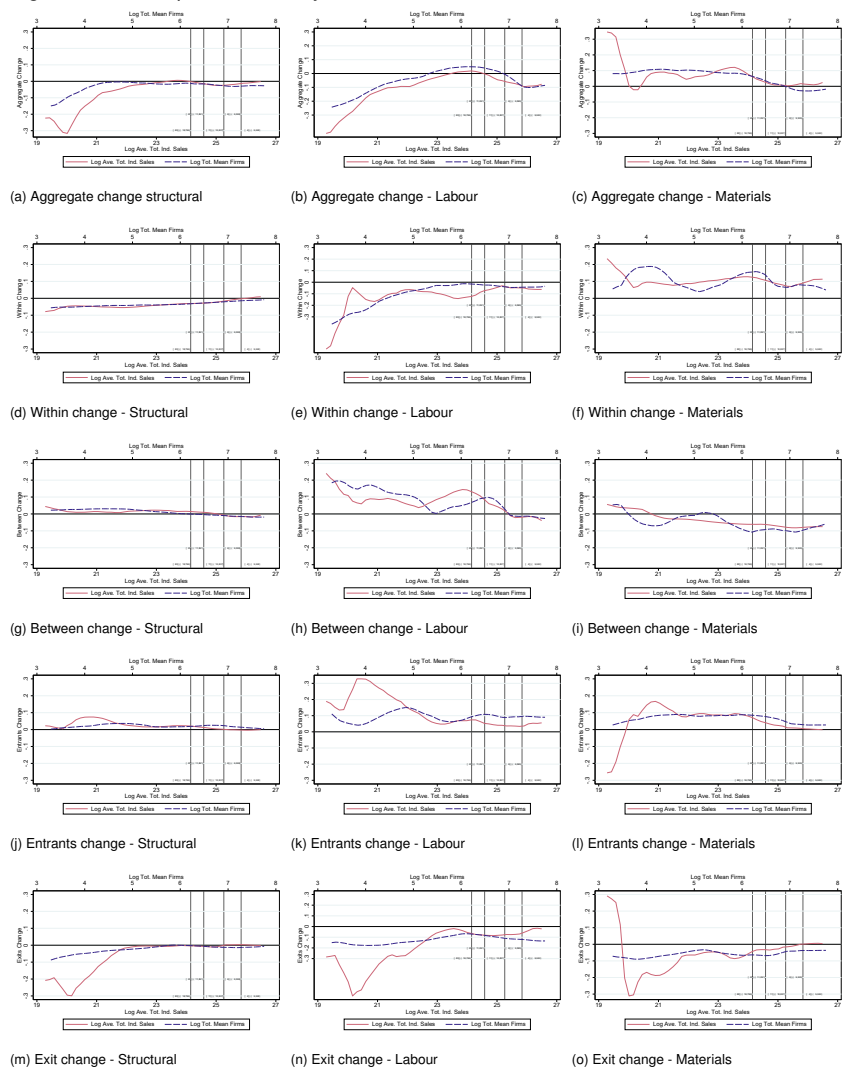
Industry	Samp.	2012	2013	2014	2015	2016	2017	2018	2019
Arts.	Full	.43	.444	.445	.449	.45	.449	.449	.454
	Valid	.38	.379	.385	.384	.381	.386	.38	.38
		(88.4%)	(85.3%)	(86.3%)	(85.5%)	(84.6%)	(85.9%)	(84.8%)	(83.8%)
	Fin. Samp.	.376	.376	.381	.38	.377	.381	.373	.374
		(87.4%)	(84.6%)	(85.5%)	(84.7%)	(83.6%)	(84.7%)	(83.2%)	(82.3%)
		[98.8%]	[99.1%]	[99.1%]	[99.1%]	[98.8%]	[98.7%]	[98.2%]	[98.3%]
O. Serv.	Full	.38	.355	.393	.376	.377	.389	.399	.377
	Valid	.328	.346	.363	.371	.366	.383	.422	.434
		(86.3%)	(97.6%)	(92.3%)	(98.5%)	(97.2%)	(98.4%)	(106%)	(115%)
	Fin. Samp.	.312	.334	.35	.343	.339	.351	.423	.429
		(82.2%)	(94.2%)	(89%)	(91.2%)	(90%)	(90.2%)	(106%)	(114%)
		[95.2%]	[96.5%]	[96.4%]	[92.5%]	[92.7%]	[91.6%]	[100%]	[98.9%]

Note: this table shows the labour share of VA (C) for each one digit industry by data availability. Full refers to the full sample and valid refers to firms with non-missing positive values for VA C, Capital B, Weighted Employees, Inputs mat, and total labour costs. Fin Samp. limits the sample to firms with no temporary missing variables. The figures in round parentheses are the aggregate of the variable in the restriction as percentage of the full sample. The figures in the square brackets are the same as a percentage of the valid sample. A.F.F stands for Agriculture, forestry and fishing. M.Q. stands for Mining and quarrying. Manuf. stands for Manufacturing. Constr. stands for Construction. Trade. stands for Wholesale and retail trade; repair of motor vehicles and motorcycles. Trans. stands for Transportation and storage. Accom. stands for Accommodation and food service activities. Infor. stands for Information and communication. Financial. stands for Financial and insurance activities. Real Est. stands for Real estate activities. Prof. stands for Professional, scientific and technical activities. Admin. stands for Administrative and support service activities. Public. stands for Public administration and defence; compulsory social security. Educa. stands for Education. Health. stands for Human health and social work activities. Arts. stands for Arts, entertainment and recreation. O. Serv. stands for Other service activities. External stands for Activities of extraterritorial organizations and bodies, not economically active people, unemployably active people, unemployed people, etc.

Source: authors' calculations based on NT and UNU-WIDER (2023).

B Markup appendix

Figure B1: Markups and industry size

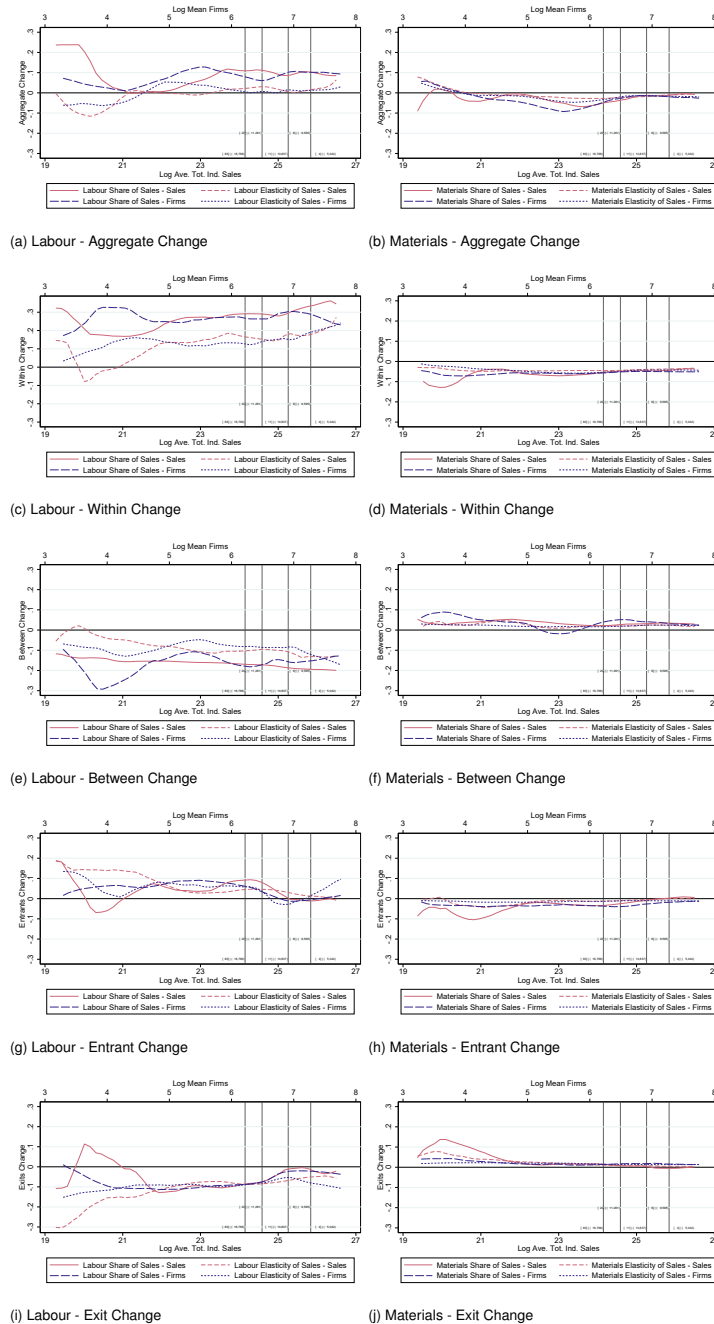


Note: this figure shows local polynomial plots of the change in markups and log average total industry sales, on the bottom x-axis, and log total mean firms on the top x-axis. Each panel shows a different component of the Melitz-Polanec decomposed change of the relevant measure over the period 2012–19. The change in each value is relative to the industry's aggregate value in 2012, that is $\frac{MP(X)_{2019,t,t}^Y}{X_{i,2012}}$ with $Y \in \{Aggregate, Stayers, Within, Between\}$. The decompositions are defined in the following equations: Aggregate Change (22), Within Change (24), Between Change (25), Entrants Change (26), and Exits Change (27). Materials and labour markups are defined as in Equation (7) and structural markups are defined as in Equation (13). Note: the vertical lines separate industries into quintiles. In all figures the bottom 20% of total sales are contributed by 83 industries [in square brackets] and 18,766 firms (in parentheses). The next quintile (20%,40%) of total sales are contributed by 20 industries with a total of 11,261 unique firms. The (40%,60%) quintile is captured by 11 industries and 10,837 unique firms. The next quintile (60%,80%) is captured by 6 industries and 9,595 firms. The top quintile, (80%,100%), is captured by 4 industries and 5,042 firms.

In this figure, a value above the 0 horizontal line indicates that the value on the y-axis has increased between 2012 and 2019 whereas a value below the horizontal means a fall in the relevant measure.

Source: authors' own figure based on version 5, beta, of the CIT-IRP5 (NT and UNU-WIDER 2023).

Figure B2: Input shares, elasticities, and industry size

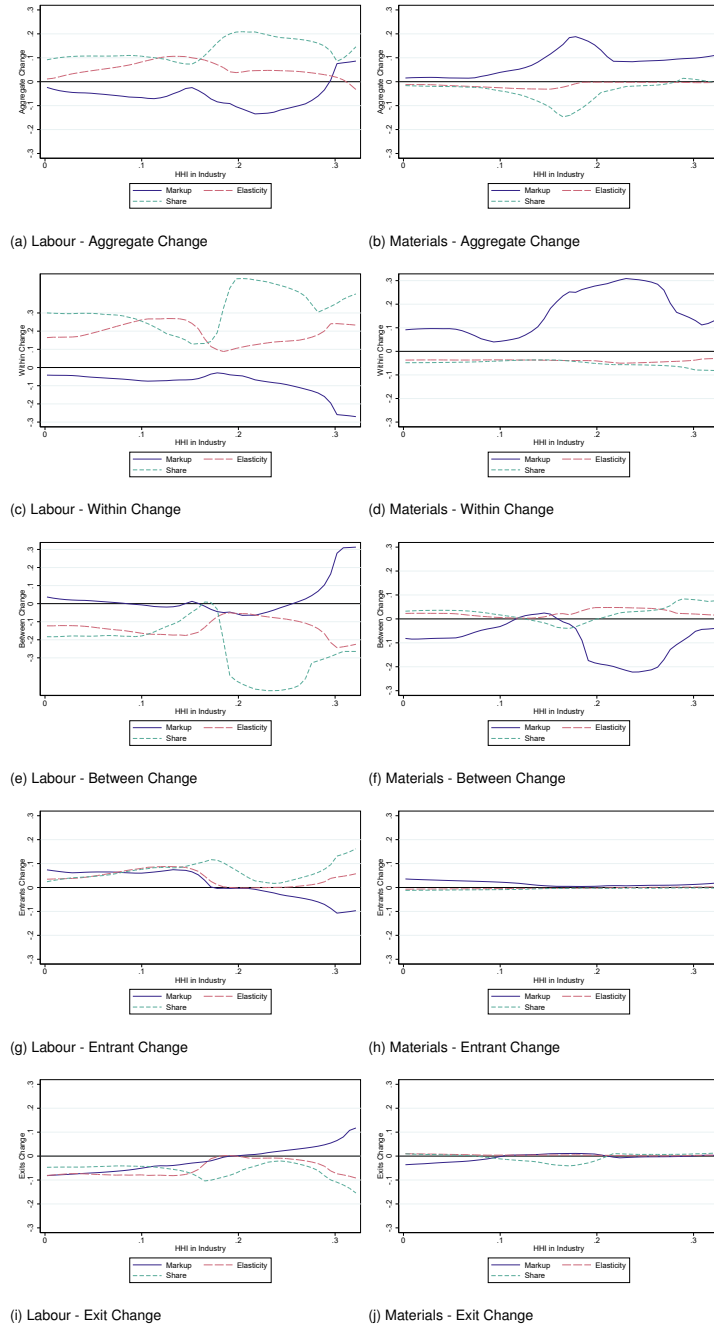


Note: this figure shows local polynomial plots of the change in input shares and factor elasticity and log average total industry sales, on the bottom x-axis, and log total mean firms on the top x-axis. Each panel shows a different component of the Melitz-Polanec decomposed change of the relevant measure over the period 2012–19. The change in each value is relative to the industry's aggregate value in 2012, that is $\frac{MP(X)_{2019,t,t}^Y}{X_{t,2012}^Y}$ with $Y \in \{Aggregate, Stayers, Within, Between\}$. The decompositions are defined in the following equations: Aggregate Change (22), Within Change (24), Between Change (25), Entrants Change (26), and Exits Change (27). Material and labour elasticity's are the coefficients from the firm sales Translog production function, whereas their shares are defined with respect to sales. Note: the vertical lines separate industries into quintiles. In all figures the bottom 20% of total sales are contributed by 83 industries [in square brackets] and 18,766 firms (in parentheses). The next quintile (20%,40%) of total sales are contributed by 20 industries with a total of 11,261 unique firms. The (40%,60%) quintile is captured by 11 industries and 10,837 unique firms. The next quintile (60%,80%) is captured by 6 industries and 9,595 firms. The top quintile, (80%,100%], is captured by 4 industries and 5,042 firms.

In this figure, a value above the 0 horizontal line indicates that the value on the y-axis has increased between 2012 and 2019 whereas a value below the horizontal means a fall in the relevant measure.

Source: authors' own figure based on version 5, beta, of the CIT-IRP5 (NT and UNU-WIDER 2023).

Figure B3: Markups, input shares, elasticities, and concentration



Note: this figure shows local polynomial plots of the change in input shares, factor elasticity, and markups and HHI per industry. Each panel shows a different component of the Melitz-Polanec decomposed change of the relevant measure over the period 2012–19. The change in each value is relative to the industry's aggregate value in 2012, that is $\frac{MP(X)_t^{19,t}}{X_t^{2012}}$ with $Y \in \{Aggregate, Stayers, Within, Between\}$. The decompositions are defined in the following equations: Aggregate Change (22), Within Change (24), Between Change (25), Entrants Change (26), and Exits Change (27). Material and labour elasticity's are the coefficients from the firm sales Translog production function, whereas their shares are defined with respect to sales, the markup for labour and materials are defined as in Equation (7). In this figure, a value above the 0 horizontal line indicates that the value on the y-axis has increased between 2012 and 2019 whereas a value below the horizontal means a fall in the relevant measure. Source: authors' own figure based on version 5, beta, of the CIT-IRP5 (NT and UNU-WIDER 2023).

C Merger regression appendix

C1 Base merger regressions

Table C12: Lagged mergers and sales weighted structural markups—Industries weighted by mean number of firms in the industry

	Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}	Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}	
$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	.1649* (.0652) [868]	.0373 (.0639) [744]	.1697*** (.0462) [620]	.3392*** (.0727) [496]	.3513** (.1106) [372]	.5251* (.201) [248]	.2015 (.3153) [124]	$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	.1559*** (.0428) [868]	.0721 (.044) [744]	.0311 (.0567) [620]	.0893 (.1081) [496]	.0234 (.1082) [372]	.1996 (.2586) [248]	-.2054 (.2438) [124]
$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	.2425 (.1667) [744]	.1934 (.1492) [744]	.211* (.0948) [620]	.5391*** (.1039) [496]	.7518*** (.1853) [372]	1.093*** (.217) [248]	1.372*** (.4306) [124]	$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	.3019*** (.0584) [744]	.2661** (.0896) [744]	.1798*** (.0638) [620]	.1589 (.1345) [496]	.2322 (.178) [372]	.4048 (.3143) [248]	.5871 (.4582) [124]
$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	.4067*** (.0736) [620]	.1663 (.2058) [620]	.2434 (.1479) [620]	.443*** (.1011) [496]	.6573*** (.1742) [372]	1.279*** (.3189) [248]	1.518** (.5002) [124]	$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	.3857*** (.0624) [620]	.3674*** (.0992) [620]	.3625*** (.0936) [620]	.2862** (.1352) [496]	.2511 (.2134) [372]	.5722 (.4462) [248]	.5508 (.4928) [124]
$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	.4691*** (.1282) [496]	.3767*** (.0984) [496]	.2016 (.2012) [496]	.4554*** (.1275) [496]	.4076** (.139) [372]	.9871* (.4887) [248]	1.39 [†] (.873) [124]	$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	.5128*** (.105) [496]	.4972*** (.0888) [496]	.5624*** (.113) [496]	.5413*** (.1056) [496]	.4399* (.1886) [372]	.6674 (.5151) [248]	.891 (.758) [124]
$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	.819*** (.1086) [372]	.6037*** (.1279) [372]	.7275*** (.1591) [372]	.4586 (.2933) [372]	.7566** (.219) [372]	.8113** (.2542) [248]	1.162 (.7171) [124]	$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	.7764*** (.1156) [372]	.6103*** (.1169) [372]	.7596*** (.1289) [372]	.7335*** (.1223) [372]	.8418*** (.1596) [372]	.9215* (.3544) [248]	1.063 [†] (.5415) [124]
$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	1.144*** (.1805) [248]	1.159*** (.235) [248]	1.098*** (.2367) [248]	1.224*** (.3008) [248]	.8577 (.5257) [248]	1.347*** (.4025) [248]	1.429*** (.8767) [248]	$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	.8767*** (.1176) [248]	.8216*** (.1401) [248]	.8458*** (.1603) [248]	.9841*** (.1687) [248]	.8941*** (.1934) [248]	1.27** (.2957) [248]	1.28** (.4682) [124]
$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	1.715*** (.2359) [124]	1.225*** (.3039) [124]	1.56** (.3723) [124]	1.492*** (.3418) [124]	1.643*** (.453) [124]	1.152* (.4937) [124]	1.885*** (.5195) [124]	$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	1.088*** (.2338) [124]	.8748*** (.15) [124]	1.069*** (.2611) [124]	1.083*** (.216) [124]	1.162*** (.2861) [124]	1.232*** (.2555) [124]	1.903*** (.4299) [124]

(a) Aggregate change

(b) Stayers change

	Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}	Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}	
$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	.0257 (.0278) [868]	.0401 (.0321) [744]	-.0219 (.0315) [620]	.023 (.0446) [496]	-.0555 (.1026) [372]	.1053 (.0834) [248]	-.2216 (.212) [124]	$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	.1302*** (.0358) [868]	.032 (.0526) [744]	.0531 (.0627) [620]	.0664 (.1054) [496]	.079 (.1706) [372]	.0943 (.2873) [248]	.0162 (.395) [124]
$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	.1095* (.0429) [744]	.0896* (.0344) [744]	.0339 (.0441) [620]	.0184 (.0541) [496]	-.0209 (.0803) [372]	.1626* (.0861) [248]	.0372 (.2238) [124]	$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	.1924*** (.0543) [744]	.1765* (.0806) [744]	.1459* (.0816) [620]	.1405 (.127) [496]	.2531 (.2109) [372]	.2422 (.351) [248]	.5499 (.617) [124]
$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	.1206 (.0722) [620]	.1556** (.0477) [620]	.0717* (.0448) [620]	.0652 (.0642) [496]	-.0414 (.0923) [372]	.1588 (.1081) [248]	-.0229 (.1827) [124]	$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	.2651** (.0881) [620]	.2118* (.0939) [620]	.2854** (.0925) [620]	.2211* (.129) [496]	.2925 (.2468) [372]	.4134 (.4168) [248]	.5737 (.5723) [124]
$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	.2148*** (.0743) [496]	.1767* (.0769) [496]	.2085** (.0617) [496]	.1173* (.0568) [496]	.1037 (.0964) [372]	.2102* (.0804) [248]	.1631 (.161) [124]	$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	.298* (.1444) [496]	.3205** (.1104) [496]	.3539** (.1127) [496]	.424*** (.116) [496]	.3362 (.2344) [372]	.4572 (.526) [248]	.7279 (.8408) [124]
$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	.2002 [†] (.103) [372]	.2662** (.083) [372]	.2182* (.0905) [372]	.2386*** (.0669) [372]	.1437 (.119) [372]	.3847*** (.104) [248]	.2587 (.2667) [124]	$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	.5762*** (.1828) [372]	.3441* (.1442) [372]	.5414*** (.1448) [372]	.4949*** (.1356) [372]	.6981*** (.1994) [372]	.5368 (.3995) [248]	.8042 (.7134) [124]
$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	.1939 (.1281) [248]	.2158* (.1185) [248]	.2391* (.1271) [248]	.2207* (.104) [248]	.1341 (.1778) [248]	.3081** (.2375) [248]	.245 (.2375) [124]	$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	.6828** (.1797) [248]	.6059** (.1968) [248]	.6067** (.196) [248]	.7634*** (.196) [248]	.7599** (.2373) [248]	.9617** (.6334) [248]	1.035 (.6334) [124]
$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	.1497 (.2052) [124]	.234 (.147) [124]	.1143 (.2389) [124]	.1722 (.195) [124]	-.0934 (.3892) [124]	.3612* (.1583) [124]	.2163 (.2659) [124]	$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	.9382* (.3915) [124]	.6408** (.1896) [124]	.9546* (.3664) [124]	.9104** (.2685) [124]	1.255* (.52) [124]	.871** (.3095) [124]	1.687** (.5851) [124]

(c) Within change

(d) Between change

	Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}	Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}	
$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	.0531 (.0514) [868]	.0229 (.0593) [744]	.0637** (.0205) [620]	.3313*** (.095) [496]	.437** (.1273) [372]	.6985*** (.1996) [248]	.8306* (.3637) [124]	$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	-.0442 (.0359) [868]	-.0577* (.0248) [744]	.0749* (.0306) [620]	-.0815*** (.0197) [496]	-.1091*** (.0308) [372]	-.373** (.1184) [248]	-.4237 (.3065) [124]
$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	.0383 (.0813) [744]	-.0364 (.0829) [744]	-.0751 [†] (.0403) [620]	.2901*** (.0719) [496]	.4724*** (.1194) [372]	.8685*** (.2224) [248]	1.111* (.4488) [124]	$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	-.0977 (.0645) [744]	-.0363 (.0433) [744]	.1062 (.0644) [620]	.0901 (.0736) [496]	.0471 (.1372) [372]	-.1801 [†] (.0982) [248]	-.3265* (.1795) [124]
$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	.0659 (.0479) [620]	-.0531 (.0792) [620]	-.1821** (.0586) [620]	.0819 (.0765) [496]	.3067*** (.0838) [372]	.7952*** (.1816) [248]	1.169** (.4266) [124]	$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	-.045 (.0561) [620]	-.148 [†] (.0823) [620]	.0631 (.0597) [620]	.0749 (.0901) [496]	.0995 (.185) [372]	-.0879 (.1931) [248]	-.2012 (.2515) [124]
$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	-.0365 (.0539) [496]	-.0221 (.0516) [496]	-.2186** (.0656) [496]	-.0603 (.0939) [496]	.0146 (.0719) [372]	.4796** (.1634) [248]	.8989** (.2872) [124]	$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	-.0073 (.069) [496]	-.0984 (.0731) [496]	-.1422 (.1203) [496]	-.0255 (.071) [496]	-.0469 (.1525) [372]	-.1599 (.1851) [248]	-.4001 (.3124) [124]
$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	.0564 (.0663) [372]	.02 (.0793) [372]	-.0196 (.0729) [372]	-.0081 (.16) [372]	.0463 (.1309) [372]	.2647* (.1518) [248]	.7426* (.3229) [124]	$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	-.0139 (.0757) [372]	-.0267 (.0903) [372]	-.0125 (.1089) [372]	-.2667* (.1293) [372]	-.1315 (.1143) [372]	-.375* (.1513) [248]	-.6435* (.2568) [124]
$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	.3805** (.1314) [248]	.3832 [†] (.223) [248]	.1175 (.1713) [248]	.4523 [†] (.2397) [248]	.2824 (.2854) [248]	.4445 (.3893) [248]	.7124 (.5005) [124]	$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	-.1135 (.1048) [248]	-.0462 (.1219) [248]	.1344 (.1118) [248]	-.2126 [†] (.1208) [248]	-.3187 (.2026) [248]	-.3668 [†] (.1853) [248]	-.5633* (.27) [124]
$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	.9363*** (.2) [124]	.7773** (.2866) [124]	.7001 (.4657) [124]	.6898 (.4156) [124]	.8479** (.3709) [124]	.6295 (.464) [124]	.8081 (.608) [124]	$\frac{MP_{it}^{sales}}{X_{it}^{sales}}$	-.3097 (.1884) [124]	-.4269** (.1312) [124]	-.209 (.3232) [124]	-.2802 (.2084) [124]	-.3663 (.3158) [124]	-.7094** (.2474) [124]	-.827* (.3305) [124]

(e) Enter change

(f) Exit change

Note: this table shows the result of a regression on the MP decomposed change in markups defined in the first column over the cumulative proportion of mergers over the period that starts the number of years indicated in the column and ending one period before the last year of markup change. All regressions control for year effects and one-digit industry effects. All regressions are weighted by mean total number of firms per year in the three digit industry. All regressions are clustered at the two-digit level and there are 59 two-digit industries in the sample.

The decompositions are defined in the following equations: Aggregate Change (22), Stayers Change (23), Within Change (24), Between Change (25), Entrants Change (26), and Exits Change (27). Structural markups are defined as in Equation (13). Standard errors are in parentheses and the number of observations are in brackets below the coefficients.

[†] $p < .1$, * $p < .05$, ** $p < .01$, *** $p < .001$

Source: authors' calculations based on NT and UNU-WIDER (2023).

Table C14: Lagged mergers and sales weighted materials markups

Table with 14 columns (Mergers_{i,j-1} to Mergers_{i,j-7}) and 7 rows of regression results. Each cell contains a coefficient and its standard error in brackets.

(a) Aggregate change

Table with 7 columns (Mergers_{i,j-1} to Mergers_{i,j-7}) and 7 rows of regression results for aggregate change.

(b) Stayers change

Table with 7 columns (Mergers_{i,j-1} to Mergers_{i,j-7}) and 7 rows of regression results for stayers change.

(c) Within change

Table with 7 columns (Mergers_{i,j-1} to Mergers_{i,j-7}) and 7 rows of regression results for within change.

(d) Between change

Table with 7 columns (Mergers_{i,j-1} to Mergers_{i,j-7}) and 7 rows of regression results for between change.

(e) Enter change

Table with 7 columns (Mergers_{i,j-1} to Mergers_{i,j-7}) and 7 rows of regression results for enter change.

(f) Exit change

Table with 7 columns (Mergers_{i,j-1} to Mergers_{i,j-7}) and 7 rows of regression results for exit change.

Note: this table shows the result of a regression on the MP decomposed change in markups defined in the first column over the cumulative proportion of mergers over the period that starts the number of years indicated in the column and ending one period before the last year of markup change. All regressions control for year effects and one-digit industry effects. All regressions are weighted by mean total sales per year in the three digit industry. All regressions are clustered at the two-digit level and there are 59 two-digit industries in the sample.

The decompositions are defined in the following equations: Aggregate Change (22), Stayers Change (23), Within Change (24), Between Change (25), Entrants Change (26), and Exits Change (27). Materials markups are defined as in Equation (7), using the output elasticity of materials against the adjusted materials share of sales. Standard errors are in parentheses and the number of observations are in brackets below the coefficients.

† p < .1, * p < .05, ** p < .01, *** p < .001

Source: authors' calculations based on NT and UNU-WIDER (2023).

Table C23: Cumulative mergers and sales weighted labour markups

Table with 7 columns for lags (Mergers_{j-1} to Mergers_{j-7}) and 7 columns for horizons (Mergers_{j+1} to Mergers_{j+7}). Rows show coefficients and standard errors for each lag-horizon combination.

(a) Aggregate Change

(b) Stayers Change

Table with 7 columns for lags (Mergers_{j-1} to Mergers_{j-7}) and 7 columns for horizons (Mergers_{j+1} to Mergers_{j+7}). Rows show coefficients and standard errors for aggregate and stayers changes.

(c) Within Change

(d) Between Change

Table with 7 columns for lags (Mergers_{j-1} to Mergers_{j-7}) and 7 columns for horizons (Mergers_{j+1} to Mergers_{j+7}). Rows show coefficients and standard errors for within and between changes.

(e) Enter Change

(f) Exit Change

Note: this table shows the result of a regression on the MP decomposed change in markups defined in the first column over the cumulative proportion of mergers over the period that starts the number of years indicated in the column and ending one period before the last year of markup change. All regressions control for year effects and one-digit industry effects. All regressions are weighted by mean total sales per year in the three digit industry. All regressions are clustered at the two-digit level and there are 59 two-digit industries in the sample.

The decompositions are defined in the following equations: Aggregate Change (22), Stayers Change (23), Within Change (24), Between Change (25), Entrants Change (26), and Exits Change (27). Labour markups are defined as in Equation (7), using the output elasticity of labour against the adjusted labour share of sales. Standard errors are in parentheses and the number of observations are in brackets below the coefficients. † p < .1, * p < .05, ** p < .01, *** p < .001

Source: authors' calculations based on NT and UNU-WIDER (2023).

Table C34: Cumulative lagged mergers and sales weighted materials markups by conditional or unconditional merger

	Mergers ₁₋₁	Mergers ₁₋₂	Mergers ₁₋₃	Mergers ₁₋₄	Mergers ₁₋₅	Mergers ₁₋₆	Mergers ₁₋₇		Mergers ₁₋₁	Mergers ₁₋₂	Mergers ₁₋₃	Mergers ₁₋₄	Mergers ₁₋₅	Mergers ₁₋₆	Mergers ₁₋₇
$\frac{MP^{it}}{X_{it}^{it}}$	-3953	-2245	-1479 [†]	-1088	-0649	-106	.0654	$\frac{MP^{it}}{X_{it}^{it}}$	1.256**	.9974 [†]	.4215	-.4429	.4942	.8369 [†]	-.099
	(.2978)	(.143)	(.0874)	(.1369)	(.1351)	(.0984)	(.1454)		(.4488)	(.5002)	(.315)	(.8684)	(.4773)	(.4685)	(.5484)
	[868]	[744]	[620]	[496]	[372]	[248]	[124]		[868]	[744]	[620]	[496]	[372]	[248]	[124]
$\frac{MP^{it}}{X_{it}^{it}}$	-4163	-5166*	-3684*	-1915	-.0957	-.2165	-.1475	$\frac{MP^{it}}{X_{it}^{it}}$	2.205**	2.329*	1.347*	-.0767	-.1011	1.353*	.933
	(.4495)	(.2303)	(.1669)	(.1911)	(.272)	(.2292)	(.2034)		(.6664)	(.8861)	(.7084)	(.9875)	(.1247)	(.6724)	(.5992)
	[744]	[620]	[620]	[496]	[372]	[248]	[124]		[744]	[620]	[620]	[496]	[372]	[248]	[124]
$\frac{MP^{it}}{X_{it}^{it}}$	-.9219**	-.7112*	-.6846*	-.4365*	-.2631	-.2144	-.0182	$\frac{MP^{it}}{X_{it}^{it}}$	1.303	3.272*	2.546*	.7112	.193	.5706	.6801
	(.3427)	(.2071)	(.2619)	(.2228)	(.2446)	(.2086)	(.2501)		(.1189)	(.1856)	(.117)	(.6939)	(.1035)	(.9099)	(.722)
	[620]	[620]	[620]	[496]	[372]	[248]	[124]		[620]	[620]	[620]	[496]	[372]	[248]	[124]
$\frac{MP^{it}}{X_{it}^{it}}$	-.436	-.413	-.5285	-.5371 [†]	-.37	-.2395	-.0341	$\frac{MP^{it}}{X_{it}^{it}}$	-2.983*	-1.205	.6887	1.043	.3899	.2431	-.77
	(.4189)	(.4432)	(.3556)	(.2754)	(.2637)	(.3072)	(.3614)		(.1429)	(.1664)	(.1234)	(.8517)	(.1081)	(.1267)	(.1087)
	[496]	[496]	[496]	[496]	[372]	[248]	[124]		[496]	[496]	[496]	[496]	[372]	[248]	[124]
$\frac{MP^{it}}{X_{it}^{it}}$	-.3592	-.1475	-.2639	-.4186	-.4576*	-.3649	-.1186	$\frac{MP^{it}}{X_{it}^{it}}$	-1.554	-1.623	-.3721	1.196	1.386	1.265	.6978
	(.3983)	(.4234)	(.3977)	(.3207)	(.2652)	(.2633)	(.3306)		(.127)	(.1625)	(.1604)	(.1215)	(.9911)	(.8972)	(.8981)
	[372]	[372]	[372]	[372]	[372]	[248]	[124]		[372]	[372]	[372]	[372]	[372]	[248]	[124]
$\frac{MP^{it}}{X_{it}^{it}}$	-.5945	-.3075	-.001	-.1296	-.2949	-.4112	-.2944	$\frac{MP^{it}}{X_{it}^{it}}$	-7.933	-2.353	-1.494	-.599	-.7844	1.555*	.9857
	(.6009)	(.5378)	(.449)	(.387)	(.3471)	(.2857)	(.2845)		(.1374)	(.2003)	(.2)	(.1754)	(.1563)	(.8767)	(.7191)
	[248]	[248]	[248]	[248]	[248]	[248]	[124]		[248]	[248]	[248]	[248]	[248]	[248]	[124]
$\frac{MP^{it}}{X_{it}^{it}}$	.8137	.1492	-.1169	-.1345	-.4235	-.3083		$\frac{MP^{it}}{X_{it}^{it}}$	-.1292	-.0243	.4279	.3155	2.19*	1.635*	
	(.8213)	(.5469)	(.4513)	(.4377)	(.4074)	(.3128)			(.3124)	(.2958)	(.2266)	(.1942)	(.1296)	(.8233)	
	[124]	[124]	[124]	[124]	[124]	[124]			[124]	[124]	[124]	[124]	[124]	[124]	

(a) Aggregate Change - Unconditional

(b) Aggregate Change - Conditional

(c) Stayers Change - Unconditional

(d) Stayers Change - Conditional

(e) Within Change - Unconditional

(f) Within Change - Conditional

(g) Between Change - Unconditional

(h) Between Change - Conditional

Note: this table shows the result of a regression on the MP decomposed change in markups defined in the first column over the cumulative proportion of mergers over the period that starts the number of years indicated in the column and ending one period before the last year of markup change. All regressions control for year effects and one-digit industry effects. All regressions are weighted by mean total sales per year in the three digit industry. All regressions are clustered at the two-digit level and there are 59 two-digit industries in the sample.

The decompositions are defined in the following equations: Aggregate Change (22), Stayers Change (23), Within Change (24), and Between Change (25). We do not provide individual coefficients entry or exit individually these regressions due to confidentiality concerns; the measures are included in the main regressions to remain consistent with other results provided in this paper. Materials markups are defined as in Equation (7), using the output elasticity of materials against the adjusted materials share of sales. Standard errors are in parentheses and the number of observations are in brackets below the coefficients.

[†] $p < .1$, * $p < .05$, ** $p < .01$, *** $p < .001$
 Source: authors' calculations based on NT and UNU-WIDER (2023).

C4 Merger size

Table C42: Cumulative lagged mergers and sales weighted structural markups by size classification - II - Intermediate

	Mergers _{i,t-1}	Mergers _{i,t-2}	Mergers _{i,t-3}	Mergers _{i,t-4}	Mergers _{i,t-5}	Mergers _{i,t-6}	Mergers _{i,t-7}		Mergers _{i,t-1}	Mergers _{i,t-2}	Mergers _{i,t-3}	Mergers _{i,t-4}	Mergers _{i,t-5}	Mergers _{i,t-6}	Mergers _{i,t-7}	
$\frac{MP_{i,t}^{int}}{X_{i,t-1}^{int}}$	-.1418 (.1903) [868]	-.0709 (.1038) [744]	-.1719 (.1369) [620]	-.0285 (.0554) [496]	.0727 (.0642) [372]	.1392 (.1162) [248]	.0418 (.126) [124]		$\frac{MP_{i,t}^{int}}{X_{i,t-1}^{int}}$	-.0428 (.1319) [868]	-.0557 (.0836) [744]	-.2031 (.131) [620]	-.06 (.0561) [496]	.0402 (.0587) [372]	.113 (.1115) [248]	-.0437 (.1037) [124]
$\frac{MP_{i,t}^{int}}{X_{i,t-2}^{int}}$	-.3565 (.403) [744]	-.217 (.2296) [744]	-.2438 (.2442) [620]	-.2147 (.2046) [496]	.0227 (.0913) [372]	.2264 (.1517) [248]	.2691 (.1987) [124]		$\frac{MP_{i,t}^{int}}{X_{i,t-2}^{int}}$	-.1546 (.3843) [744]	-.1097 (.1979) [744]	-.2493 (.2266) [620]	-.272 (.1958) [496]	-.0262 (.078) [372]	.1724 (.1365) [248]	.1502 (.1632) [124]
$\frac{MP_{i,t}^{int}}{X_{i,t-3}^{int}}$	-.2796 (.3769) [620]	-.2671 (.3988) [620]	-.3182 (.2699) [620]	-.2491 (.2405) [496]	-.1903 (.1757) [372]	.1577 (.1531) [248]	.3476 (.2228) [124]		$\frac{MP_{i,t}^{int}}{X_{i,t-3}^{int}}$	-.2137 (.3372) [620]	-.2117 (.3764) [620]	-.2412 (.259) [620]	-.2789 (.2313) [496]	-.2321 (.1702) [372]	.1153 (.1506) [248]	.2012 (.1748) [124]
$\frac{MP_{i,t}^{int}}{X_{i,t-4}^{int}}$	-.4673 (.4733) [496]	-.0844 (.2525) [496]	-.2188 (.2344) [496]	-.3142 [†] (.1654) [496]	-.2223 [†] (.1323) [372]	-.092 (.1272) [248]	.1627 (.2491) [124]		$\frac{MP_{i,t}^{int}}{X_{i,t-4}^{int}}$	-.1669 (.3577) [496]	-.0004 (.1914) [496]	-.1012 (.2304) [496]	-.2287 (.1757) [496]	-.2044 (.1375) [372]	-.0949 (.1536) [248]	.0784 (.203) [124]
$\frac{MP_{i,t}^{int}}{X_{i,t-5}^{int}}$	-.4544 (.3179) [372]	-.229 (.24) [372]	-.0384 (.2199) [372]	-.1666 (.1523) [372]	-.2355* (.101) [372]	-.0141 (.1179) [248]	.0139 (.2313) [124]		$\frac{MP_{i,t}^{int}}{X_{i,t-5}^{int}}$	.0732 (.2421) [372]	.0258 (.1891) [372]	.1697 (.189) [372]	-.0257 (.1557) [372]	-.134 (.1097) [372]	.0039 (.1427) [248]	-.0673 (.1993) [124]
$\frac{MP_{i,t}^{int}}{X_{i,t-6}^{int}}$	-.1807 (.4149) [248]	-.2739 (.2296) [248]	-.2314 (.2363) [248]	-.1296 (.2509) [248]	-.0859 (.1781) [248]	-.1592 (.118) [248]	.057 (.1919) [124]		$\frac{MP_{i,t}^{int}}{X_{i,t-6}^{int}}$	.5196 (.4039) [248]	.113 (.2426) [248]	.1433 (.1888) [248]	.1668 (.2408) [248]	.0409 (.1676) [248]	-.0632 (.1241) [248]	.0012 (.1778) [124]
$\frac{MP_{i,t}^{int}}{X_{i,t-7}^{int}}$	() [0]	-.1058 (.4313) [124]	-.2784 (.3199) [124]	-.1377 (.3781) [124]	-.093 (.319) [124]	-.1345 (.3449) [124]	-.1245 (.1781) [124]		$\frac{MP_{i,t}^{int}}{X_{i,t-7}^{int}}$	() [0]	.2594 (.4282) [124]	.0713 (.3159) [124]	.1836 (.3594) [124]	.1692 (.3121) [124]	-.0956 (.2666) [124]	-.0533 (.1561) [124]

(a) Aggregate Change - Intermediate

(b) Stayers Change - Intermediate

	Mergers _{i,t-1}	Mergers _{i,t-2}	Mergers _{i,t-3}	Mergers _{i,t-4}	Mergers _{i,t-5}	Mergers _{i,t-6}	Mergers _{i,t-7}		Mergers _{i,t-1}	Mergers _{i,t-2}	Mergers _{i,t-3}	Mergers _{i,t-4}	Mergers _{i,t-5}	Mergers _{i,t-6}	Mergers _{i,t-7}	
$\frac{MP_{i,t}^{int}}{X_{i,t-1}^{int}}$	-.0266 (.1338) [868]	-.1165 (.1005) [744]	-.0697 (.0666) [620]	.0011 (.047) [496]	-.0042 (.0623) [372]	.0587 (.0498) [248]	-.0489 (.0699) [124]		$\frac{MP_{i,t}^{int}}{X_{i,t-1}^{int}}$	-.0162 (.1186) [868]	.0608 (.0728) [744]	-.1334 [†] (.0778) [620]	-.0612 (.0587) [496]	.0444 (.099) [372]	.0543 (.0949) [248]	.0051 (.114) [124]
$\frac{MP_{i,t}^{int}}{X_{i,t-2}^{int}}$	.045 (.1066) [744]	-.0753 (.1135) [744]	-.1582 (.1281) [620]	-.0528 (.0824) [496]	.0003 (.083) [372]	.0543 (.0573) [248]	.0286 (.0786) [124]		$\frac{MP_{i,t}^{int}}{X_{i,t-2}^{int}}$	-.1996 (.3093) [744]	-.0344 (.1147) [744]	-.0911 (.1162) [620]	-.2192 (.132) [496]	-.0265 (.0925) [372]	.1181 (.1351) [248]	.1216 (.1543) [124]
$\frac{MP_{i,t}^{int}}{X_{i,t-3}^{int}}$	-.1222 (.1527) [620]	-.1155 (.1215) [620]	-.1369 (.1034) [620]	-.1346 (.1211) [496]	-.0487 (.1095) [372]	.0877 (.0591) [248]	.0226 (.0835) [124]		$\frac{MP_{i,t}^{int}}{X_{i,t-3}^{int}}$	-.0915 (.2935) [620]	-.0962 (.2856) [620]	-.1042 (.1783) [620]	-.1443 (.1351) [496]	-.1834 [†] (.0964) [372]	.0276 (.1411) [248]	.1785 (.1789) [124]
$\frac{MP_{i,t}^{int}}{X_{i,t-4}^{int}}$	.1005 (.194) [496]	-.0437 (.1086) [496]	-.0445 (.0766) [496]	-.117 (.0944) [496]	-.1448 (.147) [372]	.0037 (.0915) [248]	.0112 (.0722) [124]		$\frac{MP_{i,t}^{int}}{X_{i,t-4}^{int}}$	-.2673 (.3442) [496]	-.0433 (.2142) [496]	-.0568 (.2112) [496]	-.1117 (.1221) [496]	-.0596 (.1) [372]	-.0986 (.1286) [248]	.0672 (.2138) [124]
$\frac{MP_{i,t}^{int}}{X_{i,t-5}^{int}}$	-.2594 (.2594) [372]	.1211 (.1211) [372]	-.1252 (.1252) [372]	.0715 (.0715) [372]	.093 (.093) [372]	.1066 (.1066) [248]	.0992 (.0992) [124]		$\frac{MP_{i,t}^{int}}{X_{i,t-5}^{int}}$	-.1929 (.3324) [372]	-.1587 (.2188) [372]	.0393 (.2059) [372]	-.0355 (.163) [372]	-.0436 (.104) [372]	.0527 (.1572) [248]	-.0293 (.1849) [124]
$\frac{MP_{i,t}^{int}}{X_{i,t-6}^{int}}$	.6985 (.4217) [248]	.2545 (.2325) [248]	.2422 (.1819) [248]	.1921 (.1527) [248]	-.1073 (.1103) [248]	-.0451 (.0804) [248]	-.1345 (.1148) [124]		$\frac{MP_{i,t}^{int}}{X_{i,t-6}^{int}}$	-.1788 (.3722) [248]	-.1415 (.2722) [248]	-.0989 (.2356) [248]	-.0253 (.2238) [248]	-.0665 (.1854) [248]	-.0182 (.1245) [248]	.1357 (.1992) [124]
$\frac{MP_{i,t}^{int}}{X_{i,t-7}^{int}}$	() [0]	.2808 (.2808) [124]	.1615 (.2368) [124]	.2524 (.2012) [124]	.1652 (.1558) [124]	.0065 (.1188) [124]	-.1203 (.0906) [124]		$\frac{MP_{i,t}^{int}}{X_{i,t-7}^{int}}$	() [0]	-.0756 (.424) [124]	-.0902 (.3574) [124]	-.0688 (.3703) [124]	.0039 (.2976) [124]	-.1021 (.2671) [124]	.067 (.1648) [124]

(c) Within Change - Intermediate

(d) Between Change - Intermediate

Note: this table shows the result of a regression on the MP decomposed change in markups defined in the first column over the cumulative proportion of mergers over the period that starts the number of years indicated in the column and ending one period before the last year of markup change. All regressions control for year effects and one-digit industry effects. All regressions are weighted by mean total sales per year in the three digit industry. All regressions are clustered at the two-digit level and there are 59 two-digit industries in the sample.

Each regression includes small, intermediate, and large mergers. This table includes the coefficients on intermediate mergers, the coefficients on large mergers is provided in Table 4, and the coefficients on small mergers are provided in Table C43. The decompositions are defined in the following equations: Aggregate Change (22), Stayers Change (23), Within Change (24), and Between Change (25). We do not provide individual coefficients entry or exit individually these regressions due to confidentiality concerns; the measures are included in the main regressions to remain consistent with other results provided in this paper. Structural markups are defined as in Equation (13).

Standard errors are in parentheses and the number of observations are in brackets below the coefficients. [†] $p < .1$, * $p < .05$, ** $p < .01$, *** $p < .001$

Source: authors' calculations based on NT and UNU-WIDER (2023).

Table C43: Cumulative lagged mergers and sales weighted structural markups by size classification - III - Small

	Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}		Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}
$\frac{MP^{inc}_{t-1}}{X_{t-1}}$	1.49 [†] (.7816) [868]	-1.206 [†] (.7043) [744]	.7728 (1.212) [620]	.4614 (.6236) [496]	.5355 (.5057) [372]	-4584 (1.126) [248]	-1201 (1.028) [124]	$\frac{MP^{inc}_{t-1}}{X_{t-1}}$	1.024 (.623) [868]	-.728 (.7852) [744]	1.493 (1.022) [620]	.9243 (.5811) [496]	.6228 (.6098) [372]	-.4342 (1.118) [248]	.4098 (.7275) [124]
$\frac{MP^{inc}_{t-2}}{X_{t-2}}$	1.282 (1.14) [744]	.0157 (.5791) [744]	-.2706 (.9412) [620]	1.354 (1.957) [496]	1 (1.015) [372]	-.033 (1.401) [248]	-1.008 (1.814) [124]	$\frac{MP^{inc}_{t-2}}{X_{t-2}}$	.5199 (1.056) [744]	.1917 (.5182) [744]	.9282 (.7064) [620]	2.612 (1.652) [496]	1.566 (1.029) [372]	.1552 (1.434) [248]	-.165 (1.447) [124]
$\frac{MP^{inc}_{t-3}}{X_{t-3}}$	2.069 (3.49) [620]	-.0126 (1.214) [620]	.8402 (1.193) [620]	-.2624 (1.327) [496]	2.176 (1.978) [372]	.4895 (1.567) [248]	-8378 (2.234) [124]	$\frac{MP^{inc}_{t-3}}{X_{t-3}}$	.9128 (2.582) [620]	.0709 (1.051) [620]	1.351 (1.009) [620]	1.628 (1.101) [496]	3.152 [†] (1.879) [372]	.7753 (1.683) [248]	.1017 (1.826) [124]
$\frac{MP^{inc}_{t-4}}{X_{t-4}}$	2.778 (5.522) [496]	.0862 (3.297) [496]	-.3236 (1.673) [496]	1.185 (1.191) [496]	.677 (1.048) [372]	1.601 (1.758) [248]	-.111 (2.124) [124]	$\frac{MP^{inc}_{t-4}}{X_{t-4}}$	1.298 (4.274) [496]	-.5488 (2.621) [496]	-.3964 (1.565) [496]	1.741 (1.098) [496]	1.792 (1.075) [372]	2.214 (1.904) [248]	.8886 (1.738) [124]
$\frac{MP^{inc}_{t-5}}{X_{t-5}}$	12.23 (10.02) [372]	1.903 (4.494) [372]	-.2737 (3.26) [372]	-.3078 (1.423) [372]	1.262 (1.102) [372]	-1.132 (1.488) [248]	.1648 (2.156) [124]	$\frac{MP^{inc}_{t-5}}{X_{t-5}}$	10.24 (7.879) [372]	.6038 (3.58) [372]	-1.537 (2.817) [372]	-.4502 (1.608) [372]	1.919 [†] (1.094) [372]	.1165 (1.593) [248]	1.843 (1.969) [124]
$\frac{MP^{inc}_{t-6}}{X_{t-6}}$	9.745 (9.975) [248]	7.372 (8.311) [248]	1.817 (4.16) [248]	.9849 (3.21) [248]	-.042 (1.654) [248]	-.2538 (1.593) [248]	-1.822 (2.352) [124]	$\frac{MP^{inc}_{t-6}}{X_{t-6}}$	9.102 (8.489) [248]	6.138 (7.454) [248]	-.4669 (3.628) [248]	-.7672 (3.162) [248]	.2758 (1.873) [248]	1.382 (1.513) [248]	.6579 (1.784) [124]
$\frac{MP^{inc}_{t-7}}{X_{t-7}}$	() [0]	(5.636) [124]	(5.577) [124]	(3.961) [124]	(2.886) [124]	(3.733) [124]	(2.092) [124]	$\frac{MP^{inc}_{t-7}}{X_{t-7}}$	() [0]	(6.696) [124]	(6.599) [124]	(4.156) [124]	(3.241) [124]	(2.908) [124]	(1.722) [124]

(a) Aggregate Change - Small

(b) Stayers Change - Small

	Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}		Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}
$\frac{MP^{inc}_{t-1}}{X_{t-1}}$	-8956* (.4254) [868]	.2633 (.2629) [744]	.6641 (.5909) [620]	-.3754 (.2355) [496]	.304 (.6851) [372]	-.5874 (.4804) [248]	.1179 (.403) [124]	$\frac{MP^{inc}_{t-1}}{X_{t-1}}$	1.919* (.7936) [868]	-.9912 (.8745) [744]	.8291 (.5316) [620]	1.3* (.6945) [496]	.3188 (.6045) [372]	.1533 (.8627) [248]	.2919 (.7828) [124]
$\frac{MP^{inc}_{t-2}}{X_{t-2}}$	-.0925 (.3575) [744]	-.0593 (.4268) [744]	1.009 (.7581) [620]	.315 (.6241) [496]	-.0928 (.6886) [372]	-.0424 (.6932) [248]	-.858 (.7726) [124]	$\frac{MP^{inc}_{t-2}}{X_{t-2}}$	.6124 (1.143) [744]	-.251 (.5423) [744]	-.0807 (.4676) [620]	2.297 [†] (1.173) [496]	1.658** (.618) [372]	.1976 (1.302) [248]	.693 (1.327) [124]
$\frac{MP^{inc}_{t-3}}{X_{t-3}}$	-1.02 [†] (.6022) [620]	-.0065 (.5232) [620]	.6514 [†] (.3798) [496]	.6098 (.6902) [496]	.6889 (1.107) [372]	-.5236 (.5616) [248]	.0291 (.6373) [124]	$\frac{MP^{inc}_{t-3}}{X_{t-3}}$	1.933 (2.869) [620]	.0774 (1.14) [620]	.7001 (.9806) [620]	1.018 (.6216) [496]	2.463** (.8686) [372]	1.299 (1.243) [248]	.0726 (1.56) [124]
$\frac{MP^{inc}_{t-4}}{X_{t-4}}$	-3.197*** (.633) [496]	-1.798** (.631) [496]	-.4973 (.6188) [496]	-.0634 (.4324) [496]	.8913 (1.217) [372]	.0559 (1.051) [248]	-.4521 (.4906) [124]	$\frac{MP^{inc}_{t-4}}{X_{t-4}}$	4.496 (4.543) [496]	1.249 (2.733) [496]	-.1009 (1.565) [496]	1.804 (1.13) [496]	.9012 (.7092) [372]	2.159 [†] (1.105) [248]	1.341 (1.574) [124]
$\frac{MP^{inc}_{t-5}}{X_{t-5}}$	-2.174 [†] (1.251) [372]	-3.142** (1.028) [372]	-.231 (1.394) [372]	-.115 (.9148) [372]	.0788 (.5527) [372]	.0538 (1.003) [248]	-.0184 (.8503) [124]	$\frac{MP^{inc}_{t-5}}{X_{t-5}}$	12.41 (7.949) [372]	3.746 (3.379) [372]	.7734 (2.539) [372]	.7001 (1.418) [372]	1.84* (.7586) [372]	.0627 (1.404) [248]	1.861 (1.529) [124]
$\frac{MP^{inc}_{t-6}}{X_{t-6}}$	-3.796** (1.291) [248]	-.258 [†] (1.394) [248]	-3.733** (1.344) [248]	-3.134 [†] (1.601) [248]	-1.95 [†] (1.046) [248]	-.6091 (.6844) [248]	.524 (1.007) [124]	$\frac{MP^{inc}_{t-6}}{X_{t-6}}$	12.9 (9.016) [248]	8.719 (8.374) [248]	3.266 (3.836) [248]	2.367 (2.973) [248]	2.226 (1.7) [248]	1.992 [†] (1.117) [248]	.1339 (1.457) [124]
$\frac{MP^{inc}_{t-7}}{X_{t-7}}$	() [0]	(1.485) [124]	(1.797) [124]	(1.6) [124]	(1.32) [124]	(1.161) [124]	(.8726) [124]	$\frac{MP^{inc}_{t-7}}{X_{t-7}}$	() [0]	(7.214) [124]	(6.853) [124]	(3.943) [124]	(2.825) [124]	(2.585) [124]	(1.278) [124]

(c) Within Change - Small

(d) Between Change - Small

Note: this table shows the result of a regression on the MP decomposed change in markups defined in the first column over the cumulative proportion of mergers over the period that starts the number of years indicated in the column and ending one period before the last year of markup change. All regressions control for year effects and one-digit industry effects. All regressions are weighted by mean total sales per year in the three digit industry. All regressions are clustered at the two-digit level and there are 59 two-digit industries in the sample.

Each regression includes small, intermediate, and large mergers. This table includes the coefficients on small mergers, the coefficients on large mergers is provided in Table 4, and the coefficients on intermediate mergers are provided in Table C42. The decompositions are defined in the following equations: Aggregate Change (22), Stayers Change (23), Within Change (24), and Between Change (25). We do not provide individual coefficients entry or exit individually these regressions due to confidentiality concerns; the measures are included in the main regressions to remain consistent with other results provided in this paper. Structural markups are defined as in Equation (13).

Standard errors are in parentheses and the number of observations are in brackets below the coefficients. [†] $p < .1$, * $p < .05$, ** $p < .01$, *** $p < .001$

Source: authors' calculations based on NT and UNU-WIDER (2023).

Table C44: Cumulative lagged mergers and sales weighted structural markups by size classification—Weighted by number of firms in the industry

	$Mergers_{t-1}$	$Mergers_{t-2}$	$Mergers_{t-3}$	$Mergers_{t-4}$	$Mergers_{t-5}$	$Mergers_{t-6}$	$Mergers_{t-7}$	$Mergers_{t-8}$	$Mergers_{t-9}$	$Mergers_{t-10}$	$Mergers_{t-11}$	$Mergers_{t-12}$	$Mergers_{t-13}$	$Mergers_{t-14}$	$Mergers_{t-15}$	$Mergers_{t-16}$	$Mergers_{t-17}$	$Mergers_{t-18}$	$Mergers_{t-19}$	$Mergers_{t-20}$	
$\frac{MP}{X_{t-1}}$	0.513	-0.297	0.577	1.915	1.428	2.095	2.771	1.442	-0.313	0.802	0.381	0.293	-0.272	-0.091	1.697 [†]	-0.703 [†]	-1.317	-0.851	0.822	0.64	-4.88
$\frac{MP}{X_{t-1}}$	(3.015)	(2.512)	(1.157)	(1.416)	(1.208)	(1.19)	(2.826)	(2.091)	(1.462)	(0.623)	(0.646)	(0.605)	(0.942)	(1.537)	(3.886)	(4.03)	(1.649)	(3.866)	(0.729)	(1.304)	(1.313)
$\frac{MP}{X_{t-1}}$	[868]	[744]	[620]	[496]	[372]	[248]	[124]	[868]	[744]	[620]	[496]	[372]	[248]	[124]	[868]	[744]	[620]	[496]	[372]	[248]	[124]
$\frac{MP}{X_{t-1}}$	-1.777	-3616	-2291	2039	3198	3987	5016	3382	3259	2626 [†]	151	1.281	0.621	-0.212	2.154 [†]	-3162	-1.983 [†]	-2.447	-7384	7294	1.139
$\frac{MP}{X_{t-1}}$	(5189)	(4124)	(2548)	(1927)	(1826)	(2313)	(3357)	(2587)	(2474)	(2087)	(127)	(1.27)	(1.17)	(0.81)	(1.127)	(2477)	(1.807)	(1.807)	(1.071)	(1.809)	(1.887)
$\frac{MP}{X_{t-1}}$	[744]	[744]	[620]	[496]	[372]	[248]	[124]	[744]	[744]	[620]	[496]	[372]	[248]	[124]	[744]	[744]	[620]	[496]	[372]	[248]	[124]
$\frac{MP}{X_{t-1}}$	0.039	-0.482	-1.748	-0.788	2.072	3.967	3.339	4.461	4.744	2.51	2633 [†]	1.263	0.071	1.068	4.319	7.013	-4.51	-2.469 [†]	-1.4	7.902	7.017
$\frac{MP}{X_{t-1}}$	(5.496)	(5.663)	(3.779)	(2.343)	(2.122)	(3.118)	(3.18)	(2.881)	(3.024)	(1.961)	(1.26)	(0.889)	(1.249)	(1.19)	(3.759)	(10.45)	(9.886)	(1.311)	(1.48)	(1.93)	(2.564)
$\frac{MP}{X_{t-1}}$	[620]	[620]	[496]	[372]	[248]	[124]	[124]	[620]	[620]	[496]	[372]	[248]	[124]	[124]	[620]	[620]	[496]	[372]	[248]	[124]	[124]
$\frac{MP}{X_{t-1}}$	0.255	-1.42	1.027	2.44	2.61	3.071	5.487	2.477	2.547	1.564	0.869	0.073	-0.607	-1.287	5.741	2.027	2.284	-3.859	-9.908	7.085	1.895
$\frac{MP}{X_{t-1}}$	(4.022)	(5.83)	(4.659)	(3.262)	(2.292)	(2.929)	(3.566)	(3.276)	(2.615)	(2.215)	(1.703)	(1.216)	(1.455)	(1.912)	(5.348)	(3.2)	(1.504)	(1.051)	(1.018)	(1.827)	(2.181)
$\frac{MP}{X_{t-1}}$	[496]	[496]	[496]	[372]	[248]	[124]	[124]	[496]	[496]	[496]	[372]	[248]	[124]	[124]	[496]	[496]	[496]	[372]	[248]	[124]	[124]
$\frac{MP}{X_{t-1}}$	1.505 [†]	6.993	4.638	6.136	5.741	4.695	4.52	3.185	1.979	1.345	0.236	0.066	0.064	-0.205	14.81	4.626	2.667	0.841	-0.11	-1.418	20.29
$\frac{MP}{X_{t-1}}$	(8.856)	(5.559)	(5.271)	(4.855)	(3.07)	(3.682)	(3.929)	(4.017)	(2.58)	(2.581)	(2.37)	(1.78)	(1.686)	(2.201)	(9.002)	(4.382)	(3.195)	(1.571)	(1.399)	(2.20)	(2.464)
$\frac{MP}{X_{t-1}}$	[372]	[372]	[372]	[372]	[372]	[248]	[124]	[372]	[372]	[372]	[372]	[372]	[248]	[124]	[372]	[372]	[372]	[372]	[372]	[248]	[124]
$\frac{MP}{X_{t-1}}$	1.735 [†]	1.287 [†]	1.127 [†]	1.132 [†]	8.855 [†]	9.931 [†]	5.236	6.158	2.233	0.343	-0.829	-0.002	-0.075	1.63	16.13	10.19	4.966	3.149	4.841	-7.126	-2.474
$\frac{MP}{X_{t-1}}$	(8.651)	(6.23)	(5.638)	(5.289)	(8.566)	(4.18)	(4.402)	(4.861)	(2.915)	(2.795)	(2.422)	(2.08)	(2.145)	(2.517)	(11.19)	(8.697)	(4.363)	(3.174)	(2.652)	(3.117)	(2.652)
$\frac{MP}{X_{t-1}}$	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]
$\frac{MP}{X_{t-1}}$	1.377	1.662 [†]	1.762 [†]	1.609 [†]	1.395 [†]	1.256 [†]	1.395 [†]	1.485 [†]	-1.163	-2.79	-3.144	-4.388	-1.709	-1.686	8.609	11.34	4.388	4.426	2.088	5.657	
$\frac{MP}{X_{t-1}}$	(9)	(9.448)	(7.867)	(9.174)	(7.244)	(7.17)	(6.041)	(7)	(4.879)	(3.913)	(4.633)	(3.719)	(4.154)	(3.197)	(9)	(9.37)	(8.648)	(4.59)	(4.044)	(4.726)	(3.423)
$\frac{MP}{X_{t-1}}$	[9]	[124]	[124]	[124]	[124]	[124]	[124]	[124]	[124]	[124]	[124]	[124]	[124]	[124]	[9]	[124]	[124]	[124]	[124]	[124]	[124]

(j) Between Change - Large (k) Between Change - Intermediate (l) Between Change - Small

Note: this table shows the result of a regression on the MP decomposed change in markups defined in the first column over the cumulative proportion of mergers over the period that starts the number of years indicated in the column and ending one period before the last year of markup change. All regressions control for year effects and one-digit industry effects. All regressions are weighted by mean total number of firms per year in the three digit industry. All regressions are clustered at the two-digit level and there are 59 two-digit industries in the sample.

Each regression includes small, intermediate, and large mergers. The decompositions are defined in the following equations: Aggregate Change (22), Stayers Change (23), Within Change (24), and Between Change (25). We do not provide individual coefficients entry or exit individually these regressions due to confidentiality concerns; the measures are included in the main regressions to remain consistent with other results provided in this paper. Structural markups are defined as in Equation (13). Standard errors are in parentheses and the number of observations are in brackets below the coefficients.

[†] $p < .1$, * $p < .05$, ** $p < .01$, *** $p < .001$

Source: authors' calculations based on NT and UNU-WIDER (2023).

Table C45: Cumulative lagged mergers and sales weighted labour markups by size classification

	Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}	Mergers _{t-8}	Mergers _{t-9}	Mergers _{t-10}	Mergers _{t-11}	Mergers _{t-12}	Mergers _{t-13}	Mergers _{t-14}	Mergers _{t-15}	Mergers _{t-16}	Mergers _{t-17}	Mergers _{t-18}	Mergers _{t-19}	Mergers _{t-20}		
MP _{Small}	1.95*																					
MP _{Small}	(1.164)	(0.940)	(1.435)	(5.175)	(9.877)	(4.622)	(5.384)	(1.239)	(6.033)	(7.325)	(3.810)	(2.584)	(4.357)	(4.335)	(4.984)	(2.119)	(4.77)	(5.034)	(2.897)	(5.19)	(4.554)	
MP _{Small}	[868]	[744]	[620]	[496]	[372]	[248]	[124]	[868]	[744]	[620]	[496]	[372]	[248]	[124]	[868]	[744]	[620]	[496]	[372]	[248]	[124]	
MP _{Small}	2.942	-1.699	-3.297*	-2.499*	8.893	3.359*	3.252**	2.788	1.868	2.678*	2.08*	4.038	-1.538*	-1.392*	4.404	3.731	-1.020	-10.99	-10.16	3.826	4.948	
MP _{Small}	(1.932)	(1.687)	(1.466)	(1.391)	(1.153)	(1.393)	(1.078)	(2.026)	(1.184)	(2.54)	(1.059)	(3.813)	(6.058)	(7.102)	(4.34)	(3.698)	(5.067)	(8.937)	(7.451)	(6.367)	(8.089)	
MP _{Small}	[744]	[744]	[620]	[496]	[372]	[248]	[124]	[744]	[744]	[620]	[496]	[372]	[248]	[124]	[744]	[744]	[620]	[496]	[372]	[248]	[124]	
MP _{Small}	3.972	-2.506	-2.109	-3.862*	-1.815	1.72	3.069	2.728	2.989*	2.434*	2.985*	1.999*	-2.738	-1.534*	7.816	1.774	-9.911	-12.22*	-12.34	-4.486	7.599	
MP _{Small}	(3.272)	(2.219)	(2.015)	(1.992)	(1.31)	(1.748)	(1.888)	(2.602)	(1.678)	(1.363)	(1.124)	(3.955)	(3.962)	(3.671)	(9.826)	(5.582)	(3.646)	(7.124)	(8.964)	(6.652)	(11.172)	
MP _{Small}	[620]	[620]	[496]	[372]	[248]	[124]	[620]	[620]	[496]	[372]	[248]	[124]	[620]	[620]	[496]	[372]	[248]	[124]	[620]	[496]	[372]	
MP _{Small}	-4.657	98.39	-1.684	-2.643	-3.059*	-8.558	7.164	1.858	1.44	1.768	1.905*	2.099**	7.535	-3.658	7.881	7.951	4.18	-2.449	-10.86*	-5.65	8.046	
MP _{Small}	(4.026)	(3.583)	(2.276)	(2.291)	(1.642)	(1.03)	(1.389)	(1.827)	(1.553)	(1.086)	(8.824)	(6.796)	(4.546)	(6.658)	(11.63)	(10.18)	(5.959)	(4.022)	(5.463)	(6.376)	(10.32)	
MP _{Small}	[496]	[496]	[496]	[372]	[248]	[124]	[496]	[496]	[496]	[372]	[248]	[124]	[496]	[496]	[372]	[248]	[124]	[496]	[496]	[372]	[248]	
MP _{Small}	3.055	-1.863	3.055	-1.1	-1.467	-2.289	-1.51	MP _{Small}	-1.318	4.449	-2.51	6.524	9.781	1.149*	8.117	MP _{Small}	44.09*	15.04	16.3	6.965	-1.44	-4.914
MP _{Small}	(5.913)	(4.461)	(3.559)	(2.467)	(2.113)	(1.491)	(1.52)	(3.077)	(1.979)	(1.51)	(6.04)	(6.12)	(6.044)	(6.308)	(19.21)	(13.02)	(11.36)	(7.63)	(7.429)	(4.925)	(8.107)	
MP _{Small}	[372]	[372]	[372]	[248]	[248]	[124]	[248]	[124]	[372]	[372]	[372]	[248]	[248]	[124]	[372]	[372]	[372]	[248]	[248]	[124]	[124]	
MP _{Small}	6.248	(5.151)	(4.212)	(3.868)	(2.061)	(2.048)	(1.655)	(4.155)	(2.743)	(2.114)	(1.696)	(1.076)	(7.473)	(8.560)	(33.81)	(24.84)	(17.19)	(12.73)	(7.655)	(5.37)	(8.573)	
MP _{Small}	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	
MP _{Small}	-1.843	1.345	2.032	3.587	376	894	MP _{Small}	-3818	054	-4.998	-1.053	0738	1829	MP _{Small}	27.58	22.38	3.646	6.367	3878	-6.52		
MP _{Small}	(6.955)	(5.424)	(5.023)	(4.212)	(2.568)	(2.122)	(1)	(3.7)	(2.856)	(2.418)	(1.922)	(1.451)	(1.011)	(1)	(28.53)	(26.01)	(16.78)	(12.1)	(10.65)	(9.653)		
MP _{Small}	[9]	[124]	[124]	[124]	[124]	[124]	[9]	[124]	[124]	[124]	[124]	[124]	[124]	[9]	[124]	[124]	[124]	[124]	[124]	[124]		

(j) Between Change - Large (k) Between Change - Intermediate (l) Between Change - Small

Note: this table shows the result of a regression on the MP decomposed change in markups defined in the first column over the cumulative proportion of mergers over the period that starts the number of years indicated in the column and ending one period before the last year of markup change. All regressions control for year effects and one-digit industry effects. All regressions are weighted by mean total sales per year in the three digit industry. All regressions are clustered at the two-digit level and there are 59 two-digit industries in the sample.

Each regression includes small, intermediate, and large mergers. The decompositions are defined in the following equations: Aggregate Change (22), Stayers Change (23), Within Change (24), and Between Change (25). We do not provide individual coefficients entry or exit individually these regressions due to confidentiality concerns; the measures are included in the main regressions to remain consistent with other results provided in this paper. Labour markups are defined as in Equation (7), using the output elasticity of labour against the adjusted labour share of sales. Standard errors are in parentheses and the number of observations are in brackets below the coefficients.

$\dagger p < .1, * p < .05, ** p < .01, *** p < .001$

Source: authors' calculations based on NT and UNU-WIDER (2023).

Table C46: Cumulative lagged mergers and sales weighted materials markups by size classification

	$Mergers_{t-1}$	$Mergers_{t-2}$	$Mergers_{t-3}$	$Mergers_{t-4}$	$Mergers_{t-5}$	$Mergers_{t-6}$	$Mergers_{t-7}$	$Mergers_{t-8}$	$Mergers_{t-9}$	$Mergers_{t-10}$	$Mergers_{t-11}$	$Mergers_{t-12}$	$Mergers_{t-13}$	$Mergers_{t-14}$	$Mergers_{t-15}$					
$\frac{MP_{it}}{Sales_{it}}$	0.112	0.021	0.022	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021					
$\frac{MP_{it}}{Sales_{it}}$	(3.649)	(4.806)	(2.797)	(3.878)	(2.194)	(2.16)	(2.297)	(2.79)	(1.611)	(1.206)	(2.181)	(1.439)	(2.146)	(2.508)	(1.109)	(2.301)	(2.225)	(1.161)	(1.248)	(1.86)
$\frac{MP_{it}}{Sales_{it}}$	0.684	0.744	0.620	0.496	0.372	0.248	0.124	0.068	0.088	0.144	0.200	0.256	0.312	0.368	0.424	0.480	0.536	0.592	0.648	0.704
$\frac{MP_{it}}{Sales_{it}}$	0.724	1.433	0.817	-0.242	-0.298	-0.128	0.415	0.455	-0.543	-0.539	-0.092	0.202	0.029	-0.1625	-0.2005	-0.2013	-0.278	-0.2926	-0.4799	-1.679
$\frac{MP_{it}}{Sales_{it}}$	(.69)	(.8314)	(.5359)	(.5876)	(.4276)	(.3387)	(.4023)	(.4586)	(.2574)	(.1916)	(.2478)	(.2899)	(.2785)	(.2971)	(2.531)	(1.651)	(2.622)	(2.773)	(2.643)	(2.651)
$\frac{MP_{it}}{Sales_{it}}$	0.744	0.744	0.620	0.496	0.372	0.248	0.124	0.068	0.088	0.144	0.200	0.256	0.312	0.368	0.424	0.480	0.536	0.592	0.648	0.704
$\frac{MP_{it}}{Sales_{it}}$	-0.066	1.733	0.103	0.282	-0.349	-0.0323	1.282	-0.9627	-0.8077	-0.7738	-1.181	0.178	0.223	-1.141	0.759	-1.942	-0.576	-5.0017	-1.604	
$\frac{MP_{it}}{Sales_{it}}$	(1.607)	(1.176)	(.7638)	(.5523)	(.5674)	(.4669)	(.5169)	(.5866)	(.4371)	(.3324)	(.1664)	(.2002)	(.2694)	(.4573)	(.5564)	(.2806)	(.3414)	(.2602)	(.2192)	(.2951)
$\frac{MP_{it}}{Sales_{it}}$	0.620	0.620	0.496	0.372	0.248	0.124	0.068	0.068	0.068	0.068	0.068	0.068	0.068	0.068	0.068	0.068	0.068	0.068	0.068	0.068
$\frac{MP_{it}}{Sales_{it}}$	1.264	0.4548	0.7577	0.616	0.533	0.387	0.705	-1.739	-0.9257	-0.8088	-0.758	-0.537	-0.3485	0.247	4.596	2.437	-0.649	-0.998	-1.799	-1.819
$\frac{MP_{it}}{Sales_{it}}$	(2.159)	(1.259)	(.9845)	(.7349)	(.6889)	(.6378)	(.7914)	(.5158)	(.2329)	(.234)	(.2144)	(.2281)	(.4607)	(.6381)	(4.795)	(4.359)	(2.926)	(2.217)	(2.858)	(3.855)
$\frac{MP_{it}}{Sales_{it}}$	0.496	0.496	0.496	0.496	0.372	0.248	0.124	0.068	0.068	0.068	0.068	0.068	0.068	0.068	0.068	0.068	0.068	0.068	0.068	0.068
$\frac{MP_{it}}{Sales_{it}}$	0.225	1.825	1.089	0.989	0.762	0.913	1.021	0.895	-2.895**	-1.326*	-0.802	-0.6540	-0.588*	-0.5955*	-2.807	22.24	3.16	-0.354	-0.494	-1.182
$\frac{MP_{it}}{Sales_{it}}$	4.022	(1.733)	(1.671)	(1.123)	(.7377)	(.6849)	(.852)	(.6447)	(.5703)	(.3904)	(.2742)	(.2955)	(.4056)	(.4642)	(3.45)	(3.66)	(5.267)	(2.447)	(1.436)	(3.788)
$\frac{MP_{it}}{Sales_{it}}$	0.372	0.372	0.372	0.372	0.248	0.124	0.068	0.068	0.068	0.068	0.068	0.068	0.068	0.068	0.068	0.068	0.068	0.068	0.068	0.068
$\frac{MP_{it}}{Sales_{it}}$	3.837	3.166	1.166	0.862	0.905	0.742	0.783	-1.346	-1.549*	-1.754	-3.794	-0.516	-0.582	-0.423	18.15	16.71*	1.823	-3.334	-2.041	-1.634
$\frac{MP_{it}}{Sales_{it}}$	(1.917)	(1.528)	(1.783)	(1.761)	(.9896)	(.6662)	(1.288)	(.6207)	(.6369)	(.3907)	(.3542)	(.3923)	(.5422)	(.6342)	(12.91)	(9.456)	(7.322)	(1.0065)	(3.59)	(4.553)
$\frac{MP_{it}}{Sales_{it}}$	0.248	0.248	0.248	0.248	0.248	0.248	0.248	0.248	0.248	0.248	0.248	0.248	0.248	0.248	0.248	0.248	0.248	0.248	0.248	0.248
$\frac{MP_{it}}{Sales_{it}}$	3.21	2.351	0.276	0.241	1.069	1.081	-0.9742	-1.058	-0.849	-0.4172	-0.3492	-0.3422	16.99	16.08	-0.5009	-0.824	-0.442	-2.989		
$\frac{MP_{it}}{Sales_{it}}$	(2.072)	(1.954)	(2.287)	(1.905)	(.9899)	(.9569)	(.9)	(1.181)	(1.829)	(.957)	(.7497)	(.69)	(4.82)	(.69)	(13)	(13.02)	(9.824)	(6.868)	(6.755)	(4.645)
$\frac{MP_{it}}{Sales_{it}}$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

(a) Aggregate Change - Large (b) Aggregate Change - Intermediate (c) Aggregate Change - Small

(d) Stayers Change - Large (e) Stayers Change - Intermediate (f) Stayers Change - Small

(g) Within Change - Large (h) Within Change - Intermediate (i) Within Change - Small

(j) Between Change - Large (k) Between Change - Intermediate (l) Between Change - Small

Note: this table shows the result of a regression on the MP decomposed change in markups defined in the first column over the cumulative proportion of mergers over the period that starts the number of years indicated in the column and ending one period before the last year of markup change. All regressions control for year effects and one-digit industry effects. All regressions are weighted by mean total sales per year in the three digit industry. All regressions are clustered at the two-digit level and there are 59 two-digit industries in the sample.

Each regression includes small, intermediate, and large mergers. The decompositions are defined in the following equations: Aggregate Change (22), Stayers Change (23), Within Change (24), and Between Change (25). We do not provide individual coefficients entry or exit individually these regressions due to confidentiality concerns; the measures are included in the main regressions to remain consistent with other results provided in this paper. Materials markups are defined as in Equation (7), using the output elasticity of materials against the adjusted materials share of sales. Standard errors are in parentheses and the number of observations are in brackets below the coefficients. $\dagger p < .1$, * $p < .05$, ** $p < .01$, *** $p < .001$

Source: authors' calculations based on NT and UNU-WIDER (2023).

C5 Mergers by overlap

Table C52: Cumulative lagged mergers and sales weighted labour markups by nature of overlap - I

	Mergers ₋₁	Mergers ₋₂	Mergers ₋₃	Mergers ₋₄	Mergers ₋₅	Mergers ₋₆	Mergers ₋₇	Mergers ₋₁	Mergers ₋₂	Mergers ₋₃	Mergers ₋₄	Mergers ₋₅	Mergers ₋₆	Mergers ₋₇
MP	7995	4831	2769	-0552	-1576	-1016	8994	-1145 [†]	-4286 ^{***}	-5174 ^{***}	-2048 ^{***}	1.785	4691	-1042
(6818)	(4042)	(2877)	(3658)	(472)	(6327)	(5403)	(6323)	(5748)	(1139)	(4938)	(1332)	(1071)	(1823)	(1823)
SE	1808	744	820	1996	1772	1248	1248	3608	744	820	1996	1772	1248	1248
MP	1415	2134	8803	-1947	-6022	-0778	3974	4045 [†]	-2235 ^{**}	-7482 ^{***}	-5504 ^{***}	-5628	3396 [†]	2488
(974)	(5609)	(4378)	(4861)	(469)	(9122)	(1011)	(2006)	(7275)	(1163)	(1159)	(1376)	(1484)	(2385)	(2385)
SE	1746	1746	820	1996	1772	1248	1248	744	744	820	1996	1772	1248	1248
MP	1065	1107	4846	262	-4134	3378	6112	1016	-1169	-4733 ^{***}	-6703 ^{***}	-5102 ^{***}	4355 [†]	5183 [†]
(1509)	(7587)	(5568)	(3836)	(5051)	(4485)	(1037)	(7578)	(154)	(9768)	(1356)	(2382)	(2317)	(2804)	(2804)
SE	820	820	820	1996	1772	1248	1248	820	820	820	1996	1772	1248	1248
MP	2176 [†]	1395 [†]	1197	1185 [†]	355 [†]	1406 [†]	3427	8187	3441	-2343	-3398 ^{**}	-6477 ^{***}	1814	2346
(1808)	(733)	(3563)	(4748)	(3027)	(3787)	(7869)	(3474)	(5102)	(1456)	(1568)	(216)	(2102)	(2372)	(2372)
SE	1496	1496	1496	1496	1772	1248	1248	1496	1496	1496	1496	1772	1248	1248
MP	4108 [†]	1985 [†]	1448 [†]	1624 [†]	1392 [†]	1311 [†]	1867 [†]	-5691	7223	2179	-4061 [†]	-4364 [†]	-3077	-3308
(1625)	(4322)	(3789)	(3265)	(4273)	(3258)	(3968)	(4418)	(4647)	(3489)	(1247)	(176)	(1821)	(2241)	(2241)
SE	372	372	372	372	372	372	372	372	372	372	372	372	372	372
MP	2684	2324 [†]	1146	1379 [†]	1473 [†]	1561 [†]	1047 [†]	-8309	-131	6446	-3422	1062	-9037	-3272
(1182)	(9506)	(7951)	(6294)	(5853)	(5063)	(6444)	(5146)	(4907)	(4197)	(2496)	(2132)	(2624)	(2424)	(2424)
SE	248	248	248	248	248	248	248	248	248	248	248	248	248	248
MP	3665 [†]	3612 [†]	1589	2046	2178 [†]	2125 [†]	1496	4061	7103	1841	-1183	1241	1414	1414
(1995)	(1382)	(1591)	(125)	(145)	(9379)	(1)	(8681)	(7929)	(5725)	(5501)	(2586)	(2759)	(2586)	(2759)
SE	124	124	124	124	124	124	124	124	124	124	124	124	124	124

(g) Between Change - Horizontal (h) Between Change - Vertical

Note: this table shows the result of a regression on the MP decomposed change in markups defined in the first column over the cumulative proportion of mergers over the period that starts the number of years indicated in the column and ending one period before the last year of markup change. All regressions control for year effects and one-digit industry effects. All regressions are weighted by mean total sales per year in the three digit industry. All regressions are clustered at the two-digit level and there are 59 two-digit industries in the sample.

Each regression includes horizontal, vertical, no-overlap, and horizontal-and-vertical mergers. Labour markups are defined as in Equation (7), using the output elasticity of labour against the adjusted labour share of sales. The decompositions are defined in the following equations: Aggregate Change (22), Stayers Change (23), Within Change (24), and Between Change (25). We do not provide individual coefficients entry or exit individually these regressions due to confidentiality concerns; the measures are included in the main regressions to remain consistent with other results provided in this paper. Standard errors are in parentheses and the number of observations are in brackets below the coefficients. [†] $p < .1$, * $p < .05$, ** $p < .01$, *** $p < .001$

Source: authors' calculations based on NT and UNU-WIDER (2023).

Table C53: Cumulative lagged mergers and sales weighted labour markups by nature of overlap - II

	$Mergers_{1,t-1}$	$Mergers_{1,t-2}$	$Mergers_{1,t-3}$	$Mergers_{1,t-4}$	$Mergers_{1,t-5}$	$Mergers_{1,t-6}$	$Mergers_{1,t-7}$	$Mergers_{1,t-1}$	$Mergers_{1,t-2}$	$Mergers_{1,t-3}$	$Mergers_{1,t-4}$	$Mergers_{1,t-5}$	$Mergers_{1,t-6}$	$Mergers_{1,t-7}$
$\frac{MP_{i,t}^{H+V}}{X_{i,t-1}^{H+V}}$	1.928	.8487	-.7113	-.105	-.1447	-.1367	.352	2.653**	2.402**	2.844**	1.679*	.4313	.2076	.469
	(3.133)	(1.252)	(1.196)	(1.373)	(1.055)	(1.165)	(1.551)	(8.727)	(4.371)	(4.39)	(6.511)	(4.556)	(1.256)	(1.874)
	[868]	[744]	[620]	[496]	[372]	[248]	[124]	[868]	[744]	[620]	[496]	[372]	[248]	[124]
$\frac{MP_{i,t}^{H+V}}{X_{i,t-2}^{H+V}}$	3.901	2.845	.2789	-.9272	-.2142	-.2639	-.2563	3.789*	3.992**	5.204**	4.443**	3.175*	.2751	-.4537
	(2.463)	(2.41)	(1.764)	(2.159)	(2.051)	(1.583)	(2.442)	(1.968)	(1.415)	(1.367)	(1.299)	(1.781)	(1.477)	(2.035)
	[744]	[744]	[620]	[496]	[372]	[248]	[124]	[744]	[744]	[620]	[496]	[372]	[248]	[124]
$\frac{MP_{i,t}^{H+V}}{X_{i,t-3}^{H+V}}$	6.213†	5.273*	2.539	1.085	-.6869	-.1533	-.2273	1.004	3.414*	3.715**	3.792**	4.288*	-.9848	-.3827
	(3.522)	(2.625)	(1.744)	(2.226)	(2.697)	(2.11)	(2.499)	(1.416)	(1.572)	(1.374)	(1.126)	(2.162)	(1.087)	(1.913)
	[620]	[620]	[620]	[496]	[372]	[248]	[124]	[620]	[620]	[620]	[496]	[372]	[248]	[124]
$\frac{MP_{i,t}^{H+V}}{X_{i,t-4}^{H+V}}$	7.903†	6.944*	5.247*	3.696*	1.277	-.4236	.8292	-.2339*	-.9312	.1516	.0353	1.929	-.1597	-.1535
	(4.298)	(2.765)	(2.081)	(1.674)	(2.22)	(2.586)	(2.868)	(1.094)	(.9351)	(.867)	(.8017)	(1.255)	(1.237)	(1.891)
	[496]	[496]	[496]	[496]	[372]	[248]	[124]	[496]	[496]	[496]	[496]	[372]	[248]	[124]
$\frac{MP_{i,t}^{H+V}}{X_{i,t-5}^{H+V}}$	7.182	6.482*	5.792*	4.842*	3.303†	.6348	.5755	$MP_{i,t-5}^{H+V}$	$MP_{i,t-5}^{H+V}$	$MP_{i,t-5}^{H+V}$	$MP_{i,t-5}^{H+V}$	$MP_{i,t-5}^{H+V}$	$MP_{i,t-5}^{H+V}$	$MP_{i,t-5}^{H+V}$
	(6.527)	(3.486)	(2.351)	(2.182)	(1.902)	(2.058)	(3.134)	(1.04)	(1.106)	(1.144)	(1.018)	(.8668)	(1.389)	(1.786)
	[372]	[372]	[372]	[372]	[248]	[248]	[124]	[372]	[372]	[372]	[372]	[248]	[248]	[124]
$\frac{MP_{i,t}^{H+V}}{X_{i,t-6}^{H+V}}$	14.68†	7.714	4.943	4.858	3.604	2.549	2.17	-.1576	-.3001*	-.3454*	-.2934*	-.3329*	-.2832†	-.1458
	(8.433)	(6.095)	(3.646)	(3.047)	(2.752)	(2.55)	(2.495)	(1.41)	(1.466)	(1.552)	(1.401)	(1.377)	(1.654)	(2.628)
	[248]	[248]	[248]	[248]	[248]	[248]	[124]	[248]	[248]	[248]	[248]	[248]	[248]	[124]
$\frac{MP_{i,t}^{H+V}}{X_{i,t-7}^{H+V}}$														
	(1)	(9.547)	(6.535)	(4.693)	(3.626)	(3.693)	(3.393)	(1)	(2.723)	(2.673)	(2.266)	(2.027)	(2.275)	(2.357)
	[0]	[124]	[124]	[124]	[124]	[124]	[124]	[0]	[124]	[124]	[124]	[124]	[124]	[124]

(a) Aggregate Change - Horizontal-and-Vertical

	$Mergers_{1,t-1}$	$Mergers_{1,t-2}$	$Mergers_{1,t-3}$	$Mergers_{1,t-4}$	$Mergers_{1,t-5}$	$Mergers_{1,t-6}$	$Mergers_{1,t-7}$	$Mergers_{1,t-1}$	$Mergers_{1,t-2}$	$Mergers_{1,t-3}$	$Mergers_{1,t-4}$	$Mergers_{1,t-5}$	$Mergers_{1,t-6}$	$Mergers_{1,t-7}$
$\frac{MP_{i,t}^{H+V}}{X_{i,t-1}^{H+V}}$	2.339	.9245	-.3602	-.5674	-.8478	-.1083	1.336	2.704**	2.379**	2.994**	1.886**	.6037	.555	.3782
	(2.753)	(1.059)	(.639)	(.8409)	(.7976)	(1.436)	(1.155)	(8.356)	(4.362)	(.962)	(.5771)	(.4171)	(1.083)	(1.455)
	[868]	[744]	[620]	[496]	[372]	[248]	[124]	[868]	[744]	[620]	[496]	[372]	[248]	[124]
$\frac{MP_{i,t}^{H+V}}{X_{i,t-2}^{H+V}}$	5.284*	3.275	.631	-.495	-.1505	-.2506	-.1968	3.708†	4.238**	5.448**	4.816**	3.473†	1.363	.594
	(2.28)	(2.385)	(1.082)	(1.245)	(1.365)	(2.565)	(3.512)	(1.883)	(1.365)	(1.204)	(1.042)	(1.748)	(1.401)	(1.809)
	[744]	[744]	[620]	[496]	[372]	[248]	[124]	[744]	[744]	[620]	[496]	[372]	[248]	[124]
$\frac{MP_{i,t}^{H+V}}{X_{i,t-3}^{H+V}}$	7.771*	6.336*	3.055†	1.678	.0928	-.115	-.1311	.629	3.481*	3.992**	4.067**	4.571*	.092	1.335
	(3.312)	(2.805)	(1.534)	(1.094)	(1.363)	(1.948)	(2.89)	(1.343)	(1.456)	(1.159)	(.7932)	(2.056)	(1.046)	(1.717)
	[620]	[620]	[620]	[496]	[372]	[248]	[124]	[620]	[620]	[620]	[496]	[372]	[248]	[124]
$\frac{MP_{i,t}^{H+V}}{X_{i,t-4}^{H+V}}$	9.79*	7.728**	6.413**	4.338**	2.323*	1.166	2.313	$MP_{i,t-4}^{H+V}$	$MP_{i,t-4}^{H+V}$	$MP_{i,t-4}^{H+V}$	$MP_{i,t-4}^{H+V}$	$MP_{i,t-4}^{H+V}$	$MP_{i,t-4}^{H+V}$	
	(4.469)	(2.839)	(2.184)	(1.206)	(1.131)	(1.53)	(2.466)	(.9544)	(.8105)	(.7951)	(.8833)	(1.094)	(1.186)	(1.381)
	[496]	[496]	[496]	[496]	[372]	[248]	[124]	[496]	[496]	[496]	[496]	[372]	[248]	[124]
$\frac{MP_{i,t}^{H+V}}{X_{i,t-5}^{H+V}}$	8.362	7.056*	6.279**	5.689**	4.249**	1.528	1.503	$MP_{i,t-5}^{H+V}$	$MP_{i,t-5}^{H+V}$	$MP_{i,t-5}^{H+V}$	$MP_{i,t-5}^{H+V}$	$MP_{i,t-5}^{H+V}$	$MP_{i,t-5}^{H+V}$	
	(5.521)	(3.099)	(2.18)	(1.938)	(1.548)	(1.589)	(2.222)	(.9858)	(.9926)	(1.187)	(1.247)	(.8806)	(1.217)	(1.397)
	[372]	[372]	[372]	[372]	[248]	[248]	[124]	[372]	[372]	[372]	[372]	[248]	[248]	[124]
$\frac{MP_{i,t}^{H+V}}{X_{i,t-6}^{H+V}}$	9.647	4.878	4.583	4.414	4.41†	3.624†	4.535*	$MP_{i,t-6}^{H+V}$	$MP_{i,t-6}^{H+V}$	$MP_{i,t-6}^{H+V}$	$MP_{i,t-6}^{H+V}$	$MP_{i,t-6}^{H+V}$	$MP_{i,t-6}^{H+V}$	
	(8.01)	(5.754)	(3.686)	(2.977)	(2.528)	(2.123)	(2.034)	(1.528)	(1.39)	(1.451)	(1.368)	(1.433)	(1.3)	(1.708)
	[248]	[248]	[248]	[248]	[248]	[248]	[124]	[248]	[248]	[248]	[248]	[248]	[248]	[124]
$\frac{MP_{i,t}^{H+V}}{X_{i,t-7}^{H+V}}$														
	(1)	(9.63)	(5.867)	(4.405)	(3.21)	(3.121)	(2.824)	(1)	(2.578)	(2.422)	(2.074)	(1.646)	(1.998)	(1.991)
	[0]	[124]	[124]	[124]	[124]	[124]	[124]	[0]	[124]	[124]	[124]	[124]	[124]	[124]

(b) Aggregate Change - No Overlap

(c) Stayers Change - Horizontal-and-Vertical

	$Mergers_{1,t-1}$	$Mergers_{1,t-2}$	$Mergers_{1,t-3}$	$Mergers_{1,t-4}$	$Mergers_{1,t-5}$	$Mergers_{1,t-6}$	$Mergers_{1,t-7}$	$Mergers_{1,t-1}$	$Mergers_{1,t-2}$	$Mergers_{1,t-3}$	$Mergers_{1,t-4}$	$Mergers_{1,t-5}$	$Mergers_{1,t-6}$	$Mergers_{1,t-7}$
$\frac{MP_{i,t}^{H+V}}{X_{i,t-1}^{H+V}}$	-.7736	-.1994*	-.1605*	-.1574	-.2193	-.196	-.4088	.4113	.1828	-.193	.732	.449	.7926	1.043
	(.9518)	(.832)	(.7733)	(.9946)	(1.089)	(1.224)	(2.459)	(4.124)	(2.253)	(.2763)	(.4119)	(.3895)	(.6033)	(.8769)
	[868]	[744]	[620]	[496]	[372]	[248]	[124]	[868]	[744]	[620]	[496]	[372]	[248]	[124]
$\frac{MP_{i,t}^{H+V}}{X_{i,t-2}^{H+V}}$	-6.68†	-.4705†	-.3983*	-.3063†	-.2775†	-.2741†	-.3.388	$MP_{i,t-2}^{H+V}$	$MP_{i,t-2}^{H+V}$	$MP_{i,t-2}^{H+V}$	$MP_{i,t-2}^{H+V}$	$MP_{i,t-2}^{H+V}$	$MP_{i,t-2}^{H+V}$	$MP_{i,t-2}^{H+V}$
	(3.888)	(2.456)	(1.623)	(1.647)	(1.561)	(1.522)	(2.167)	(.7591)	(.4138)	(.372)	(.5022)	(.6013)	(.784)	(1.151)
	[744]	[744]	[620]	[496]	[372]	[248]	[124]	[744]	[744]	[620]	[496]	[372]	[248]	[124]
$\frac{MP_{i,t}^{H+V}}{X_{i,t-3}^{H+V}}$	-9.522†	-8.868†	-5.851*	-5.236*	-4.196†	-3.895†	-5.878†	$MP_{i,t-3}^{H+V}$	$MP_{i,t-3}^{H+V}$	$MP_{i,t-3}^{H+V}$	$MP_{i,t-3}^{H+V}$	$MP_{i,t-3}^{H+V}$	$MP_{i,t-3}^{H+V}$	$MP_{i,t-3}^{H+V}$
	(4.05)	(3.411)	(2.673)	(2.369)	(2.111)	(2.188)	(3.357)	(.7817)	(.5208)	(.39)	(.6355)	(.9624)	(1.268)	(1.375)
	[620]	[620]	[620]	[496]	[372]	[248]	[124]	[620]	[620]	[620]	[496]	[372]	[248]	[124]
$\frac{MP_{i,t}^{H+V}}{X_{i,t-4}^{H+V}}$	-11.52†	-11.29**	-9.056**	-7.267*	-6.622*	-5.734*	-5.523	$MP_{i,t-4}^{H+V}$	$MP_{i,t-4}^{H+V}$	$MP_{i,t-4}^{H+V}$	$MP_{i,t-4}^{H+V}$	$MP_{i,t-4}^{H+V}$	$MP_{i,t-4}^{H+V}$	$MP_{i,t-4}^{H+V}$
	(5.068)	(3.655)	(3.373)	(3.134)	(2.913)	(2.799)	(3.857)	(.7332)	(.6551)	(.4626)	(.5669)	(1.167)	(1.529)	(1.885)
	[496]	[496]	[496]	[496]	[372]	[248]	[124]	[496]	[496]	[496]	[496]	[372]	[248]	[124]
$\frac{MP_{i,t}^{H+V}}{X_{i,t-5}^{H+V}}$	-14.14†	-13.34**	-11.37**	-10.47**	-8.751*	-8.476*	-8.934†	$MP_{i,t-5}^{H+V}$	$MP_{i,t-5}^{H+V}$	$MP_{i,t-5}^{H+V}$	$MP_{i,t-5}^{H+V}$	$MP_{i,t-5}^{H+V}$	$MP_{i,t-5}^{H+V}$	$MP_{i,t-5}^{H+V}$
	(6.943)	(4.324)	(3.658)	(3.362)	(3.604)	(3.65)	(4.921)	(1.189)	(1.007)	(.8132)	(.6928)	(1.136)	(1.646)	(2.164)
	[372]	[372]	[372]	[372]	[248]	[248]	[124]	[372]	[372]	[372]	[372]	[372]	[248]	[124]
$\frac{MP_{i,t}^{H+V}}{X_{i,t-6}^{H+V}}$	-9.491	-12.59*	-9.999**	-10.82**	-9.583**	-8.672*	-9.976†	$MP_{i,t-6}^{H+V}$	$MP_{i,t-6}^{H+V}$	$MP_{i,t-6}^{H+V}$	$MP_{i,t-6}^{H+V}$	$MP_{i,t-6}^{H+V}$	$MP_{i,t-6}^{H+V}$	$MP_{i,t-6}^{H+V}$
	(6.487)	(4.775)	(3.203)	(3.124)	(3.388)	(4.051)	(5.357)	(1.442)	(1.624)	(1.269)	(.8321)	(1.441)	(1.764)	(2.197)
	[248]	[248]	[248]	[248]	[248]	[248]	[124]	[248]	[248]	[248]	[248]	[248]	[248]	[124]
$\frac{MP_{i,t}^{H+V}}{X_{i,t-7}^{H+V}}$														
	(1)	(5.576)	(4.008)	(3.608)	(4.761)	(4.683)	(5.733)	(1)	(4.223)	(3.27)	(2.337)	(1.54)	(2.068)	(2.692)
	[0]	[124]	[124]	[124]	[124]	[124]	[124]	[0]	[124]	[124]	[124]	[124]	[124]	[124]

(d) Stayers Change - No Overlap

(e) Within Change - Horizontal-and-Vertical

	$Mergers_{1,t-1}$	$Mergers_{1,t-2}$	$Mergers_{1,t-3}$	$Mergers_{1,t-4}$	$Mergers_{1,t-5}$	$Mergers_{1,t-6}$	$Mergers_{1,t-7}$	$Mergers_{1,t-1}$	$Mergers_{1,t-2}$	$Mergers_{1,t-3}$	$Mergers_{1,t-4}$	$Mergers_{1,t-5}$	$Mergers_{1,t-6}$	$Mergers_{1,t-7}$
$\frac{MP_{i,t}^{H+V}}{X_{i,t-1}^{H+V}}$	3.112	2.919*	1.245	1.007	1.345	.878	5.424†	2.293**	2.196**	2.621				

Table C54: Cumulative Lagged mergers and sales weighted materials markups by nature of overlap - I

	Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}	Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}	
$\frac{MP_{t+1}^{V,NT}}{X_{t+1}^{V,NT}}$	-.5011	-.0311	-.1623	-.0151	-.1343	-.1362	-.1458	$\frac{MP_{t+1}^{V,NT}}{X_{t+1}^{V,NT}}$	.3794	1.055**	-.1763	-.9575*	-.2749	-.3843	-.8392
(.33)	(.1788)	(.1292)	(.1318)	(.1222)	(.1371)	(.1778)	(.1778)	(.2811)	(.3659)	(.2437)	(.3743)	(.2293)	(.3693)	(.65)	(.124)
[868]	[744]	[620]	[496]	[372]	[248]	[124]	[124]	[868]	[744]	[620]	[496]	[372]	[248]	[124]	[124]
$\frac{MP_{t+2}^{V,NT}}{X_{t+2}^{V,NT}}$	-.7816**	-.3468	-.2477	-.1894	-.2853†	-.3328	-.4565†	$\frac{MP_{t+2}^{V,NT}}{X_{t+2}^{V,NT}}$	1.655***	1.977**	.9359*	-.1056†	-.1349†	-.541	-.7439
(.2873)	(.2158)	(.1876)	(.1717)	(.1493)	(.2352)	(.2538)	(.4766)	(.5822)	(.5822)	(.3734)	(.5636)	(.6764)	(.7653)	(.7578)	(.124)
[744]	[744]	[620]	[496]	[372]	[248]	[124]	[124]	[744]	[744]	[620]	[496]	[372]	[248]	[124]	[124]
$\frac{MP_{t+3}^{V,NT}}{X_{t+3}^{V,NT}}$	-.8513*	-.3519	-.2822	.0095	-.0978	-.1192	-.4742	$\frac{MP_{t+3}^{V,NT}}{X_{t+3}^{V,NT}}$	1.723	3.315***	2.014***	.118	-.8413	-.638	-.1474
(.4198)	(.2948)	(.2062)	(.2269)	(.2108)	(.2565)	(.3545)	(.1079)	(.1003)	(.5201)	(.3506)	(.5934)	(.9235)	(1.332)	(1.332)	(.124)
[620]	[620]	[620]	[496]	[372]	[248]	[124]	[620]	[620]	[620]	[620]	[496]	[372]	[248]	[124]	[124]
$\frac{MP_{t+4}^{V,NT}}{X_{t+4}^{V,NT}}$	-.8476	-.3164	-.2764	-.104	-.0798	-.2707	-.4349	$\frac{MP_{t+4}^{V,NT}}{X_{t+4}^{V,NT}}$	-.9329	-.3719	.9245*	.519	.2705	-.1179	-.2036
(.6748)	(.3773)	(.2343)	(.2205)	(.2249)	(.2147)	(.3653)	(.2183)	(.1705)	(.434)	(.349)	(.4583)	(1.019)	(1.296)	(1.296)	(.124)
[496]	[496]	[496]	[496]	[372]	[248]	[124]	[496]	[496]	[496]	[496]	[372]	[248]	[124]	[124]	[124]
$\frac{MP_{t+5}^{V,NT}}{X_{t+5}^{V,NT}}$	-.9678	-.2806	-.3577	-.1882	-.1373	-.2374	-.4036	$\frac{MP_{t+5}^{V,NT}}{X_{t+5}^{V,NT}}$	-.0977	.1625	.3831	.8158	.9138†	-.0745	-.9311
(.8908)	(.454)	(.2351)	(.1829)	(.1955)	(.192)	(.2988)	(.1122)	(.1753)	(.1239)	(.5137)	(.5246)	(.8982)	(1.406)	(1.406)	(.124)
[372]	[372]	[372]	[372]	[372]	[248]	[124]	[372]	[372]	[372]	[372]	[372]	[372]	[372]	[248]	[124]
$\frac{MP_{t+6}^{V,NT}}{X_{t+6}^{V,NT}}$	-.1656	-.1154†	-.7217*	-.4814*	-.3898†	-.4038†	-.4777†	$\frac{MP_{t+6}^{V,NT}}{X_{t+6}^{V,NT}}$	1.042	-.2616†	-.7541	.4146	.9827	-.039	-.4354
(1.024)	(.4977)	(.349)	(.2128)	(.2206)	(.2273)	(.266)	(.1111)	(.1549)	(.1624)	(.1626)	(.1036)	(.9249)	(1.028)	(1.028)	(.124)
[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[124]
$\frac{MP_{t+7}^{V,NT}}{X_{t+7}^{V,NT}}$			-.8592	-.9355†	-.3218	-.245	-.3379	-.3699	$\frac{MP_{t+7}^{V,NT}}{X_{t+7}^{V,NT}}$	-.2529	-.2543	.4456	.5124	-.1034	-.0119
(.)	(.6611)	(.5077)	(.2994)	(.2114)	(.2835)	(.2685)	(.)	(.3493)	(.2875)	(.226)	(.1811)	(.1131)	(.1064)	(.1064)	(.124)
[0]	[124]	[124]	[124]	[124]	[124]	[124]	[0]	[124]	[124]	[124]	[124]	[124]	[124]	[124]	[124]

(a) Aggregate Change - Horizontal

	Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}	Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}	
$\frac{MP_{t+1}^{V,NT}}{X_{t+1}^{V,NT}}$	-.7673*	-.1661	-.178	-.0554	-.0269	-.112	-.1628	$\frac{MP_{t+1}^{V,NT}}{X_{t+1}^{V,NT}}$	.3614	1.111**	-.2453	-.9082*	-.125	-.3742	-.5199
(.2979)	(.1962)	(.1444)	(.1275)	(.1376)	(.14)	(.1713)	(.3026)	(.3461)	(.2201)	(.3636)	(.214)	(.5282)	(.6429)	(.6429)	(.124)
[868]	[744]	[620]	[496]	[372]	[248]	[124]	[868]	[744]	[620]	[496]	[372]	[248]	[124]	[124]	[124]
$\frac{MP_{t+2}^{V,NT}}{X_{t+2}^{V,NT}}$	-.8518**	-.5433†	-.2913	-.1957	-.163	-.1345	-.324	$\frac{MP_{t+2}^{V,NT}}{X_{t+2}^{V,NT}}$	1.624***	1.961**	.9184*	-.1058*	-.121†	-.6097	-.7618
(.2937)	(.2725)	(.2458)	(.2096)	(.2027)	(.2236)	(.2893)	(.4429)	(.5697)	(.418)	(.5251)	(.6332)	(.8421)	(1.01)	(1.01)	(.124)
[744]	[744]	[620]	[496]	[372]	[248]	[124]	[744]	[744]	[620]	[496]	[372]	[248]	[124]	[124]	[124]
$\frac{MP_{t+3}^{V,NT}}{X_{t+3}^{V,NT}}$	-.8665*	-.5252	-.401	-.0909	-.1298	-.1072	-.3673	$\frac{MP_{t+3}^{V,NT}}{X_{t+3}^{V,NT}}$	1.34	3.22**	1.919**	.1725	-.811	-.7764	-.136
(.3967)	(.3431)	(.2745)	(.2843)	(.2747)	(.2736)	(.3435)	(.1162)	(.1012)	(.5879)	(.3791)	(.5531)	(.9179)	(1.303)	(1.303)	(.124)
[620]	[620]	[620]	[496]	[372]	[248]	[124]	[620]	[620]	[620]	[620]	[496]	[372]	[248]	[124]	[124]
$\frac{MP_{t+4}^{V,NT}}{X_{t+4}^{V,NT}}$	-.695	-.3909	-.3323	-.2516	-.1572	-.3494	-.5356	$\frac{MP_{t+4}^{V,NT}}{X_{t+4}^{V,NT}}$	-.1202	-.5825	.7476	.5952	.3868	-.1276	-.2017
(.5048)	(.3452)	(.2963)	(.2751)	(.3041)	(.2552)	(.4059)	(.2312)	(.1666)	(.4824)	(.4036)	(.5094)	(1.106)	(1.337)	(1.337)	(.124)
[496]	[496]	[496]	[496]	[372]	[248]	[124]	[496]	[496]	[496]	[496]	[372]	[248]	[124]	[124]	[124]
$\frac{MP_{t+5}^{V,NT}}{X_{t+5}^{V,NT}}$	-.1084	-.3486	-.3089	-.2519	-.1964	-.308	-.4549	$\frac{MP_{t+5}^{V,NT}}{X_{t+5}^{V,NT}}$	.296	.2284	-.0702	.911	.9666	-.3702	-.7853
(.7386)	(.3717)	(.2554)	(.2339)	(.2553)	(.2238)	(.3327)	(.1329)	(.1587)	(.1361)	(.5838)	(.6114)	(1.077)	(1.461)	(1.461)	(.124)
[372]	[372]	[372]	[372]	[372]	[248]	[124]	[372]	[372]	[372]	[372]	[372]	[372]	[372]	[248]	[124]
$\frac{MP_{t+6}^{V,NT}}{X_{t+6}^{V,NT}}$	-.1416	-.9076*	-.4192	-.3184	-.3308	-.4938*	-.6555†	$\frac{MP_{t+6}^{V,NT}}{X_{t+6}^{V,NT}}$	2.347†	-.1446	-.0956	.9114	.8634	-.5296	-.7727
(.9246)	(.448)	(.3291)	(.2709)	(.2665)	(.2291)	(.3341)	(.1195)	(.1577)	(.1225)	(.1756)	(.107)	(.1138)	(.132)	(.132)	(.124)
[248]	[248]	[248]	[248]	[248]	[248]	[124]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[124]
$\frac{MP_{t+7}^{V,NT}}{X_{t+7}^{V,NT}}$			-.8349	-.8259†	-.1178	-.2589	-.4154	-.5872†	$\frac{MP_{t+7}^{V,NT}}{X_{t+7}^{V,NT}}$	-.5355	-.9913	1.703	1.574	-.3196	-.4013
(.)	(.6332)	(.4874)	(.3783)	(.3064)	(.3195)	(.3211)	(.)	(.3355)	(.2635)	(.2187)	(.2048)	(.1322)	(.1359)	(.1359)	(.124)
[0]	[124]	[124]	[124]	[124]	[124]	[124]	[0]	[124]	[124]	[124]	[124]	[124]	[124]	[124]	[124]

(b) Aggregate Change - Vertical

	Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}	Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}	
$\frac{MP_{t+1}^{H,NT}}{X_{t+1}^{H,NT}}$	-.3012	-.3238	-.3467	-.0859	-.1078	-.0656	-.0821	$\frac{MP_{t+1}^{H,NT}}{X_{t+1}^{H,NT}}$	2.66***	2.051***	-.264	-.9288	.3455	1.752**	1.995*
(.3715)	(.2585)	(.2282)	(.099)	(.1394)	(.1453)	(.2325)	(.5596)	(.4415)	(.3153)	(.6261)	(.6747)	(.534)	(.9497)	(.9497)	(.124)
[868]	[744]	[620]	[496]	[372]	[248]	[124]	[868]	[744]	[620]	[496]	[372]	[248]	[124]	[124]	[124]
$\frac{MP_{t+2}^{H,NT}}{X_{t+2}^{H,NT}}$	-.1913	-.4737	-.4621	-.2771	-.1923	-.0381	-.3207	$\frac{MP_{t+2}^{H,NT}}{X_{t+2}^{H,NT}}$	3.624***	3.534***	1.674**	-.1229	-.122	2.539**	2.91**
(.4424)	(.3443)	(.3171)	(.1902)	(.2043)	(.1919)	(.2906)	(.7446)	(.7982)	(.5221)	(.7548)	(.1556)	(.8051)	(1.043)	(1.043)	(.124)
[744]	[744]	[620]	[496]	[372]	[248]	[124]	[744]	[744]	[620]	[496]	[372]	[248]	[124]	[124]	[124]
$\frac{MP_{t+3}^{H,NT}}{X_{t+3}^{H,NT}}$	-.3166	-.3322	-.2859	-.0305	.0255	.3286	-.1352	$\frac{MP_{t+3}^{H,NT}}{X_{t+3}^{H,NT}}$	5.168*	4.32***	3.102***	.5404	-.1262	2.174*	2.646*
(.5826)	(.4075)	(.3506)	(.2289)	(.1982)	(.2825)	(.3221)	(.2112)	(.1205)	(.785)	(.6083)	(.149)	(.1037)	(.1228)	(.1228)	(.124)
[620]	[620]	[620]	[496]	[372]	[248]	[124]	[620]	[620]	[620]	[620]	[372]	[248]	[124]	[124]	[124]
$\frac{MP_{t+4}^{H,NT}}{X_{t+4}^{H,NT}}$	-.6394	-.3679	-.2068	-.006	.1596	.2046	.2103	$\frac{MP_{t+4}^{H,NT}}{X_{t+4}^{H,NT}}$	2.729*	1.979	1.399†	1.176†	.7176	1.006	1.33
(.7342)	(.4959)	(.3735)	(.2995)	(.2388)	(.2362)	(.3422)	(.1238)	(.1547)	(.7065)	(.6798)	(.8985)	(.9709)	(1.387)	(1.387)	(.124)
[496]	[496]	[496]	[496]	[372]	[248]	[124]	[496]	[496]	[496]	[496]	[372]	[248]	[124]	[124]	[124]
$\frac{MP_{t+5}^{H,NT}}{X_{t+5}^{H,NT}}$	-.1211	-.6165	-.5133	-.2275	-.089	-.0425	-.053	$\frac{MP_{t+5}^{H,NT}}{X_{t+5}^{H,NT}}$	6.008**	3.018	2.834	1.164	1.522	2.045†	2.199
(.1153)	(.5607)	(.424)	(.3067)	(.2986)	(.28)	(.3551)	(.1868)	(.2252)	(.1903)	(.1167)	(.102)	(.1088)	(.152)	(.152)	(.124)
[372]	[372]	[372]	[372]	[372]	[372]	[372]	[372]	[372]	[372]	[372]	[372]	[372]	[372]	[372]	[248]
$\frac{MP_{t+6}^{H,NT}}{X_{t+6}^{H,NT}}$	-.1316	-.1013	-.7347	-.5214	-.3076	-.0903	-.1889	$\frac{MP_{t+6}^{H,NT}}{X_{t+6}^{H,NT}}$	11.14***	4.667†	5.336*	5.291*	1.976	3.21*	3.835*
(.1336)	(.7271)	(.478)	(.3968)	(.3791)	(.3541)	(.4228)	(.2698)	(.2413)	(.2157)	(.2541)	(.2209)	(.1228)	(.1567)	(.1567)	(.124)
[248]	[248]	[248]	[248]	[248]	[248]	[124]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[124]
$\frac{MP_{t+7}^{H,NT}}{X_{t+7}^{H,NT}}$			-.1017	-.7844	-.0999	-.371	.0757	-.0965	$\frac{MP_{t+7}^{H,NT}}{X_{t+7}^{H,NT}}$	6.599	6.655	9.677†	7.498†	4.234*	4.26*
(.)	(.1221)	(.8413)	(.4631)	(.5541)	(.4894)	(.5167)	(.)	(.5397)	(.4094)	(.49)	(.3992)	(.1633)	(.176)	(.176)	(.124)
[0															

Table C55: Cumulative lagged mergers and sales weighted materials markups by nature of overlap - II

Table with 14 columns: Mergers_{j-1} to Mergers_{j-7} and MP_{X_{it}^m} / X_{it}^m. Rows show regression coefficients and standard errors for various lagged merger variables.

(a) Aggregate Change - Horizontal-and-Vertical

(b) Aggregate Change - No Overlap

Two sub-tables (a) and (b) showing regression coefficients for aggregate change with and without overlap, respectively, for lags 1 to 7.

(c) Stayers Change - Horizontal-and-Vertical

(d) Stayers Change - No Overlap

Two sub-tables (c) and (d) showing regression coefficients for stayers change with and without overlap, respectively, for lags 1 to 7.

(e) Within Change - Horizontal-and-Vertical

(f) Within Change - No Overlap

Two sub-tables (e) and (f) showing regression coefficients for within change with and without overlap, respectively, for lags 1 to 7.

(g) Between Change - Horizontal-and-Vertical

(h) Between Change - No Overlap

Note: this table shows the result of a regression on the MP decomposed change in markups defined in the first column over the cumulative proportion of mergers over the period that starts the number of years indicated in the column and ending one period before the last year of markup change. All regressions control for year effects and one-digit industry effects. All regressions are weighted by mean total sales per year in the three digit industry. All regressions are clustered at the two-digit level and there are 59 two-digit industries in the sample.

Each regression includes horizontal, vertical, no-overlap, and horizontal-and-vertical mergers. Materials markups are defined as in Equation (7), using the output elasticity of materials against the adjusted materials share of sales. The decompositions are defined in the following equations: Aggregate Change (22), Stayers Change (23), Within Change (24), and Between Change (25). We do not provide individual coefficients entry or exit individually these regressions due to confidentiality concerns; the measures are included in the main regressions to remain consistent with other results provided in this paper. Standard errors are in parentheses and the number of observations are in brackets below the coefficients. † p < .1, * p < .05, ** p < .01, *** p < .001 Source: authors' calculations based on NT and UNU-WIDER (2023).

Table C56: Cumulative lagged mergers and sales weighted labour markups by nature of overlap - I - Weighted by number of firms in the industry

	Mergers _{1,1}	Mergers _{1,2}	Mergers _{1,3}	Mergers _{1,4}	Mergers _{1,5}	Mergers _{1,6}	Mergers _{1,7}	Mergers _{1,1}	Mergers _{1,2}	Mergers _{1,3}	Mergers _{1,4}	Mergers _{1,5}	Mergers _{1,6}	Mergers _{1,7}	
$\frac{MP^{(1)}}{X_{i,t}}$	.6052*	.5015*	.3872	.6105*	.5563*	1.156***	.8971	$\frac{MP^{(1)}}{X_{i,t}}$	-.6233	-3.765*	-2.286	-1.859*	-.935	-.9875	-2.895
$\frac{MP^{(2)}}{X_{i,t}}$	(.3344)	(.2406)	(.2556)	(.2482)	(.2045)	(.2973)	(.5706)	$\frac{MP^{(2)}}{X_{i,t}}$	(2.474)	(2.202)	(1.648)	(1.044)	(1.154)	(1.256)	(1.913)
$\frac{MP^{(3)}}{X_{i,t}}$	.868	.744	.620	.496	.372	.248	.124	$\frac{MP^{(3)}}{X_{i,t}}$	.868	.744	.620	.496	.372	.248	.124
$\frac{MP^{(4)}}{X_{i,t}}$	1.404*	.7768*	.7825*	.8189*	.6992*	1.522***	2.114**	$\frac{MP^{(4)}}{X_{i,t}}$	-2.682	-4.133	-4.548*	-2.916	-1.545	-2.683	-2.061
$\frac{MP^{(5)}}{X_{i,t}}$	(.6231)	(.3643)	(.3817)	(.4247)	(.364)	(.376)	(.6882)	$\frac{MP^{(5)}}{X_{i,t}}$	(3.51)	(3.442)	(2.692)	(1.867)	(1.746)	(2.099)	(2.68)
$\frac{MP^{(6)}}{X_{i,t}}$	.1272	.7376	.6992*	.8742*	.4624	1.322**	1.815**	$\frac{MP^{(6)}}{X_{i,t}}$	-3.497	-5.352	-3.485	-3.057	-2.047	.1027	.1538
$\frac{MP^{(7)}}{X_{i,t}}$	(.7902)	(.5044)	(.4014)	(.5047)	(.446)	(.4052)	(.582)	$\frac{MP^{(7)}}{X_{i,t}}$	(5.324)	(4.193)	(3.421)	(2.569)	(2.188)	(2.397)	(3.133)
$\frac{MP^{(8)}}{X_{i,t}}$	1.636*	.8664	1.043*	1.083*	.64	1.27*	1.721*	$\frac{MP^{(8)}}{X_{i,t}}$	1.072	-3.475	-3.078	-1.603	-2.343	-7.848	-.928
$\frac{MP^{(9)}}{X_{i,t}}$	(.9107)	(.8275)	(.5416)	(.5592)	(.5374)	(.5118)	(.6929)	$\frac{MP^{(9)}}{X_{i,t}}$	(6.866)	(5.495)	(4.25)	(2.924)	(2.742)	(2.589)	(3.292)
$\frac{MP^{(10)}}{X_{i,t}}$	.496	.496	.496	.496	.496	.496	.496	$\frac{MP^{(10)}}{X_{i,t}}$	.496	.496	.496	.496	.496	.496	.496
$\frac{MP^{(11)}}{X_{i,t}}$	3.362***	1.482	1.545*	1.708*	1.103	1.48*	1.773*	$\frac{MP^{(11)}}{X_{i,t}}$	.9978	-4.289	-3.377	-2.161	-1.229	-2.309	-2.788
$\frac{MP^{(12)}}{X_{i,t}}$	(.9628)	(.8974)	(.7863)	(.7333)	(.7081)	(.6589)	(.8065)	$\frac{MP^{(12)}}{X_{i,t}}$	(9.063)	(7.226)	(6.079)	(4.013)	(3.068)	(3.02)	(3.472)
$\frac{MP^{(13)}}{X_{i,t}}$	.372	.372	.372	.372	.372	.372	.372	$\frac{MP^{(13)}}{X_{i,t}}$	.372	.372	.372	.372	.372	.372	.372
$\frac{MP^{(14)}}{X_{i,t}}$	5.278**	3.237**	2.417*	2.56**	1.964*	1.982*	1.886*	$\frac{MP^{(14)}}{X_{i,t}}$	5.107	2.164	8886	.333	8704	.8443	-.8209
$\frac{MP^{(15)}}{X_{i,t}}$	(1.274)	(.9071)	(.9627)	(.8803)	(.8403)	(.8247)	(1.012)	$\frac{MP^{(15)}}{X_{i,t}}$	(10.46)	(9.223)	(8.239)	(5.976)	(4.27)	(3.442)	(4.046)
$\frac{MP^{(16)}}{X_{i,t}}$	.248	.248	.248	.248	.248	.248	.248	$\frac{MP^{(16)}}{X_{i,t}}$	.248	.248	.248	.248	.248	.248	.248
$\frac{MP^{(17)}}{X_{i,t}}$		5.595**	4.666**	3.92*	3.874**	3.165*	3.118*	$\frac{MP^{(17)}}{X_{i,t}}$		-5.884	.9701	-4.158	-1.675	-9.312	-1.832
$\frac{MP^{(18)}}{X_{i,t}}$	()	(1.257)	(1.392)	(1.493)	(1.245)	(1.212)	(1.181)	$\frac{MP^{(18)}}{X_{i,t}}$	()	(11.237)	(10.53)	(9.465)	(6.993)	(4.519)	(4.372)
$\frac{MP^{(19)}}{X_{i,t}}$	()	()	()	()	()	()	()	$\frac{MP^{(19)}}{X_{i,t}}$	()	()	()	()	()	()	()

(a) Aggregate Change - Horizontal **(b) Aggregate Change - Vertical**

(c) Stayers Change - Horizontal **(d) Stayers Change - Vertical**

(e) Within Change - Horizontal **(f) Within Change - Vertical**

(g) Between Change - Horizontal **(h) Between Change - Vertical**

Note: this table shows the result of a regression on the MP decomposed change in markups defined in the first column over the cumulative proportion of mergers over the period that starts the number of years indicated in the column and ending one period before the last year of markup change. All regressions control for year effects and one-digit industry effects. All regressions are weighted by mean total number of firms per year in the three digit industry. All regressions are clustered at the two-digit level and there are 59 two-digit industries in the sample.

Each regression includes horizontal, vertical, no-overlap, and horizontal-and-vertical mergers. Labour markups are defined as in Equation (7), using the output elasticity of labour against the adjusted labour share of sales. The decompositions are defined in the following equations: Aggregate Change (22), Stayers Change (23), Within Change (24), and Between Change (25). We do not provide individual coefficients entry or exit individually these regressions due to confidentiality concerns; the measures are included in the main regressions to remain consistent with other results provided in this paper. Standard errors are in parentheses and the number of observations are in brackets below the coefficients.

* $p < .1$, ** $p < .05$, *** $p < .001$

Source: authors' calculations based on NT and UNU-WIDER (2023).

Table C57: Cumulative lagged mergers and sales weighted labour markups by nature of overlap - II - Weighted by number of firms in the industry

	Mergers ₁₋₁	Mergers ₁₋₂	Mergers ₁₋₃	Mergers ₁₋₄	Mergers ₁₋₅	Mergers ₁₋₆	Mergers ₁₋₇	Mergers ₁₋₁	Mergers ₁₋₂	Mergers ₁₋₃	Mergers ₁₋₄	Mergers ₁₋₅	Mergers ₁₋₆	Mergers ₁₋₇	
$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	-1.963	-0.662	-0.375	-0.076	-0.865	-0.854	1.531	$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	1.313	1.632	1.046	-0.422	-1.538	-1.853	-0.933
	(2.264)	(1.829)	(1.21)	(1.085)	(1.413)	(1.652)	(2.676)		(1.711)	(1.078)	(0.909)	(0.834)	(1.247)	(1.485)	(2.803)
	[868]	[744]	[620]	[496]	[372]	[248]	[124]		[868]	[744]	[620]	[496]	[372]	[248]	[124]
$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	1.137	1.311	2.244	1.007	-1.028	-1.336	0.768	$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	1.589	1.155	8.589	-1.641	1.988	-2.416	-3.556
	(3.745)	(2.42)	(1.994)	(1.926)	(2.271)	(2.237)	(3.165)		(2.299)	(1.815)	(1.345)	(1.429)	(2.183)	(1.73)	(3.267)
	[744]	[496]	[620]	[496]	[372]	[248]	[124]		[744]	[496]	[620]	[496]	[372]	[248]	[124]
$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	3.135	2.902	2.044	1.555	-2.271	-0.265	0.505	$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	7.96	5.017	-0.057	-8.848	5.446	-2.772	-3.568
	(5.248)	(3.434)	(2.272)	(2.202)	(2.624)	(2.503)	(3.403)		(4.481)	(2.891)	(1.892)	(2.907)	(2.23)	(1.785)	(2.714)
	[620]	[620]	[620]	[496]	[372]	[248]	[124]		[620]	[620]	[620]	[496]	[372]	[248]	[124]
$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	2.025	3.885	3.86	2.732	-1.695	-4.997	1.915	$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	-6.177	-4.054	-2.26	-2.563	-1.229	-2.553	-4.377
	(5.761)	(4.287)	(2.98)	(2.513)	(2.717)	(2.945)	(3.762)		(5.968)	(4.551)	(2.35)	(2.213)	(2.33)	(2.133)	(3.272)
	[496]	[496]	[496]	[496]	[372]	[248]	[124]		[496]	[496]	[496]	[496]	[372]	[248]	[124]
$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	-0.731	2.543	4.773	4.082	1.157	-6.476	-5.111	$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	-3.764	-1.551	-3.929	-4.987	-1.964	-2.6	-3.122
	(8.348)	(5.039)	(3.838)	(3.413)	(3.186)	(3.211)	(4.507)		(4.754)	(5.061)	(3.906)	(2.733)	(2.687)	(2.678)	(3.576)
	[372]	[372]	[372]	[372]	[372]	[248]	[124]		[372]	[372]	[372]	[372]	[372]	[248]	[124]
$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	7.986	5.88	5.458	5.784	2.977	8.558	9.254	$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	-6.319	-5.785	-7.225	-8.145*	-5.127*	-5.16	-4.266
	(11.82)	(7.198)	(4.894)	(4.687)	(4.341)	(4.082)	(4.136)		(4.317)	(4.419)	(4.896)	(3.504)	(3.031)	(3.293)	(4.524)
	[248]	[248]	[248]	[248]	[248]	[248]	[124]		[248]	[248]	[248]	[248]	[248]	[248]	[124]
$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	14.02	6.808	6.691	5.786	2.617	2.751		$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	-6.965	-9.634	-11.54*	-9.292*	-7.582*	-8.191*	
	(14.45)	(8.016)	(7.004)	(6.444)	(6.509)	(5.79)			(4.775)	(5.943)	(6.432)	(4.304)	(4.497)	(6.448)	
	[0]	[124]	[124]	[124]	[124]	[124]			[0]	[124]	[124]	[124]	[124]	[124]	[124]

(a) Aggregate Change - Horizontal-and-Vertical (b) Aggregate Change - No Overlap

(c) Stayers Change - Horizontal-and-Vertical (d) Stayers Change - No Overlap

(e) Within Change - Horizontal-and-Vertical (f) Within Change - No Overlap

(g) Between Change - Horizontal-and-Vertical (h) Between Change - No Overlap

Note: this table shows the result of a regression on the MP decomposed change in markups defined in the first column over the cumulative proportion of mergers over the period that starts the number of years indicated in the column and ending one period before the last year of markup change. All regressions control for year effects and one-digit industry effects. All regressions are weighted by mean total number of firms per year in the three digit industry. All regressions are clustered at the two-digit level and there are 59 two-digit industries in the sample.

Each regression includes horizontal, vertical, no-overlap, and horizontal-and-vertical mergers. Labour markups are defined as in Equation (7), using the output elasticity of labour against the adjusted labour share of sales. The decompositions are defined in the following equations: Aggregate Change (22), Stayers Change (23), Within Change (24), and Between Change (25). We do not provide individual coefficients entry or exit individually these regressions due to confidentiality concerns; the measures are included in the main regressions to remain consistent with other results provided in this paper. Standard errors are in parentheses and the number of observations are in brackets below the coefficients.

* $p < .1$, ** $p < .05$, *** $p < .001$

Source: authors' calculations based on NT and UNU-WIDER (2023).

Table C58: Cumulative lagged mergers and sales weighted materials markups by nature of overlap - I - Weighted by number of firms in the industry

	Mergers ₁₋₁	Mergers ₁₋₂	Mergers ₁₋₃	Mergers ₁₋₄	Mergers ₁₋₅	Mergers ₁₋₆	Mergers ₁₋₇	Mergers ₁₋₁	Mergers ₁₋₂	Mergers ₁₋₃	Mergers ₁₋₄	Mergers ₁₋₅	Mergers ₁₋₆	Mergers ₁₋₇	
$\frac{MP_{i,t}^{(1)}}{X_{i,t}^{(1)}}$	-1165	2251	-1071	2002	-1652	-3913*	-1718	$\frac{MP_{i,t}^{(1)}}{X_{i,t}^{(1)}}$	4902	3605	2139	1473	-3885	-7388	-1583*
	(3224)	(1572)	(1349)	(1513)	(1499)	(1671)	(2421)		(3035)	(9853)	(4631)	(6344)	(6876)	(5434)	(8053)
	[868]	[744]	[620]	[496]	[372]	[248]	[124]		[868]	[744]	[620]	[496]	[372]	[248]	[124]
$\frac{MP_{i,t}^{(2)}}{X_{i,t}^{(2)}}$	-5322	10417	-03	10782	-10476	-6137*	-7529*	$\frac{MP_{i,t}^{(2)}}{X_{i,t}^{(2)}}$	1763	3025	6108	3377	-1697	-9194	-1518
	(48)	(3422)	(1586)	(1998)	(2669)	(2408)	(3259)		(1439)	(1412)	(102)	(8497)	(1151)	(1068)	(1059)
	[744]	[744]	[620]	[496]	[372]	[248]	[124]		[744]	[744]	[620]	[496]	[372]	[248]	[124]
$\frac{MP_{i,t}^{(3)}}{X_{i,t}^{(3)}}$	-6969†	-2029	-1829	2428	10854	-3436	-8338	$\frac{MP_{i,t}^{(3)}}{X_{i,t}^{(3)}}$	2.525	7257	3795	3528	-0473	-7462	-1927
	(3902)	(3312)	(1664)	(2157)	(292)	(3205)	(5001)		(173)	(1606)	(111)	(1032)	(1248)	(1365)	(1561)
	[620]	[620]	[620]	[496]	[372]	[248]	[124]		[620]	[620]	[620]	[496]	[372]	[248]	[124]
$\frac{MP_{i,t}^{(4)}}{X_{i,t}^{(4)}}$	-2154	10693	-1251	1408	-1309	-3049	-4776	$\frac{MP_{i,t}^{(4)}}{X_{i,t}^{(4)}}$	2.864	1.784	5611	2436	-234	-1055	-2298
	(8743)	(4223)	(2344)	(2308)	(298)	(3217)	(5028)		(1996)	(245)	(1497)	(1151)	(1298)	(1296)	(1627)
	[496]	[496]	[496]	[496]	[372]	[248]	[124]		[496]	[496]	[496]	[496]	[372]	[248]	[124]
$\frac{MP_{i,t}^{(5)}}{X_{i,t}^{(5)}}$	-5763	5471	-2152	10071	10581	-3378	-5997	$\frac{MP_{i,t}^{(5)}}{X_{i,t}^{(5)}}$	3.373	2.228	1.752	1.335	-0853	-7638	-1957
	(1125)	(5764)	(3047)	(2797)	(3326)	(3053)	(5292)		(2732)	(2776)	(2198)	(1451)	(14)	(1407)	(1669)
	[372]	[372]	[372]	[372]	[372]	[248]	[124]		[372]	[372]	[372]	[372]	[372]	[248]	[124]
$\frac{MP_{i,t}^{(6)}}{X_{i,t}^{(6)}}$	-1091*	-5456	-3319	-3555	-37	-4361	-6464	$\frac{MP_{i,t}^{(6)}}{X_{i,t}^{(6)}}$	5265	-1715	011	-1998	-7122	-9116	-174
	(4668)	(4646)	(37)	(2722)	(3282)	(317)	(4563)		(2612)	(311)	(23)	(2008)	(1759)	(1576)	(1943)
	[248]	[248]	[248]	[248]	[248]	[248]	[124]		[248]	[248]	[248]	[248]	[248]	[248]	[124]
$\frac{MP_{i,t}^{(7)}}{X_{i,t}^{(7)}}$	-3999	-3536	-1127	-1507	-439	-5446	-5446	$\frac{MP_{i,t}^{(7)}}{X_{i,t}^{(7)}}$	-2307	-2135	-1799	-1384	-1834	-1801	
	(6073)	(5066)	(3904)	(4342)	(4593)	(4582)	(4582)		(399)	(3654)	(2702)	(2448)	(1826)	(1831)	
	[0]	[124]	[124]	[124]	[124]	[124]	[124]		[0]	[124]	[124]	[124]	[124]	[124]	[124]

(a) Aggregate Change - Horizontal (b) Aggregate Change - Vertical

(c) Stayers Change - Horizontal (d) Stayers Change - Vertical

(e) Within Change - Horizontal (f) Within Change - Vertical

(g) Between Change - Horizontal (h) Between Change - Vertical

Note: this table shows the result of a regression on the MP decomposed change in markups defined in the first column over the cumulative proportion of mergers over the period that starts the number of years indicated in the column and ending one period before the last year of markup change. All regressions control for year effects and one-digit industry effects. All regressions are weighted by mean total number of firms per year in the three digit industry. All regressions are clustered at the two-digit level and there are 59 two-digit industries in the sample.

Each regression includes horizontal, vertical, no-overlap, and horizontal-and-vertical mergers. Materials markups are defined as in Equation (7), using the output elasticity of materials against the adjusted materials share of sales. The decompositions are defined in the following equations: Aggregate Change (22), Stayers Change (23), Within Change (24), and Between Change (25). We do not provide individual coefficients entry or exit individually these regressions due to confidentiality concerns; the measures are included in the main regressions to remain consistent with other results provided in this paper. Standard errors are in parentheses and the number of observations are in brackets below the coefficients.

† $p < .1$, * $p < .05$, ** $p < .01$, *** $p < .001$

Source: authors' calculations based on NT and UNU-WIDER (2023).

Table C59: Cumulative lagged mergers and sales weighted materials markups by nature of overlap - II - Weighted by number of firms in the industry

	Mergers _{1,t-1}	Mergers _{1,t-2}	Mergers _{1,t-3}	Mergers _{1,t-4}	Mergers _{1,t-5}	Mergers _{1,t-6}	Mergers _{1,t-7}	Mergers _{2,t-1}	Mergers _{2,t-2}	Mergers _{2,t-3}	Mergers _{2,t-4}	Mergers _{2,t-5}	Mergers _{2,t-6}	Mergers _{2,t-7}	
$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	-1.942 (1.508) [868]	-1.148 [†] (.6698) [744]	-1.604 (.6107) [620]	-.327 (.6543) [496]	.165 (.6412) [372]	.1746 (.8966) [248]	-.5764 (1.864) [124]	$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	-1.051 (1.142) [868]	-1.199 [†] (.6198) [744]	-.0581 (.695) [620]	-1.165 (.7843) [496]	.4432 (.7351) [372]	1.255 [†] (.7466) [248]	1.012 (1.176) [124]
$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	-9382 (2.484) [744]	-1.27 (1.697) [620]	-9387 (.8864) [620]	-9299 (.8303) [496]	-2786 (1.115) [372]	-.031 (1.185) [248]	1.092 (1.887) [124]	$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	-8257 (1.382) [744]	-1.529 (1.315) [620]	-.952 (.6568) [620]	-1.315 (.9632) [496]	-5092 (1.332) [372]	1.555 (1.223) [248]	1.998 (1.558) [124]
$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	-1.712 (2.621) [620]	-1.008 (1.694) [620]	-1.688 (1.314) [620]	-8156 (.985) [496]	-6409 (1.106) [372]	-.5351 (1.351) [248]	-.3774 (2.035) [124]	$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	2.003 (.9287) [620]	-3283 (.9543) [620]	-0.272 (.7929) [620]	-1.615 (.9894) [496]	-6889 (1.341) [372]	1.112 (1.571) [248]	3.353 (2.38) [124]
$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	-.2078 (3.01) [496]	-.2342 (2.171) [496]	-.0969 (1.622) [496]	-.4295 (1.261) [496]	-.3719 (1.24) [372]	-.1163 (1.385) [248]	.815 (2.102) [124]	$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	-3.678 (2.565) [496]	-1.343 (1.321) [496]	-4438 (1.133) [496]	-1.297 (.9745) [496]	-1.012 (1.292) [496]	.7607 (1.583) [372]	1.798 (2.359) [248]
$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	3.336 (4.005) [372]	1.395 (2.798) [372]	.9382 (2.382) [372]	.7165 (1.862) [372]	.3095 (1.629) [372]	.1552 (1.663) [248]	1.121 (2.267) [124]	$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	-5.214 (3.576) [372]	-3.944 [*] (2.345) [372]	-42.39 (1.482) [372]	-977 (1.215) [372]	-9958 (1.404) [372]	51.39 (1.472) [248]	1.77 (2.523) [124]
$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	3.904 (5.963) [248]	4.327 (4.345) [248]	2.901 (3.461) [248]	1.536 (2.853) [248]	1.053 (2.426) [248]	.4662 (2.139) [248]	.9137 (2.528) [124]	$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	.504 (1.408) [248]	-3533 (1.53) [248]	-8291 (1.57) [248]	-0.418 (1.284) [248]	3.463 (1.258) [248]	9281 (1.321) [248]	1.903 (2.085) [124]
$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	(.0)	(6.657) [124]	(4.877) [124]	(3.975) [124]	(3.486) [124]	(3.047) [124]	(2.805) [124]	(.0)	(1.926) [124]	(2.208) [124]	(2.208) [124]	(1.835) [124]	(2.036) [124]	(2.111) [124]	(.0)

(a) Aggregate Change - Horizontal-and-Vertical							(b) Aggregate Change - No Overlap								
Mergers _{1,t-1}	Mergers _{1,t-2}	Mergers _{1,t-3}	Mergers _{1,t-4}	Mergers _{1,t-5}	Mergers _{1,t-6}	Mergers _{1,t-7}	Mergers _{2,t-1}	Mergers _{2,t-2}	Mergers _{2,t-3}	Mergers _{2,t-4}	Mergers _{2,t-5}	Mergers _{2,t-6}	Mergers _{2,t-7}		
$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	-1.596 (1.224) [868]	-.602 (.5728) [620]	-1.179 (.5188) [620]	.4454 (.548) [496]	-1.062 (.7539) [372]	.6282 (.8723) [248]	1.44 (1.55) [124]	$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	-0.083 (.6484) [744]	-8415 (.6839) [620]	-2175 (.4796) [620]	-1.01 [†] (.5714) [496]	.2961 (.6524) [372]	1.104 (.9142) [248]	2.096 (1.22) [124]
$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	-9667 (1.768) [744]	-7586 (1.104) [744]	-2044 (.7872) [620]	-.0587 (.752) [496]	-.2998 (.9951) [372]	-.1966 (1.243) [248]	1.396 (1.931) [124]	$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	5.551 (.7475) [744]	-2536 (.8991) [744]	-6847 (.7139) [620]	-8543 (.8506) [496]	1.083 (.8005) [372]	1.905 (1.358) [248]	1.835 (1.874) [124]
$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	-2.981 (2.498) [620]	-5971 (1.474) [620]	-6402 (1.026) [620]	-3205 (.8779) [496]	-.7716 (1.058) [372]	-.0672 (1.354) [248]	-.7344 (2.123) [124]	$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	1.555 [†] (.9138) [620]	.7122 (.757) [620]	-3466 (.6749) [620]	-1.178 (.8826) [496]	2.071 (.8647) [372]	1.607 (1.466) [248]	3.025 (2.31) [124]
$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	-2.776 (2.265) [496]	-6574 (1.73) [496]	.4777 (1.448) [496]	.0318 (1.068) [496]	-.3726 (1.145) [372]	.3841 (1.375) [248]	1.911 (2.214) [124]	$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	-1.138 (1.677) [496]	-.0059 (1.094) [496]	-2797 (.8934) [496]	-5621 (.8545) [496]	.0598 (.939) [372]	1.451 (1.515) [248]	1.737 (2.318) [124]
$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	-.4075 (2.954) [248]	-.372 (2.12) [248]	-.4529 (1.942) [248]	-.6652 (1.59) [248]	-.117 (1.345) [248]	.6341 (1.526) [248]	1.946 (2.231) [124]	$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	-1.385 (2.291) [372]	-1.024 (1.897) [372]	4938 (1.319) [372]	.0035 (.9886) [372]	2834 (1.065) [372]	1.575 (1.534) [248]	1.782 (2.412) [124]
$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	.7158 (4.866) [248]	2.431 (3.663) [248]	1.534 (2.962) [248]	.7154 (2.025) [248]	.8426 (2.245) [248]	1.159 (2.005) [248]	2.494 (2.56) [124]	$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	2.274 (1.9) [248]	1.333 (1.991) [248]	2.397 (1.9) [248]	1.278 (1.275) [248]	1.4 (1.372) [248]	2.294 (1.502) [248]	2.498 (2.276) [124]
$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	(.0)	(5.707) [124]	(4.883) [124]	(3.629) [124]	(3.394) [124]	(3.022) [124]	(2.773) [124]	(.0)	(2.432) [124]	(2.556) [124]	(2.328) [124]	(1.856) [124]	(2.234) [124]	(2.27) [124]	(.0)

(c) Stayers Change - Horizontal-and-Vertical							(d) Stayers Change - No Overlap								
Mergers _{1,t-1}	Mergers _{1,t-2}	Mergers _{1,t-3}	Mergers _{1,t-4}	Mergers _{1,t-5}	Mergers _{1,t-6}	Mergers _{1,t-7}	Mergers _{2,t-1}	Mergers _{2,t-2}	Mergers _{2,t-3}	Mergers _{2,t-4}	Mergers _{2,t-5}	Mergers _{2,t-6}	Mergers _{2,t-7}		
$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	-7786 (.5519) [868]	-1.167 [†] (.3793) [620]	-.5882 (.3793) [620]	-.8121 [†] (.4219) [496]	-1.035 [*] (.4219) [372]	-.7449 (.5875) [248]	-.5107 (.8865) [124]	$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	-2716 (.3353) [868]	-.0338 (.2974) [744]	-.1734 (.3409) [620]	-.1097 (.3481) [496]	-.1118 (.3252) [372]	-.2958 (.4443) [248]	-.6898 (.8268) [124]
$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	-1.865 [†] (.9677) [744]	-1.629 [*] (.6791) [744]	-1.177 [*] (.5775) [620]	-.109 [†] (.6353) [496]	-1.393 [*] (.6564) [372]	-.1268 (.7763) [248]	-.881 (1.089) [124]	$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	-4.447 (.3781) [744]	-.3978 (.4391) [744]	-2832 (.4845) [620]	-.0077 (.5396) [496]	-.2922 (.4787) [372]	8.227 (.5608) [248]	8.227 (.9449) [124]
$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	-2.037 (1.348) [620]	-2.272 [*] (.9579) [620]	-2.052 ^{**} (.7294) [620]	-2.163 ^{**} (.7086) [496]	-2.108 ^{**} (.7314) [372]	-2.136 ^{**} (.9169) [248]	-1.81 (1.206) [124]	$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	-6.416 (.6991) [620]	-4.392 (.5099) [620]	-4.367 (.6511) [496]	-2.322 (.6267) [372]	-.0337 (.7438) [248]	34.38 (1.165) [124]	988 (1.286) [124]
$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	-.996 (2.107) [372]	-2.682 [*] (1.496) [372]	-2.744 [*] (1.23) [372]	-3.225 ^{**} (1.132) [372]	-3.346 ^{**} (.9788) [248]	-3.045 ^{**} (1.024) [248]	-2.557 [†] (1.292) [124]	$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	4.409 (1.363) [620]	-.7887 (1.148) [620]	6866 (1.015) [620]	0752 (.8178) [496]	-.0879 (.7185) [372]	4.468 (.8889) [248]	9306 (1.422) [124]
$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	-1.181 (4.308) [248]	-1.742 (2.811) [248]	-2.582 (1.64) [248]	-2.978 [*] (1.399) [248]	-3.477 [*] (1.252) [248]	-3.488 ^{**} (1.154) [248]	-3.095 [*] (1.365) [124]	$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	2.168 (1.993) [248]	1.21 (1.495) [248]	1.549 (1.44) [248]	1.331 (1.071) [248]	25.13 (.8856) [248]	4653 (.922) [248]	9155 (1.283) [124]
$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	(.0)	(5.953) [124]	(3.098) [124]	(2.91) [124]	(2.101) [124]	(1.912) [124]	(1.782) [124]	(.0)	(2.391) [124]	(2.112) [124]	(1.954) [124]	(1.211) [124]	(1.441) [124]	(1.516) [124]	(.0)

(e) Within Change - Horizontal-and-Vertical							(f) Within Change - No Overlap								
Mergers _{1,t-1}	Mergers _{1,t-2}	Mergers _{1,t-3}	Mergers _{1,t-4}	Mergers _{1,t-5}	Mergers _{1,t-6}	Mergers _{1,t-7}	Mergers _{2,t-1}	Mergers _{2,t-2}	Mergers _{2,t-3}	Mergers _{2,t-4}	Mergers _{2,t-5}	Mergers _{2,t-6}	Mergers _{2,t-7}		
$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	-8178 (1.31) [868]	-.567 (.5558) [744]	-.470 (.6295) [620]	1.258 (.7604) [496]	1.142 (.7915) [372]	1.373 [†] (1.402) [248]	1.15 (1.82) [124]	$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	-.263 (.6437) [868]	-.8077 (.6655) [744]	-.4709 (.4386) [620]	-1.12 [†] (.6561) [496]	-.1843 (.6888) [372]	-.8085 (.9032) [248]	-.4802 (1.24) [124]
$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	-.8984 (1.767) [744]	-.8709 (1.105) [744]	-.9728 (.8829) [620]	1.031 (.8884) [496]	1.093 (1.104) [372]	1.244 (1.171) [248]	1.277 (1.681) [124]	$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	9998 (.7601) [744]	-.4015 (.7097) [744]	-.8621 (.5997) [620]	-1.173 (.8004) [496]	1.613 (.7602) [372]	1.013 (1.133) [248]	1.013 (1.348) [124]
$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	-.9442 (2.589) [620]	1.675 (1.511) [620]	1.412 (1.048) [620]	1.842 [*] (.9166) [496]	1.336 (1.05) [372]	2.069 (1.288) [248]	2.544 (2.012) [124]	$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	2.197 ^{**} (.8202) [620]	1.151 (.7756) [620]	.7834 (.6951) [496]	-.946 (.8295) [496]	2.409 (1.222) [372]	1.263 (1.729) [248]	2.037 (1.729) [124]
$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	-.3994 (2.244) [496]	1.624 (1.672) [496]	3.049 [*] (1.442) [496]	2.766 [*] (1.13) [496]	2.5 [*] (1.115) [372]	2.928 [*] (1.241) [248]	4.197 [*] (2.003) [124]	$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	-1.808 (2.081) [496]	-.108 (1.264) [496]	-1.655 (.9204) [496]	-1.059 (.8759) [496]	1.083 (.9534) [372]	1.197 (1.2) [248]	1.193 (1.67) [124]
$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	3.516 (2.98) [372]	2.31 (2.024) [372]	3.197 [†] (1.9) [372]	3.89 [†] (1.715) [372]	3.463 [†] (1.427) [372]	3.68 [†] (1.459) [248]	4.503 [†] (2.019) [124]	$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	-1.826 (2.396) [372]	-1.812 (1.848) [372]	-1928 (1.149) [372]	-.0717 (1.01) [372]	1.955 (1.042) [372]	1.128 (1.27) [248]	8511 (1.634) [124]
$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	1.897 (3.9) [248]	4.174 (3.283) [248]	4.116 (2.642) [248]	3.693 (2.183) [248]	4.312 [†] (2.183) [248]	4.647 [†] (1.986) [248]	5.589 [†] (2.369) [124]	$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	2.058 (2.385) [248]	1.225 (1.949) [248]	-.131 (.882) [248]	1.145 (1.246) [248]	1.149 (1.258) [248]	1.829 (1.295) [248]	1.582 (1.775) [124]
$\frac{MP_{i,t}^{(h,v)}}{X_{i,t}^{(h,v)}}$	(.0)	(4.681) [

Table C510: Cumulative lagged mergers and sales weighted structural markups by nature of overlap - I - Weighted by number of firms in the industry

	Mergers _{1,t-1}	Mergers _{1,t-2}	Mergers _{1,t-3}	Mergers _{1,t-4}	Mergers _{1,t-5}	Mergers _{1,t-6}	Mergers _{1,t-7}	Mergers _{1,t-1}	Mergers _{1,t-2}	Mergers _{1,t-3}	Mergers _{1,t-4}	Mergers _{1,t-5}	Mergers _{1,t-6}	Mergers _{1,t-7}
$\frac{MP_{1,t}}{X_{1,t}}$	.2889**	.1819*	.1384**	.0707*	.0595	.0166	-.0973	-.6331	-.5799	-.1233	-.3023*	-.2833	-.3535	-.5971
(.0876)	(.0823)	(.0422)	(.0422)	(.0524)	(.0744)	(.1222)	(.6871)	(.417)	(.1981)	(.1528)	(.1884)	(.235)	(.4128)	(.4128)
[868]	[744]	[620]	[496]	[372]	[248]	[124]	[868]	[744]	[620]	[496]	[372]	[248]	[124]	[124]
$\frac{MP_{1,t}^H}{X_{1,t}^H}$	.2223*	.2302*	.2121**	.1658**	.0869	.1083	-.0032	-.8658	-.8796	-.5904	-.1833	-.3345	-.4111	-.5927
(.1275)	(.0912)	(.0622)	(.0578)	(.0942)	(.1141)	(.1799)	(.9095)	(.8586)	(.5452)	(.2975)	(.3163)	(.4201)	(.5694)	(.5694)
[744]	[744]	[620]	[496]	[372]	[248]	[124]	[744]	[744]	[620]	[496]	[372]	[248]	[124]	[124]
$\frac{MP_{1,t}^V}{X_{1,t}^V}$	.2141†	.0878	.196*	.1702**	.0422	.0486	-.0172	-.2398	-.639	-.3404	-.1426	-.0508	-.4905	-.8185
(.1182)	(.0829)	(.0745)	(.0597)	(.1224)	(.1493)	(.2047)	(.6574)	(.794)	(.6338)	(.3589)	(.3406)	(.4109)	(.5833)	(.5833)
[620]	[620]	[620]	[496]	[372]	[248]	[124]	[620]	[620]	[620]	[496]	[372]	[248]	[124]	[124]
$\frac{MP_{1,t}^H}{X_{1,t}^H}$	.0367	.0724	.1204	.1491†	.0431	-.0482	-.1595	1.415	.2826	.3221	.3686	.1953	-.0415	-.5669
(.21)	(.1577)	(.0995)	(.0779)	(.0965)	(.1621)	(.2723)	(.1248)	(.8181)	(.696)	(.4794)	(.4251)	(.3913)	(.5808)	(.5808)
[496]	[496]	[496]	[496]	[372]	[248]	[124]	[496]	[496]	[496]	[496]	[372]	[248]	[124]	[124]
$\frac{MP_{1,t}^V}{X_{1,t}^V}$	.4674*	.1038	.2091	.1427	.1346	.0369	-.2184	1.396	.3643	.421	.2917	.5381	.104	-.1496
(.2268)	(.1873)	(.1691)	(.1065)	(.0997)	(.1354)	(.2496)	(.1463)	(.8553)	(.7659)	(.5552)	(.5124)	(.4328)	(.5911)	(.5911)
[372]	[372]	[372]	[372]	[372]	[248]	[124]	[372]	[372]	[372]	[372]	[372]	[248]	[124]	[124]
$\frac{MP_{1,t}^H}{X_{1,t}^H}$	1.799**	.6615**	.4036*	.43**	.3168*	.2664*	.0713	.552	-.677	-.0995	-.0762	.2923	.3074	-.3292
(.3125)	(.1972)	(.1538)	(.1299)	(.1245)	(.111)	(.1974)	(.1316)	(.148)	(.98)	(.7431)	(.5624)	(.4589)	(.5734)	(.5734)
[248]	[248]	[248]	[248]	[248]	[248]	[124]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[124]
$\frac{MP_{1,t}^V}{X_{1,t}^V}$	-.9852**	-.5474*	-.4276*	-.3714†	-.2649	-.231	MP _{1,t-7} ^H	-.1046	-.1028	-.1089	-.3523	-.2201	.1406	-.1406
(.1)	(.2892)	(.2353)	(.1778)	(.2109)	(.1819)	(.1675)	(.1)	(.2092)	(.1661)	(.1093)	(.82)	(.6273)	(.5966)	(.5966)
[0]	[124]	[124]	[124]	[124]	[124]	[124]	[0]	[124]	[124]	[124]	[124]	[124]	[124]	[124]

(a) Aggregate Change - Horizontal (b) Aggregate Change - Vertical

	Mergers _{1,t-1}	Mergers _{1,t-2}	Mergers _{1,t-3}	Mergers _{1,t-4}	Mergers _{1,t-5}	Mergers _{1,t-6}	Mergers _{1,t-7}	Mergers _{1,t-1}	Mergers _{1,t-2}	Mergers _{1,t-3}	Mergers _{1,t-4}	Mergers _{1,t-5}	Mergers _{1,t-6}	Mergers _{1,t-7}
$\frac{MP_{1,t}}{X_{1,t}}$	.0779	-.0004	.0124	-.0505	-.0691	-.0989	-.0965	-.0241	.0122	.0367	-.1731	-.2662	-.3729	-.3847
(.0816)	(.0347)	(.0457)	(.046)	(.0477)	(.0698)	(.0862)	(.3073)	(.1873)	(.202)	(.1582)	(.1905)	(.2619)	(.3454)	(.3454)
[868]	[744]	[620]	[496]	[372]	[248]	[124]	[868]	[744]	[620]	[496]	[372]	[248]	[124]	[124]
$\frac{MP_{1,t}^H}{X_{1,t}^H}$	.2526**	.098	.0406	-.0055	-.0934	-.1477	-.1871	.5113	.2917	.1776	.0518	-.266	-.474	-.5462
(.0885)	(.0665)	(.0539)	(.0685)	(.0794)	(.1009)	(.1382)	(.4945)	(.3338)	(.3633)	(.3052)	(.3266)	(.4733)	(.5374)	(.5374)
[744]	[744]	[620]	[496]	[372]	[248]	[124]	[744]	[744]	[620]	[496]	[372]	[248]	[124]	[124]
$\frac{MP_{1,t}^V}{X_{1,t}^V}$	-.4264***	.2311**	.1367*	.0152	-.0494	-.184	-.2653†	.4638	.6341	.4324	.1566	-.0214	-.548	-.7344
(.091)	(.068)	(.065)	(.0635)	(.0927)	(.113)	(.149)	(.6074)	(.5521)	(.4754)	(.4164)	(.3801)	(.4785)	(.5663)	(.5663)
[620]	[620]	[620]	[496]	[372]	[248]	[124]	[620]	[620]	[620]	[620]	[496]	[372]	[248]	[124]
$\frac{MP_{1,t}^H}{X_{1,t}^H}$	.3705*	.2766*	.2107*	.0598	-.0351	-.1405	-.2928	.931	.8191	.8394	.3875	.1496	-.2423	-.6747
(.1554)	(.1073)	(.0795)	(.0747)	(.0991)	(.1443)	(.2044)	(.1153)	(.6778)	(.6749)	(.5185)	(.5115)	(.489)	(.5978)	(.5978)
[496]	[496]	[496]	[496]	[372]	[248]	[124]	[496]	[496]	[496]	[496]	[496]	[372]	[248]	[124]
$\frac{MP_{1,t}^V}{X_{1,t}^V}$	.4757*	.1797	.1854	.0725	.0172	-.1243	-.2087	1.535	.7641	.6215	.3748	.3631	-.1124	-.2746
(.2125)	(.1417)	(.1191)	(.0988)	(.1005)	(.1341)	(.1942)	(.1188)	(.9058)	(.848)	(.6901)	(.6235)	(.602)	(.6499)	(.6499)
[372]	[372]	[372]	[372]	[372]	[248]	[124]	[372]	[372]	[372]	[372]	[372]	[372]	[248]	[124]
$\frac{MP_{1,t}^H}{X_{1,t}^H}$	.9533***	.3527†	.2105	.1357	.061	-.0186	-.1877	1.408	.2793	.3037	.1127	.149	.0219	-.3934
(.257)	(.2054)	(.1463)	(.1081)	(.1195)	(.1221)	(.1768)	(.1467)	(.1483)	(.1003)	(.8051)	(.7315)	(.6909)	(.7263)	(.7263)
[248]	[248]	[248]	[248]	[248]	[248]	[124]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[124]
$\frac{MP_{1,t}^V}{X_{1,t}^V}$	.4622	.2806	.1976	.0501	.0276	-.0496	MP _{1,t-7} ^V	.9822	-.1101	-.4	-.0219	-.1207	-.1023	-.1023
(.1)	(.2845)	(.2201)	(.1648)	(.1755)	(.1624)	(.1628)	(.1)	(.1621)	(.1489)	(.1036)	(.8747)	(.6521)	(.6523)	(.6523)
[0]	[124]	[124]	[124]	[124]	[124]	[124]	[0]	[124]	[124]	[124]	[124]	[124]	[124]	[124]

(c) Stayers Change - Horizontal (d) Stayers Change - Vertical

	Mergers _{1,t-1}	Mergers _{1,t-2}	Mergers _{1,t-3}	Mergers _{1,t-4}	Mergers _{1,t-5}	Mergers _{1,t-6}	Mergers _{1,t-7}	Mergers _{1,t-1}	Mergers _{1,t-2}	Mergers _{1,t-3}	Mergers _{1,t-4}	Mergers _{1,t-5}	Mergers _{1,t-6}	Mergers _{1,t-7}
$\frac{MP_{1,t}}{X_{1,t}}$	-.0063	-.0081	-.0171	.0082	-.0071	.0214	.0429	-.0903	-.0471	.0356	.2309	.025	-.0825	-.0264
(.0393)	(.0342)	(.0219)	(.0311)	(.0285)	(.0377)	(.0452)	(.2192)	(.1355)	(.1287)	(.1564)	(.1433)	(.2182)	(.3021)	(.3021)
[868]	[744]	[620]	[496]	[372]	[248]	[124]	[868]	[744]	[620]	[496]	[372]	[248]	[124]	[124]
$\frac{MP_{1,t}^H}{X_{1,t}^H}$	.1502**	.0387	-.0005	.0063	.0121	.0161	.0732	-.1507	-.0734	.0577	.2146	.1705	-.0605	-.0394
(.0485)	(.0414)	(.0338)	(.0408)	(.0393)	(.0419)	(.049)	(.3613)	(.2355)	(.1978)	(.1966)	(.231)	(.2764)	(.4119)	(.4119)
[744]	[744]	[620]	[496]	[372]	[248]	[124]	[744]	[744]	[620]	[496]	[372]	[248]	[124]	[124]
$\frac{MP_{1,t}^V}{X_{1,t}^V}$	.173**	.1128*	.0311	.0218	.0355	.0299	.054	-.2734	-.04	-.0207	.2716	.2749	.1283	.1684
(.0555)	(.0479)	(.045)	(.0473)	(.0588)	(.0538)	(.0548)	(.4514)	(.3289)	(.2645)	(.2697)	(.2652)	(.2984)	(.3524)	(.3524)
[620]	[620]	[620]	[496]	[372]	[248]	[124]	[620]	[620]	[620]	[620]	[620]	[496]	[372]	[248]
$\frac{MP_{1,t}^H}{X_{1,t}^H}$	.3726**	.1892**	.1232*	.0534	.059	.0601	.0972	.0904	.0184	.1326	.1334	.3064	.1754	.2907
(.1218)	(.0535)	(.0549)	(.0534)	(.0635)	(.067)	(.064)	(.5766)	(.4292)	(.3713)	(.2885)	(.3008)	(.2991)	(.3546)	(.3546)
[496]	[496]	[496]	[496]	[372]	[248]	[124]	[496]	[496]	[496]	[496]	[496]	[372]	[248]	[124]
$\frac{MP_{1,t}^V}{X_{1,t}^V}$	.4641**	.2334**	.1433*	.1171	.0972	.0738	.1351†	-.3072	-.0253	.0396	.2004	.166	.2129	.2557
(.1794)	(.0765)	(.0684)	(.0703)	(.0672)	(.0652)	(.0702)	(.8463)	(.4873)	(.4242)	(.3489)	(.2932)	(.283)	(.3468)	(.3468)
[372]	[372]	[372]	[372]	[372]	[248]	[124]	[372]	[372]	[372]	[372]	[372]	[372]	[248]	[124]
$\frac{MP_{1,t}^H}{X_{1,t}^H}$	.5751†	.2835†	.1742†	.109	.1233	.102	.1347†	-.4338	-.2563	.1071	.1734	.1885	.1476	.4213
(.3018)	(.1629)	(.0928)	(.0888)	(.0909)	(.0735)	(.0697)	(.1004)	(.7953)	(.5238)	(.4479)	(.3501)	(.2949)	(.4213)	(.4213)
[248]	[248]	[248]	[248]	[248]	[248]	[124]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[124]
$\frac{MP_{1,t}^V}{X_{1,t}^V}$	.4379	.2632†	.1748	.1993	.1519	.1815*	MP _{1,t-7} ^H	-.165	-.2472	-.0059	-.065	-.0454	.0733	.0733
(.1)	(.2756)	(.1557)	(.1222)	(.1274)	(.0974)	(.0809)	(.1)	(.1373)	(.8282)	(.712)	(.5293)	(.4174)	(.381)	(.381)
[0]	[124]	[124]	[124]	[124]	[124]	[124]	[0]	[124]	[124]	[124]	[124]	[124]	[124]	[124]

(e) Within Change - Horizontal (f) Within Change - Vertical

	Mergers _{1,t-1}	Mergers _{1,t-2}	Mergers _{1,t-3}	Mergers _{1,t-4}	Mergers _{1,t-5}	Mergers _{1,t-6}	Mergers _{1,t-7}	Mergers _{1,t-1}	Mergers _{1,t-2}	Mergers _{1,t-3}	Mergers _{1,t-4}	Mergers _{1,t-5}	Mergers _{1,t-6}	Mergers _{1,t-7}
$\frac{MP_{1,t}}{X_{1,t}}$	.0841	.0077	.0295	-.0587	-.062	-.1203	-.1394	.0662	.0593	.0011	-.4041	-.2912	-.2904	-.4111
(.0807)	(.0386)	(.0454)	(.0531)	(.0504)	(.0736)	(.1021)	(.3385)	(.1941)	(.2326)	(.258)	(.2567)	(.3325)	(.4769)	(.4769)
[868]	[744]	[620]	[496]	[372]	[248]	[124]	[868]	[744]	[620]	[496]	[372]	[248]	[124]	[124]
$\frac{MP_{1,t}^H}{X_{1,t}^H}$	.1024	.0592	.0411	-.0118	-.1055	-.1638	-.2603†	.662	.3651	.1199	-.1628	-.4365	-.4135	-.5069
(.0946)	(.0675)	(.0538)	(.0772)	(.0771)	(.0989)	(.1471)	(.4419)	(.3423)	(.3963)	(.3663)	(.4549)	(.5784)</		

Table C511: Cumulative lagged mergers and sales weighted structural markups by nature of overlap - II - Weighted by number of firms in the industry

	$Mergers_{i,t-1}$	$Mergers_{i,t-2}$	$Mergers_{i,t-3}$	$Mergers_{i,t-4}$	$Mergers_{i,t-5}$	$Mergers_{i,t-6}$	$Mergers_{i,t-7}$	$Mergers_{i,t-1}$	$Mergers_{i,t-2}$	$Mergers_{i,t-3}$	$Mergers_{i,t-4}$	$Mergers_{i,t-5}$	$Mergers_{i,t-6}$	$Mergers_{i,t-7}$	
$\frac{MP_{i,t}^{HPV}}{X_{i,t}^{MP}}$	-1.268	-3811	-1747	-0548	-1548	3062	.3716	$\frac{MP_{i,t}^{HVO}}{X_{i,t}^{MP}}$	.5138*	-.1453	-.1718	1586	3183	.3721	.5179
	(.8338)	(4703)	(2986)	(262)	(2913)	(3485)	(5542)		(.2831)	(.3058)	(.2819)	(.2294)	(.2809)	(.3097)	(.5879)
	[868]	[744]	[620]	[496]	[372]	[248]	[124]		[868]	[744]	[620]	[496]	[372]	[248]	[124]
$\frac{MP_{i,t}^{HV}}{X_{i,t}^{MP}}$	-1.983*	-1.596*	-.6466	-.3362	-.5173	-.1593	.4908	$\frac{MP_{i,t}^{VVO}}{X_{i,t}^{MP}}$	1.433*	.6318*	.0752	1.111	.648	.6958	.8457
	(1.109)	(9228)	(.5854)	(.4798)	(.439)	(.4951)	(.6897)		(.6217)	(.2727)	(.2493)	(.329)	(.461)	(.5925)	(.8773)
	[744]	[744]	[620]	[496]	[372]	[248]	[124]		[744]	[744]	[620]	[496]	[372]	[248]	[124]
$\frac{MP_{i,t}^{HV}}{X_{i,t}^{MP}}$	-.3211	-1.007	-1.083	-.4467	-7138	-3532	-.23	$\frac{MP_{i,t}^{HVO}}{X_{i,t}^{MP}}$	1.576*	1.045*	.4162	.0971	.6863	.911	1.322
	(.7359)	(.634)	(.786)	(.5306)	(.5852)	(.5468)	(.728)		(.6676)	(.4982)	(.3393)	(.3508)	(.5794)	(.7607)	(.9919)
	[620]	[620]	[620]	[496]	[372]	[248]	[124]		[620]	[620]	[620]	[496]	[372]	[248]	[124]
$\frac{MP_{i,t}^{HV}}{X_{i,t}^{MP}}$	1.433	8645	.0596	-.3623	-.4231	-.1521	.4326	$\frac{MP_{i,t}^{HVO}}{X_{i,t}^{MP}}$	1.645*	.6896	.2602	1.642	.4386	.8473	1.215
	(1.09)	(9271)	(.6831)	(.6919)	(.6274)	(.6784)	(.8249)		(.8859)	(.6401)	(.4685)	(.3989)	(.5012)	(.8476)	(1.279)
	[496]	[496]	[496]	[496]	[372]	[248]	[124]		[496]	[496]	[496]	[496]	[372]	[248]	[124]
$\frac{MP_{i,t}^{HV}}{X_{i,t}^{MP}}$	1.693	1.288	.9298	.0265	-.3432	-.1554	.2549	$\frac{MP_{i,t}^{HVO}}{X_{i,t}^{MP}}$	1.765*	1.331*	.3343	.4993	.4199	.6931	1.374
	(1.513)	(1.214)	(1.053)	(.7426)	(.7914)	(.7488)	(.9692)		(.9092)	(.7909)	(.8069)	(.553)	(.5016)	(.7444)	(1.202)
	[372]	[372]	[372]	[372]	[372]	[248]	[124]		[372]	[372]	[372]	[372]	[372]	[248]	[124]
$\frac{MP_{i,t}^{HV}}{X_{i,t}^{MP}}$	9734	1.835	1.44	1.127	2304	-.0519	.0232	$\frac{MP_{i,t}^{HVO}}{X_{i,t}^{MP}}$	-.5655	.4802	-.3168	-.1542	1.465	.2634	.8199
	(1.335)	(1.337)	(1.241)	(.9867)	(.7962)	(.9346)	(.975)		(.8407)	(.7178)	(.7494)	(.6238)	(.5703)	(.6052)	(1.018)
	[248]	[248]	[248]	[248]	[248]	[248]	[124]		[248]	[248]	[248]	[248]	[248]	[248]	[124]
$\frac{MP_{i,t}^{HV}}{X_{i,t}^{MP}}$	2.599	3.018	2.253	1.439	8924	.5573	$\frac{MP_{i,t}^{HVO}}{X_{i,t}^{MP}}$	.239	.2385	.0532	.1666	.3577	.3687		
	()	(2.376)	(2.202)	(1.655)	(1.322)	(1.206)	(1.284)		()	(.906)	(.9904)	(.9452)	(.9282)	(.9004)	(.8868)
	[0]	[124]	[124]	[124]	[124]	[124]	[124]		[0]	[124]	[124]	[124]	[124]	[124]	[124]

(a) Aggregate Change - Horizontal-and-Vertical

(b) Aggregate Change - No Overlap

	$Mergers_{i,t-1}$	$Mergers_{i,t-2}$	$Mergers_{i,t-3}$	$Mergers_{i,t-4}$	$Mergers_{i,t-5}$	$Mergers_{i,t-6}$	$Mergers_{i,t-7}$	$Mergers_{i,t-1}$	$Mergers_{i,t-2}$	$Mergers_{i,t-3}$	$Mergers_{i,t-4}$	$Mergers_{i,t-5}$	$Mergers_{i,t-6}$	$Mergers_{i,t-7}$
$\frac{MP_{i,t}^{HPV}}{X_{i,t}^{MP}}$	-.6018	-.1175	-.1034	.1783	0606	.401	.455	$\frac{MP_{i,t}^{HVO}}{X_{i,t}^{MP}}$	.6775*	.1716	.0448	.3246	.4025	.1579
	(.6029)	(.2341)	(.2598)	(.2339)	(.2518)	(.2816)	(.5641)		(.3087)	(.111)	(.166)	(.2059)	(.2633)	(.3467)
	[868]	[744]	[620]	[496]	[372]	[248]	[124]		[868]	[744]	[620]	[496]	[372]	[248]
$\frac{MP_{i,t}^{HV}}{X_{i,t}^{MP}}$	-.4065	-.5353	-.1605	.0275	.0001	.0821	.5461	$\frac{MP_{i,t}^{VVO}}{X_{i,t}^{MP}}$	.7216**	.5792*	.2314	.2665	.5741	.853*
	(.5857)	(.4625)	(.3935)	(.4004)	(.3647)	(.3816)	(.6275)		(.2558)	(.2296)	(.2093)	(.3126)	(.3941)	(.5052)
	[744]	[744]	[620]	[496]	[372]	[248]	[124]		[744]	[744]	[620]	[496]	[372]	[248]
$\frac{MP_{i,t}^{HV}}{X_{i,t}^{MP}}$	-.0497	-.08	-.3113	.068	-.0222	.1663	.1662	$\frac{MP_{i,t}^{HVO}}{X_{i,t}^{MP}}$	.427	.1756	.3082	.3079	.4619	.9819
	(.6701)	(.4886)	(.5336)	(.4727)	(.5146)	(.4576)	(.649)		(.3882)	(.2738)	(.246)	(.3283)	(.4971)	(.6506)
	[620]	[620]	[620]	[496]	[372]	[248]	[124]		[620]	[620]	[620]	[496]	[372]	[248]
$\frac{MP_{i,t}^{HV}}{X_{i,t}^{MP}}$	.7717	.623	.3536	.1145	.1317	.3279	.821	$\frac{MP_{i,t}^{HVO}}{X_{i,t}^{MP}}$	.8677	.0933	.017	.5356	.5561	.9102
	(.7558)	(.6557)	(.637)	(.6015)	(.5954)	(.6328)	(.7952)		(.7432)	(.5722)	(.4512)	(.3553)	(.5239)	(.7443)
	[496]	[496]	[496]	[496]	[372]	[248]	[124]		[496]	[496]	[496]	[496]	[372]	[248]
$\frac{MP_{i,t}^{HV}}{X_{i,t}^{MP}}$	1.104	.7149	.5204	.1779	.0738	.2366	.5214	$\frac{MP_{i,t}^{HVO}}{X_{i,t}^{MP}}$	1.588*	1.042	.4979	.785	.8147	1.141*
	(1.014)	(.7831)	(.7791)	(.6534)	(.6453)	(.6251)	(.939)		(.8374)	(.6863)	(.6662)	(.4942)	(.4887)	(.6787)
	[372]	[372]	[372]	[372]	[372]	[248]	[124]		[372]	[372]	[372]	[372]	[248]	[124]
$\frac{MP_{i,t}^{HV}}{X_{i,t}^{MP}}$	-.2844	.9097	.844	.6164	.2431	.3563	.7052	$\frac{MP_{i,t}^{HVO}}{X_{i,t}^{MP}}$	.7339	.7741	.61	.6453	.777	.9878
	(1.207)	(.9019)	(.9047)	(.78)	(.6688)	(.6975)	(.8602)		(.7575)	(.7982)	(.7553)	(.5697)	(.5571)	(.6118)
	[248]	[248]	[248]	[248]	[248]	[248]	[124]		[248]	[248]	[248]	[248]	[248]	[248]
$\frac{MP_{i,t}^{HV}}{X_{i,t}^{MP}}$	-.1366	1.513	1.269	.6895	.5244	.7165	$\frac{MP_{i,t}^{HVO}}{X_{i,t}^{MP}}$	.7481	.5951	.4716	.8386	.894	1.048	
	()	(1.528)	(1.673)	(1.241)	(1.022)	(.9701)	(1.077)		()	(.8783)	(.9778)	(.9338)	(.7767)	(.7829)
	[0]	[124]	[124]	[124]	[124]	[124]	[124]		[0]	[124]	[124]	[124]	[124]	[124]

(c) Stayers Change - Horizontal-and-Vertical

(d) Stayers Change - No Overlap

	$Mergers_{i,t-1}$	$Mergers_{i,t-2}$	$Mergers_{i,t-3}$	$Mergers_{i,t-4}$	$Mergers_{i,t-5}$	$Mergers_{i,t-6}$	$Mergers_{i,t-7}$	$Mergers_{i,t-1}$	$Mergers_{i,t-2}$	$Mergers_{i,t-3}$	$Mergers_{i,t-4}$	$Mergers_{i,t-5}$	$Mergers_{i,t-6}$	$Mergers_{i,t-7}$
$\frac{MP_{i,t}^{HPV}}{X_{i,t}^{MP}}$	-.3489	-.1115	-.136	-.0391	-.2029	-.1397	-.6293*	$\frac{MP_{i,t}^{HVO}}{X_{i,t}^{MP}}$	.247	.1625	.1292	-.053	.0778	-.0584
	(.2657)	(1.159)	(1.165)	(1.288)	(1.557)	(1.833)	(.245)		(.1493)	(.145)	(.1149)	(.1263)	(.1054)	(.1388)
	[868]	[744]	[620]	[496]	[372]	[248]	[124]		[868]	[744]	[620]	[496]	[372]	[248]
$\frac{MP_{i,t}^{HV}}{X_{i,t}^{MP}}$	.1851	.0369	-.0279	.1615	.0405	-.0827	-.358	$\frac{MP_{i,t}^{VVO}}{X_{i,t}^{MP}}$	-.0066	.1235	.1594	-.0215	-.059	.0467
	(.2741)	(.1915)	(.1497)	(.1363)	(.1597)	(.2272)	(.3148)		(.1488)	(.1553)	(.18)	(.1812)	(.1617)	(.1663)
	[744]	[744]	[620]	[496]	[372]	[248]	[124]		[744]	[744]	[620]	[496]	[372]	[248]
$\frac{MP_{i,t}^{HV}}{X_{i,t}^{MP}}$	.4841	.4809*	.1715	-.2503	.2041	.0911	-.5031	$\frac{MP_{i,t}^{HVO}}{X_{i,t}^{MP}}$	-.1497	-.1832	.0442	-.0652	-.1718	-.1153
	(.2906)	(.2004)	(.1866)	(.1832)	(.1826)	(.1936)	(.3342)		(.2622)	(.2038)	(.2276)	(.2257)	(.2579)	(.2391)
	[620]	[620]	[620]	[496]	[372]	[248]	[124]		[620]	[620]	[620]	[496]	[372]	[248]
$\frac{MP_{i,t}^{HV}}{X_{i,t}^{MP}}$	.1454	.4474*	.3403	.2871	.2301	.2877	-.0533	$\frac{MP_{i,t}^{HVO}}{X_{i,t}^{MP}}$	-.4103	-.3155	-.2256	-.0538	-.1403	-.1421
	(.338)	(.2619)	(.2082)	(.2086)	(.2043)	(.2064)	(.2876)		(.4843)	(.2598)	(.2682)	(.263)	(.2824)	(.3051)
	[496]	[496]	[496]	[496]	[372]	[248]	[124]		[496]	[496]	[496]	[496]	[372]	[248]
$\frac{MP_{i,t}^{HV}}{X_{i,t}^{MP}}$	-.4389	.0429	.0558	.1528	.1064	.0934	-.1228	$\frac{MP_{i,t}^{HVO}}{X_{i,t}^{MP}}$	-.4342	-.254	-.126	-.1776	-.1386	-.0333
	(.4729)	(.2593)	(.2413)	(.2344)	(.219)	(.2472)	(.3625)		(.6464)	(.3285)	(.3615)	(.3306)	(.2954)	(.2991)
	[372]	[372]	[372]	[372]	[372]	[248]	[124]		[372]	[372]	[372]	[372]	[372]	[248]
$\frac{MP_{i,t}^{HV}}{X_{i,t}^{MP}}$	-.1223	-.1286	-.1805	-.0404	-.0291	-.033	-.3806	$\frac{MP_{i,t}^{HVO}}{X_{i,t}^{MP}}$	-.5881	-.3691	-.2318	-.0991	-.2108	-.1517
	(.751)	(.4151)	(.3435)	(.2987)	(.2818)	(.2594)	(.3713)		(1.055)	(.6064)	(.4578)	(.4308)	(.3783)	(.331)
	[248]	[248]	[248]	[248]	[248]	[248]	[124]		[248]	[248]	[248]	[248]	[248]	[248]
$\frac{MP_{i,t}^{HV}}{X_{i,t}^{MP}}$	-.1016	-.9039	-.3701	-.3987	-.3106	-.3576	$\frac{MP_{i,t}^{HVO}}{X_{i,t}^{MP}}$	-.7043	-.4611	-.3381	-.4021	-.2765	-.4005	
	()	(1.053)	(.7019)	(.5486)	(.5514)	(.4197)	(.4021)		()	(.8949)	(.6873)	(.6533)	(.511)	(.4305)
	[0]	[124]	[124]	[124]	[124]	[124]	[124]		[0]	[124]	[124]	[124]	[124]	[124]

(e) Within Change - Horizontal-and-Vertical

(f) Within Change - No Overlap

	$Mergers_{i,t-1}$	$Mergers_{i,t-2}$	$Mergers_{i,t-3}$	$Mergers_{i,t-4}$	$Mergers_{i,t-5}$	$Mergers_{i,t-6}$	$Mergers_{i,t-7}$	$Mergers_{i,t-1}$	$Mergers_{i,t-2}$	$Mergers_{i,t-3}$	$Mergers_{i,t-4}$	$Mergers_{i,t-5}$	$Mergers_{i,t-6}$	$Mergers_{i,t-7}$
$\frac{MP_{i,t}^{HPV}}{X_{i,t}^{MP}}$	-.2529	-.006	.0326	.2174	.2635	.5407	1.084*	$\frac{MP_{i,t}^{HVO}}{X_{i,t}^{MP}}$	.4305	.0991	-.0845	.2468	.3861	.2164
	(.6037)	(.2391)	(.284)	(.2766)	(.3004)	(.3368)	(.6473)		(.2758)	(.1574)	(.1546)	(.2117)	(.2684)	(.3611)
	[868]	[744]												

C6 Large mergers by nature of overlap

Table C62: Cumulative lagged large mergers and sales weighted structural markups by nature of overlap - I

	Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}	Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}
MP _{NT}	3846	2919	4527	3817	3915	405	4988	-5137	4419***	9835***	1932*	-5052**	-7781**	
MP _{NT}	(345)	(2097)	(1953)	(2056)	(2329)	(2704)	(3494)	(2376)	(1114)	(107)	(673)	(676)	(2387)	(3706)
MP _{NT}	3846	1744	820	1996	1732	1245	1234	3686	1744	920	1996	1732	1245	1234
MP _{NT}	4024	3162*	5447*	7949*	6934*	3091	6389	4073	3973**	1434***	1231***	-2182*	-1409**	-1506**
MP _{NT}	(4085)	(3966)	(2753)	(3233)	(3522)	(4931)	(5425)	(2073)	(1447)	(1729)	(117)	(1616)	(4389)	(5326)
MP _{NT}	1744	1744	920	1996	1732	1245	1234	1744	1744	920	1996	1732	1245	1234
MP _{NT}	-1005	4024	2535	4527*	4527*	647	1406	2919	1439***	1431***	1735***	8486**	-1382*	-1611*
MP _{NT}	(1077)	(5474)	(4351)	(327)	(3599)	(5388)	(6696)	(3249)	(1948)	(1443)	(2342)	(6032)	(6256)	(1234)
MP _{NT}	920	920	1996	1996	1732	1245	1234	920	920	1996	1996	1732	1245	1234
MP _{NT}	-3742	2291	764	792	405	-2517	-1057	3458	3227	2237***	1809***	137***	-2547	-1228
MP _{NT}	(1357)	(7793)	(424)	(5058)	(2773)	(521)	(7863)	(4501)	(3045)	(2886)	(1253)	(1532)	(6195)	(8094)
MP _{NT}	1996	1996	1996	1996	1732	1245	1234	1996	1996	1996	1996	1732	1245	1234
MP _{NT}	3221**	1.088	1.028*	1.242*	1.137*	2882	-182	1.631	1.38	2.115	2.021***	1.449***	.407	2207
MP _{NT}	(1087)	(4262)	(4476)	(3909)	(4398)	(4042)	(4621)	(4431)	(235)	(2474)	(1783)	(2147)	(4416)	(2715)
MP _{NT}	372	372	372	372	372	248	124	372	372	372	372	372	248	124
MP _{NT}	3.315**	2.051**	1.04*	1.217*	1.635**	1.106*	.406	7.688	-1.863	1.381	-.944	1.523***	1.163**	2708
MP _{NT}	(1103)	(7051)	(3808)	(5395)	(5532)	(4208)	(4476)	(3132)	(2273)	(2237)	(2129)	(3477)	(3757)	(523)
MP _{NT}	248	248	248	248	248	248	124	248	248	248	248	248	248	124
MP _{NT}	4.361**	2.792**	2.3*	2.056*	2.169*	1.607	1.607	-3.631	-5.971*	-6.228	-4.913	1.37*	1.362**	
MP _{NT}	(1)	(1281)	(905)	(8747)	(7881)	(8614)	(6117)	(2)	(2929)	(3408)	(423)	(326)	(6085)	(4832)
MP _{NT}	1234	1234	1234	1234	1234	1234	1234	1234	1234	1234	1234	1234	1234	1234

Note: this table shows the result of a regression on the MP decomposed change in markups defined in the first column over the cumulative proportion of mergers over the period that starts the number of years indicated in the column and ending one period before the last year of markup change. All regressions control for year effects and one-digit industry effects. All regressions are weighted by mean total sales per year in the three digit industry. All regressions are clustered at the two-digit level and there are 59 two-digit industries in the sample.

Each regression includes horizontal, vertical, no-overlap, and horizontal-and-vertical mergers. The coefficients for no-overlap and horizontal-and-vertical mergers are provided in Table C63. Standard errors are in parentheses and the number of observations are in brackets below the coefficients. † $p < .1$, * $p < .05$, ** $p < .01$, *** $p < .001$
 Source: authors' calculations based on NT and UNU-WIDER (2023).

Table C63: Cumulative lagged large mergers and sales weighted structural markups by nature of overlap - II

	Mergers _{1,1}	Mergers _{1,2}	Mergers _{1,3}	Mergers _{1,4}	Mergers _{1,5}	Mergers _{1,6}	Mergers _{1,7}	Mergers _{1,1}	Mergers _{1,2}	Mergers _{1,3}	Mergers _{1,4}	Mergers _{1,5}	Mergers _{1,6}	Mergers _{1,7}	
$\frac{MP_{1,t}^{H+V}}{X_{1,t}^{H+V}}$	-1.046	-2.855	-1.955	-2.912	-2.861	6172	5013	$\frac{MP_{1,t}^{H+V}}{X_{1,t}^{H+V}}$	-9021	-.763*	-.4036	-.1097	0.441	1.045	-.9783
	(.8773)	(.4747)	(.3486)	(.2897)	(.2055)	(.4818)	(.8252)		(.7066)	(.336)	(.2738)	(.3488)	(.3983)	(.6524)	(.8982)
	[868]	[744]	[620]	[496]	[372]	[248]	[124]		[868]	[744]	[620]	[496]	[372]	[248]	[124]
$\frac{MP_{1,t}^{H+V}}{X_{1,t}^{H+V}}$	-2.971**	-1.744*	-.5469	-.4432	-.5641	1906	1.153	$\frac{MP_{1,t}^{H+V}}{X_{1,t}^{H+V}}$	-2.123**	-1.803**	-1.169*	-.5911	-.2007	1.419	2.145
	(1.098)	(.857)	(.5623)	(.4976)	(.478)	(.6778)	(1.088)		(.7362)	(.6437)	(.5125)	(.5911)	(.9319)	(1.17)	(1.448)
	[744]	[744]	[620]	[496]	[372]	[248]	[124]		[744]	[744]	[620]	[496]	[372]	[248]	[124]
$\frac{MP_{1,t}^{H+V}}{X_{1,t}^{H+V}}$	-.0569	-1.315	-.9248	-.5872	-.4857	-.2526	-.0324	$\frac{MP_{1,t}^{H+V}}{X_{1,t}^{H+V}}$	-1.449*	-2.136**	-1.712*	-.7853†	-.5778	1.92	1.938
	(1.353)	(1.1)	(.757)	(.4542)	(.4948)	(.9172)	(1.222)		(.6321)	(.6971)	(.7074)	(.4263)	(1.234)	(1.623)	(1.783)
	[620]	[620]	[620]	[496]	[372]	[248]	[124]		[620]	[620]	[620]	[496]	[372]	[248]	[124]
$\frac{MP_{1,t}^{H+V}}{X_{1,t}^{H+V}}$	1.14	.424	-.5405	-.477	-.1929	2246	3.665	$\frac{MP_{1,t}^{H+V}}{X_{1,t}^{H+V}}$	1.484*	-.3378	-.7872	-.3371	.037	2.52	2.792
	(1.946)	(1.285)	(.7678)	(.6339)	(.5336)	(1.281)	(1.679)		(.5573)	(.4065)	(.8991)	(.8191)	(.577)	(1.748)	(2.437)
	[496]	[496]	[496]	[496]	[372]	[248]	[124]		[496]	[496]	[496]	[496]	[372]	[248]	[124]
$\frac{MP_{1,t}^{H+V}}{X_{1,t}^{H+V}}$	1.632	1.177	.4412	-.3458	-.098	3186	.385	$\frac{MP_{1,t}^{H+V}}{X_{1,t}^{H+V}}$	4012	.8297†	-.1599	-.1694	-.5833	1.342	2.733
	(2.428)	(1.942)	(1.41)	(.9076)	(.6784)	(1.04)	(1.881)		(.4042)	(.4691)	(.6951)	(1.203)	(.4652)	(1.311)	(2.074)
	[372]	[372]	[372]	[372]	[372]	[248]	[124]		[372]	[372]	[372]	[372]	[372]	[248]	[124]
$\frac{MP_{1,t}^{H+V}}{X_{1,t}^{H+V}}$	-.1767	3.123	2.248	1.702	1.238	9673	5.162	$\frac{MP_{1,t}^{H+V}}{X_{1,t}^{H+V}}$	2.358**	1.363*	1.4†	.7056	-.7794	-.2486	1.183
	(2.887)	(2.513)	(2.114)	(1.881)	(.8477)	(.9914)	(1.376)		(.5522)	(.6452)	(.7567)	(.9928)	(.8567)	(.9284)	(1.426)
	[248]	[248]	[248]	[248]	[248]	[248]	[124]		[248]	[248]	[248]	[248]	[248]	[248]	[124]
$\frac{MP_{1,t}^{H+V}}{X_{1,t}^{H+V}}$		-.0814	3.819	3.789	2.455	8.261	1.131	$\frac{MP_{1,t}^{H+V}}{X_{1,t}^{H+V}}$	.902	1.228	9984	6121	-.6933	-.3855	
	(.0)	(4.302)	(4.19)	(3.782)	(2.648)	(1.644)	(1.835)		(.0)	(.7172)	(.9125)	(1.084)	(1.21)	(1.468)	(1.175)
	[0]	[124]	[124]	[124]	[124]	[124]	[124]		[0]	[124]	[124]	[124]	[124]	[124]	[124]

(a) Aggregate Change - Horizontal-and-Vertical

(b) Aggregate Change - No Overlap

(c) Stayers Change - Horizontal-and-Vertical

(d) Stayers Change - No Overlap

(e) Within Change - Horizontal-and-Vertical

(f) Within Change - No Overlap

(g) Between Change - Horizontal-and-Vertical

(h) Between Change - No Overlap

Note: this table shows the result of a regression on the MP decomposed change in markups defined in the first column over the cumulative proportion of mergers over the period that starts the number of years indicated in the column and ending one period before the last year of markup change. All regressions control for year effects and one-digit industry effects. All regressions are weighted by mean total sales per year in the three digit industry. All regressions are clustered at the two-digit level and there are 59 two-digit industries in the sample.

Each regression includes horizontal, vertical, no-overlap, and horizontal-and-vertical mergers. Structural markups are defined as in Equation (13). The decompositions are defined in the following equations: Aggregate Change (22), Stayers Change (23), Within Change (24), and Between Change (25). We do not provide individual coefficients entry or exit individually these regressions due to confidentiality concerns; the measures are included in the main regressions to remain consistent with other results provided in this paper. Standard errors are in parentheses and the number of observations are in brackets below the coefficients.

† $p < .1$, * $p < .05$, ** $p < .01$, *** $p < .001$

Source: authors' calculations based on NT and UNU-WIDER (2023).

Table C64: Cumulative lagged large mergers and sales weighted labour markups by nature of overlap - I

	Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}		Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}	
$\frac{MP_{i,t}^{no}}{X_{i,t}^{no}}$	3.113*	.7526	1.162	1.127	1.46	2.077	.3931		$\frac{MP_{i,t}^{ov}}{X_{i,t}^{ov}}$	-1.349	-4.08***	-5.414***	-1.783***	3.264***	2.595**	.0187
	(1.317)	(1.482)	(1.103)	(1.178)	(.9095)	(1.246)	(1.49)			(8.251)	(.4669)	(.6896)	(.4197)	(.6263)	(.8396)	(1.527)
	[868]	[744]	[620]	[496]	[372]	[248]	[124]			[868]	[744]	[620]	[496]	[372]	[248]	[124]
$\frac{MP_{i,t}^{ov}}{X_{i,t}^{ov}}$	4.261	1.727	1.195	1.456	1.08	3.592*	3.518*		$\frac{MP_{i,t}^{ov}}{X_{i,t}^{ov}}$	2.148	-2.435*	-8.473***	-6.826***	8.184	7.49**	4.922*
	(4.347)	(1.897)	(1.837)	(1.701)	(1.654)	(1.379)	(1.818)			(1.318)	(.9321)	(.8193)	(.773)	(.8692)	(2.261)	(2.029)
	[744]	[744]	[620]	[496]	[372]	[248]	[124]			[744]	[744]	[620]	[496]	[372]	[248]	[124]
$\frac{MP_{i,t}^{no}}{X_{i,t}^{no}}$	11.44	3.95	2.668	1.692	3.261	2.948*	2.156		$\frac{MP_{i,t}^{ov}}{X_{i,t}^{ov}}$	-10.99	-4.202*	-6.687***	-9.43***	-4.784***	6.633*	9.395**
	(7.006)	(3.565)	(2.09)	(1.839)	(1.783)	(1.433)	(2.272)			(11.87)	(2.294)	(1.134)	(1.076)	(1.163)	(2.815)	(3.363)
	[620]	[620]	[620]	[496]	[372]	[248]	[124]			[620]	[620]	[620]	[496]	[372]	[248]	[124]
$\frac{MP_{i,t}^{ov}}{X_{i,t}^{ov}}$	6.723	6.289	3.982	4.191*	1.773	3.143*	.6137		$\frac{MP_{i,t}^{ov}}{X_{i,t}^{ov}}$	7.455	-8.113	-6.634***	-7.919***	-6.972***	.3916	3.398
	(5.883)	(4.064)	(2.417)	(1.964)	(1.422)	(1.189)	(2.325)			(11.27)	(13.51)	(1.826)	(1.417)	(1.093)	(2.179)	(3.034)
	[496]	[496]	[496]	[496]	[372]	[248]	[124]			[496]	[496]	[496]	[496]	[372]	[248]	[124]
$\frac{MP_{i,t}^{no}}{X_{i,t}^{no}}$	3.609	6.472*	6.569**	6.358**	4.932**	3.601**	2.671*		$\frac{MP_{i,t}^{ov}}{X_{i,t}^{ov}}$	2.965	-13.4	-14.11	-7.025**	-4.571**	-3.899*	-3.39
	(6.657)	(3.619)	(2.192)	(2.05)	(1.517)	(1.312)	(1.435)			(8.234)	(11.64)	(12.44)	(2.277)	(1.47)	(2.215)	(2.712)
	[372]	[372]	[372]	[372]	[372]	[248]	[124]			[372]	[372]	[372]	[372]	[372]	[248]	[124]
$\frac{MP_{i,t}^{no}}{X_{i,t}^{no}}$	-10.88	4.243	3.711	7.476**	6.442**	5.23**	1.797		$\frac{MP_{i,t}^{ov}}{X_{i,t}^{ov}}$	22.62*	2.151	.3245	-21.48	1.173	-2.301	-4.65
	(12.2)	(4.922)	(2.851)	(2.193)	(2.088)	(1.917)	(2.23)			(12.98)	(9.08)	(10.52)	(15.99)	(2.532)	(2.442)	(2.906)
	[248]	[248]	[248]	[248]	[248]	[248]	[124]			[248]	[248]	[248]	[248]	[248]	[248]	[124]
$\frac{MP_{i,t}^{no}}{X_{i,t}^{no}}$									$\frac{MP_{i,t}^{ov}}{X_{i,t}^{ov}}$							
	(.)	(7.989)	(3.652)	(2.84)	(2.515)	(2.758)	(2.182)			(.)	(10.45)	(16.17)	(22.65)	(18.44)	(3.263)	(3.038)
	[0]	[124]	[124]	[124]	[124]	[124]	[124]			[0]	[124]	[124]	[124]	[124]	[124]	[124]

(a) Aggregate Change - Horizontal

(b) Aggregate Change - Vertical

	Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}		Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}
$\frac{MP_{i,t}^{no}}{X_{i,t}^{no}}$	-9825	-1.375	-8135	-9313	-9147	-3685	-2.148*		$\frac{MP_{i,t}^{ov}}{X_{i,t}^{ov}}$	-1.528*	-4.029**	-5.509***	-1.778**	3.068**	2.453*
	(1.786)	(.909)	(.8505)	(.8313)	(.5923)	(.7529)	(.8675)			(.678)	(.5107)	(.7996)	(.3675)	(.3985)	(.9273)
	[868]	[744]	[620]	[496]	[372]	[248]	[124]			[868]	[744]	[620]	[496]	[372]	[248]
$\frac{MP_{i,t}^{ov}}{X_{i,t}^{ov}}$	1.619	-1.495	-1.452	-1.426	-2.121	-0.439	0.069		$\frac{MP_{i,t}^{ov}}{X_{i,t}^{ov}}$	1.464	-2.872***	-8.714***	-7.153***	2.989	6.386**
	(4.988)	(1.535)	(1.353)	(1.31)	(1.461)	(.6904)	(.9031)			(1.16)	(.8049)	(.8486)	(.7368)	(.7335)	(1.28)
	[744]	[744]	[620]	[496]	[372]	[248]	[124]			[744]	[744]	[620]	[496]	[372]	[248]
$\frac{MP_{i,t}^{no}}{X_{i,t}^{no}}$	4.849	.165	-1.445	-1.815	-3.045*	-.577	-1.698		$\frac{MP_{i,t}^{ov}}{X_{i,t}^{ov}}$	1.792	-4.324**	-7.425***	-10.1***	-5.791***	7.68**
	(7.03)	(2.477)	(1.44)	(1.352)	(1.618)	(1.027)	(1.106)			(9.902)	(1.608)	(1.096)	(1.177)	(1.284)	(1.267)
	[620]	[620]	[620]	[496]	[372]	[248]	[124]			[620]	[620]	[620]	[496]	[372]	[248]
$\frac{MP_{i,t}^{no}}{X_{i,t}^{no}}$	5.028	1.345	-.1996	-.4879	-.2476	-.5884	-2.565		$\frac{MP_{i,t}^{ov}}{X_{i,t}^{ov}}$	13.74	8.033	-7.118***	-9.095***	-8.536**	-2.044*
	(4.666)	(2.442)	(1.731)	(1.453)	(1.649)	(1.095)	(1.759)			(10.84)	(11.96)	(1.642)	(1.548)	(1.127)	(1.089)
	[496]	[496]	[496]	[496]	[372]	[248]	[124]			[496]	[496]	[496]	[496]	[372]	[248]
$\frac{MP_{i,t}^{no}}{X_{i,t}^{no}}$	.245	3.916*	1.032	1.308	-9445	-1.417	-1.381		$\frac{MP_{i,t}^{ov}}{X_{i,t}^{ov}}$	6.563	1.883	6.436	-7.795***	-6.683**	-7.11**
	(4.46)	(2.024)	(1.387)	(1.445)	(1.583)	(1.283)	(1.297)			(8.88)	(11.07)	(9.993)	(.2)	(1.398)	(1.541)
	[372]	[372]	[372]	[372]	[372]	[248]	[124]			[372]	[372]	[372]	[372]	[372]	[248]
$\frac{MP_{i,t}^{no}}{X_{i,t}^{no}}$	-8.465	2.532	.6458	1.548	2173	-.9777	-3.409*		$\frac{MP_{i,t}^{ov}}{X_{i,t}^{ov}}$	28.02**	5.964	13.65	2.559	-1.232	-5.397**
	(8.938)	(2.452)	(1.746)	(1.228)	(1.672)	(1.37)	(1.951)			(8.866)	(10.91)	(9.519)	(10.14)	(2.105)	(1.815)
	[248]	[248]	[248]	[248]	[248]	[248]	[124]			[248]	[248]	[248]	[248]	[248]	[248]
$\frac{MP_{i,t}^{no}}{X_{i,t}^{no}}$									$\frac{MP_{i,t}^{ov}}{X_{i,t}^{ov}}$						
	(.)	(3.64)	(2.138)	(1.855)	(2.246)	(2.015)	(1.786)			(.)	(12.66)	(11.36)	(13.31)	(12.68)	(2.472)
	[0]	[124]	[124]	[124]	[124]	[124]	[124]			[0]	[124]	[124]	[124]	[124]	[124]

(c) Stayers Change - Horizontal

(d) Stayers Change - Vertical

	Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}		Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}
$\frac{MP_{i,t}^{no}}{X_{i,t}^{no}}$	-2.469	-1.473	-2.287	-1.075	-.814	-1.194	.7847		$\frac{MP_{i,t}^{ov}}{X_{i,t}^{ov}}$	-.8021	-.2733	-.0972	-1.173	.3633*	-.1959*
	(2.02)	(1.459)	(1.654)	(.9287)	(.8165)	(1.365)	(.7358)			(.9184)	(.3402)	(.2489)	(.8152)	(.2014)	(.5104)
	[868]	[744]	[620]	[496]	[372]	[248]	[124]			[868]	[744]	[620]	[496]	[372]	[248]
$\frac{MP_{i,t}^{ov}}{X_{i,t}^{ov}}$	-1.717	-1.071	-1.941	-2.162	-1.464	-1.569	-1.266		$\frac{MP_{i,t}^{ov}}{X_{i,t}^{ov}}$	1.778	-3.407	-2.833	-1.197*	-5.596	2.043*
	(1.645)	(1.28)	(1.605)	(1.747)	(1.402)	(1.741)	(1.979)			(4.056)	(.6467)	(.3492)	(.6724)	(.6356)	(1.064)
	[744]	[744]	[620]	[496]	[372]	[248]	[124]			[744]	[744]	[620]	[496]	[372]	[248]
$\frac{MP_{i,t}^{no}}{X_{i,t}^{no}}$	-4.676	-2.921	-2.174	-2.288	-2.619	-2.352	-.3607		$\frac{MP_{i,t}^{ov}}{X_{i,t}^{ov}}$	-7.308	-0.616	-.449	-1.49*	-6.36	.098
	(3.48)	(2.227)	(1.968)	(2.136)	(2.414)	(2.284)	(1.626)			(6.389)	(.5673)	(.5814)	(.8899)	(.7379)	(1.464)
	[620]	[620]	[620]	[496]	[372]	[248]	[124]			[620]	[620]	[620]	[496]	[372]	[248]
$\frac{MP_{i,t}^{no}}{X_{i,t}^{no}}$	-6.545	-3.827	-2.413	-2.073	-2.642	-3.668	-1.884		$\frac{MP_{i,t}^{ov}}{X_{i,t}^{ov}}$	-5.589	-3.872	-3.365	-1.702	-8.112	.0375
	(6.035)	(4.49)	(2.905)	(2.382)	(2.744)	(3.595)	(2.73)			(6.135)	(4.766)	(.5852)	(1.176)	(.8876)	(1.64)
	[496]	[496]	[496]	[496]	[372]	[248]	[124]			[496]	[496]	[496]	[496]	[372]	[248]
$\frac{MP_{i,t}^{no}}{X_{i,t}^{no}}$	-11.17	-6.092	-2.591	-1.62	-1.284	-2.523	-1.771		$\frac{MP_{i,t}^{ov}}{X_{i,t}^{ov}}$	-15.72	2.293	4.442	-8.387	-6.819	.5017
	(9.395)	(7.049)	(3.887)	(2.701)	(2.299)	(3.111)	(3.332)			(12.64)	(6.411)	(5.679)	(.5881)	(1.279)	(1.874)
	[372]	[372]	[372]	[372]	[372]	[372]	[372]			[372]	[372]	[372]	[372]	[372]	[248]
$\frac{MP_{i,t}^{no}}{X_{i,t}^{no}}$	-16.66	-12.2	-6.477	-3.241	-1.518	-1.991	-.7086		$\frac{MP_{i,t}^{ov}}{X_{i,t}^{ov}}$	-26.65	-15.99	-8.015	5.053	1.777	.4381
	(12.27)	(10.64)	(6.884)	(4.284)	(3.118)	(2.899)	(2.624)			(17.84)	(14.76)	(7.53)	(8.885)	(1.925)	(2.792)
	[248]	[248]	[248]	[248]	[248]	[248]	[124]			[248]	[248]	[248]	[248]	[248]	[248]
$\frac{MP_{i,t}^{no}}{X_{i,t}^{no}}$									$\frac{MP_{i,t}^{ov}}{X_{i,t}^{ov}}$						
	(.)	(17.85)	(11.37)	(8.071)	(3.459)	(3.514)	(2.886)			(.)	(17.33)	(13.9)	(10.48)	(14.87)	(3.152)
	[0]	[124]	[124]	[124]	[124]	[124]	[124]			[0]	[124]	[124]	[124]	[124]	[124]

(e) Within Change - Horizontal

(f) Within Change - Vertical

	Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}		Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}
$\frac{MP_{i,t}^{no}}{X_{i,t}^{no}}$	1.487	.0971	1.473	.1435	-1.006	.8254	-2.933*		$\frac{MP_{i,t}^{ov}}{X_{i,t}^{ov}}$	-.7263	-3.756**	-5.412**	-.6043	2.703**	2.112*
	(

Table C65: Cumulative lagged large mergers and sales weighted labour markups by nature of overlap - II

	Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}	Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}	
$\frac{MP_{it}}{X_{it}}$	4.854	5594	-1.088	-1.457	-2.014	-1.937	2.625	7.063*	3.285*	2.565	.807	-5.266	-1.112	.714	
(6.888)	(3.075)	(2.048)	(2.062)	(1.632)	(2.103)	(2.905)	(3.01)	(1.962)	(1.665)	(2.444)	(1.997)	(1.944)	(3.636)	(3.636)	
[868]	[744]	[620]	[496]	[372]	[248]	[124]	[868]	[744]	[620]	[496]	[372]	[248]	[124]	[124]	
$\frac{MP_{it}^H}{X_{it}^H}$	10.53	6081	1.035	-9.71	-2.532	-2.57	-1.372	5.972	6.612	5.938	4.074	3.379	-4.724	-2.49	
(8.583)	(6.138)	(3.912)	(3.497)	(3.149)	(2.904)	(5.815)	(6.988)	(5.382)	(4.443)	(4.716)	(5.822)	(3.512)	(3.201)	(3.201)	
[744]	[744]	[620]	[496]	[372]	[248]	[124]	[744]	[744]	[620]	[496]	[372]	[248]	[124]	[124]	
$\frac{MP_{it}^V}{X_{it}^V}$	17.77*	11.49*	6.433	2.079	-1.881	-2.087	2.209	$\frac{MP_{it}^H}{X_{it}^H}$	1.533	4.316	4.116	2.798	4.532	-5.856	-6.166
(8.853)	(6.62)	(4.663)	(3.918)	(4.153)	(2.824)	(4.433)	(4.093)	(5.91)	(4.186)	(3.804)	(6.284)	(4.457)	(4.833)	(4.833)	
[620]	[620]	[496]	[496]	[372]	[248]	[124]	[620]	[620]	[496]	[496]	[372]	[248]	[124]	[124]	
$\frac{MP_{it}^N}{X_{it}^N}$	17.59*	15.9*	9.217*	8.501*	3.34	2.977	6.077	$\frac{MP_{it}^V}{X_{it}^V}$	-6.8**	-2.371	-2.482	-3.927	2038	-4.922	-4.256
(10.08)	(6.962)	(4.926)	(3.219)	(3.186)	(2.817)	(4.435)	(2.007)	(3.347)	(2.764)	(2.503)	(3.25)	(3.603)	(5.255)	(5.255)	
[496]	[496]	[496]	[496]	[372]	[248]	[124]	[496]	[496]	[496]	[496]	[372]	[248]	[124]	[124]	
$\frac{MP_{it}^{N+H}}{X_{it}^{N+H}}$	26.91*	17.99*	14.94**	11.15**	9.625**	4.816	9.104*	$\frac{MP_{it}^H}{X_{it}^H}$	-9.534***	-11.11***	-9.655**	-10.43**	-5.927*	-4.496	-5.008
(15.22)	(8.145)	(5.499)	(3.793)	(3.13)	(3.217)	(4.066)	(2.209)	(2.865)	(3.406)	(3.227)	(2.47)	(3.817)	(4.545)	(4.545)	
[372]	[372]	[496]	[372]	[372]	[372]	[248]	[372]	[372]	[372]	[372]	[372]	[372]	[372]	[372]	
$\frac{MP_{it}^{N+V}}{X_{it}^{N+V}}$	35.09*	21.37	11.8	16.77*	9.722*	9.111*	10.93*	$\frac{MP_{it}^V}{X_{it}^V}$	-4.567	-11.29**	-10.85**	-12.26**	-10.31**	-6.035	-3.669
(19.74)	(13.74)	(9.104)	(8.069)	(5.248)	(5.239)	(5.513)	(3.253)	(3.324)	(3.873)	(4.241)	(3.494)	(4.55)	(6.594)	(6.594)	
[248]	[248]	[248]	[248]	[248]	[248]	[124]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	
$\frac{MP_{it}^{N+H+V}}{X_{it}^{N+H+V}}$	41.46*	25.34	32.84**	26.16**	13.69*	17.03**	13.69*	$\frac{MP_{it}^{H+V}}{X_{it}^{H+V}}$	-11.32*	-10.87*	-12.69*	-12.42*	-8.239	-11.18*	
(1)	(18.51)	(17.06)	(10.99)	(6.999)	(7.345)	(5.993)	(1)	(4.476)	(4.473)	(5.502)	(4.841)	(5.155)	(5.268)	(5.268)	
[0]	[124]	[124]	[124]	[124]	[124]	[124]	[0]	[124]	[124]	[124]	[124]	[124]	[124]	[124]	

(a) Aggregate Change - Horizontal-and-Vertical

(b) Aggregate Change - No Overlap

	Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}	Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}	
$\frac{MP_{it}}{X_{it}}$	5.262	9147	-5.083	-0.0679	-1.118	-1.359	3.681	6.293*	3.909*	3.451*	1.986	1.067	5.999	2.95	
(6.196)	(2.373)	(1.202)	(1.284)	(1.4)	(2.902)	(2.476)	(3.446)	(1.95)	(1.465)	(2.277)	(1.65)	(2.101)	(2.706)	(2.706)	
[868]	[744]	[620]	[496]	[372]	[248]	[124]	[868]	[744]	[620]	[496]	[372]	[248]	[124]	[124]	
$\frac{MP_{it}^H}{X_{it}^H}$	10.07	5.199	.3932	-2.903	-1.641	-3.403	-2.731	8	8.275	7.365*	5.937	5.625	-5.963	1.12	
(6.042)	(3.883)	(2.067)	(2.619)	(2.942)	(5.368)	(7.884)	(5.996)	(5.101)	(3.87)	(4.062)	(5.245)	(1.815)	(2.826)	(2.826)	
[744]	[744]	[620]	[496]	[372]	[248]	[124]	[744]	[744]	[620]	[496]	[372]	[248]	[124]	[124]	
$\frac{MP_{it}^V}{X_{it}^V}$	16.66*	9.914*	5.302*	2.558	2.454	-1.224	-3.193	4.04	7.272	6.017*	4.638*	6.874	-1.525	1.802	
(7.002)	(4.412)	(2.556)	(2.273)	(2.824)	(2.931)	(6.325)	(2.473)	(4.511)	(3.31)	(2.667)	(5.5)	(1.978)	(2.339)	(2.339)	
[620]	[620]	[620]	[496]	[372]	[372]	[248]	[620]	[620]	[620]	[496]	[372]	[248]	[124]	[124]	
$\frac{MP_{it}^N}{X_{it}^N}$	22.94*	15.72**	10.62**	8.983**	4.424*	1.497	4.219	$\frac{MP_{it}^H}{X_{it}^H}$	-6.638*	.5748	-5.496	-1.971	2.721	-1.388	.7637
(9.267)	(5.87)	(3.771)	(2.514)	(2.109)	(2.413)	(4.025)	(2.525)	(2.08)	(1.815)	(2.096)	(2.298)	(1.838)	(2.349)	(2.349)	
[496]	[496]	[496]	[496]	[372]	[248]	[124]	[496]	[496]	[496]	[496]	[372]	[248]	[124]	[124]	
$\frac{MP_{it}^{N+H}}{X_{it}^{N+H}}$	27.57**	19.22***	13.63**	12.21**	10.13**	3.835	5.247	$\frac{MP_{it}^V}{X_{it}^V}$	-10.04**	-10.22**	-7.084*	-8.127*	-3.058	9146	1.518
(10.04)	(5.445)	(4.44)	(3.583)	(3.338)	(3.426)	(4.635)	(3.33)	(3.093)	(3.628)	(4.049)	(2.22)	(2.23)	(3.058)	(3.058)	
[372]	[372]	[372]	[372]	[372]	[372]	[248]	[372]	[372]	[372]	[372]	[372]	[372]	[372]	[372]	
$\frac{MP_{it}^{N+V}}{X_{it}^{N+V}}$	3.529	15.04	11.17*	11.08*	10.05*	8.956*	10.08*	$\frac{MP_{it}^H}{X_{it}^H}$	-5.76	-11.06*	-10.86*	-9.065*	-7.113*	-1.119	2.82
(13.93)	(11.59)	(6.584)	(5.114)	(4.908)	(4.63)	(4.798)	(4.175)	(4.23)	(4.386)	(4.858)	(4.081)	(4.819)	(3.998)	(3.998)	
[248]	[248]	[248]	[248]	[248]	[248]	[124]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	
$\frac{MP_{it}^{N+H+V}}{X_{it}^{N+H+V}}$	3.209	19.1*	17.29*	12.07*	11.69*	14.13*	14.13*	$\frac{MP_{it}^V}{X_{it}^V}$	-9.804*	-9.645*	-11.02*	-8.885*	-4.049	-3.959	
(1)	(13.98)	(9.679)	(8.327)	(6.659)	(5.974)	(5.827)	(1)	(5.136)	(4.903)	(5.513)	(5.158)	(6.369)	(3.146)	(3.146)	
[0]	[124]	[124]	[124]	[124]	[124]	[124]	[0]	[124]	[124]	[124]	[124]	[124]	[124]	[124]	

(c) Stayers Change - Horizontal-and-Vertical

(d) Stayers Change - No Overlap

	Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}	Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}	
$\frac{MP_{it}}{X_{it}}$	-5.204*	-5.545*	-3.941*	-5.346*	-4.955**	-4.799*	-12.95**	.7415	.5774	.3133	2403	-7.104	-1.761	1.128	
(2.198)	(2.895)	(1.851)	(2.156)	(1.738)	(1.833)	(4.787)	(4.787)	(1.34)	(.7347)	(.8364)	(1.112)	(.8076)	(1.271)	(1.152)	
[868]	[744]	[620]	[496]	[372]	[248]	[124]	[868]	[744]	[620]	[496]	[372]	[248]	[124]	[124]	
$\frac{MP_{it}^H}{X_{it}^H}$	-11.24*	-11.25*	-9.396*	-7.835*	-6.864*	-4.504*	-7.758*	$\frac{MP_{it}^H}{X_{it}^H}$	-1.832	-3.759	-8.752	-7.444	-1.073	-3.036	-1.2
(5.924)	(5.533)	(4.254)	(3.157)	(2.839)	(2.244)	(3.444)	(3.444)	(1.672)	(1.989)	(1.989)	(1.768)	(1.83)	(1.982)	(2.136)	
[744]	[744]	[620]	[496]	[372]	[248]	[124]	[744]	[744]	[620]	[496]	[372]	[248]	[124]	[124]	
$\frac{MP_{it}^V}{X_{it}^V}$	-21.16*	-17.55*	-13.63*	-13.09*	-10.16**	-8.92*	-13.3*	$\frac{MP_{it}^V}{X_{it}^V}$	-4.391	-1.778	-2.082	-1.908	-1.876	-1.24	-3.04
(8.483)	(7.304)	(6.012)	(5.153)	(3.733)	(4.333)	(5.438)	(4.039)	(2.464)	(2.731)	(2.493)	(2.33)	(2.937)	(2.515)	(2.515)	
[620]	[620]	[620]	[496]	[372]	[372]	[248]	[620]	[620]	[620]	[496]	[372]	[248]	[124]	[124]	
$\frac{MP_{it}^N}{X_{it}^N}$	-29.53*	-26.4**	-19.87*	-17.39*	-15.41*	-12.34*	-15.64*	$\frac{MP_{it}^H}{X_{it}^H}$	-1.921	-2.349	-2.762	-2.861	-2.189	-1.362	-2.196
(14.06)	(9.046)	(8.002)	(6.943)	(5.891)	(5.147)	(7.469)	(4.351)	(3.568)	(3.177)	(3.188)	(2.831)	(3.55)	(3.757)	(3.757)	
[496]	[496]	[496]	[496]	[372]	[248]	[124]	[496]	[496]	[496]	[496]	[372]	[248]	[124]	[124]	
$\frac{MP_{it}^{N+H}}{X_{it}^{N+H}}$	-34.38*	-28.85**	-26.99**	-22.51**	-19.96*	-17.72*	-21.26*	$\frac{MP_{it}^V}{X_{it}^V}$	2.413	3.607	-3.33	-3.942	-3.414	-2.986	-2.325
(20.03)	(9.955)	(9.006)	(7.998)	(8.073)	(7.455)	(8.254)	(2.506)	(4.139)	(3.691)	(3.493)	(3.506)	(4.077)	(3.899)	(3.899)	
[372]	[372]	[372]	[372]	[372]	[372]	[248]	[372]	[372]	[372]	[372]	[372]	[372]	[372]	[372]	
$\frac{MP_{it}^{N+V}}{X_{it}^{N+V}}$	-19.95	-23.23*	-22.99**	-26.79**	-21.62*	-18.71*	-22.74*	$\frac{MP_{it}^H}{X_{it}^H}$	2.761	4.397	3.003	-2.669	-4.52	-2.718	-2.837
(15.91)	(13.28)	(8.28)	(8.726)	(8.518)	(6.002)	(10.9)	(2.813)	(4.221)	(3.776)	(4.156)	(4.463)	(5.34)	(4.653)	(4.653)	
[248]	[248]	[248]	[248]	[248]	[248]	[124]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	
$\frac{MP_{it}^{N+H+V}}{X_{it}^{N+H+V}}$	-15.89	-19.29	-31.58**	-32.2*	-23.23*	-23.19*	-23.19*	10.66	6.046	1.173	-5.646	-4.202	-1.462	-1.462	
(1)	(12.68)	(12.82)	(10.28)	(14.54)	(10.85)	(12.94)	(12.94)	(1)	(7.578)	(5.223)	(6.892)	(5.104)	(6.899)	(6.172)	
[0]	[124]	[124]	[124]	[124]	[124]	[124]	[0]	[124]	[124]	[124]	[124]	[124]	[124]	[124]	

(e) Within Change - Horizontal-and-Vertical

(f) Within Change - No Overlap

	Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}	Mergers _{t-1}	Mergers _{t-2}	Mergers _{t-3}	Mergers _{t-4}	Mergers _{t-5}	Mergers _{t-6}	Mergers _{t-7}
$\frac{MP_{it}}{X_{it}}$	10.47	6.46*	3.433*	5.278*	3.837**	3.44*	16.63***	5.551*	3.332*	3.138*	1.746	1.77		

Table C66: Cumulative lagged large mergers and sales weighted materials markups by nature of overlap - I

	Mergers _{1,1}	Mergers _{1,2}	Mergers _{1,3}	Mergers _{1,4}	Mergers _{1,5}	Mergers _{1,6}	Mergers _{1,7}	Mergers _{1,1}	Mergers _{1,2}	Mergers _{1,3}	Mergers _{1,4}	Mergers _{1,5}	Mergers _{1,6}	Mergers _{1,7}	
$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$	4932	8441	.0833	-2111	-5363	-2536	-3619	$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$	6119*	1.175***	-2156	-1.158***	-1616	-3079	-617
(.9059)	(.697)	(.4519)	(.4158)	(.4304)	(.4947)	(.5737)	(.7347)	(.2349)	(.2427)	(.1888)	(.2129)	(.1618)	(.4091)	(.5578)	
[868]	[744]	[620]	[496]	[372]	[248]	[124]	[0]	[868]	[744]	[620]	[496]	[372]	[248]	[124]	
$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$.755	.9613	.6491	-.0953	-1.214*	-1.115	-1.067	$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$	2.009***	2.173***	9.402***	-1.433***	-1.547***	-7326	-6071
(1.543)	(1.258)	(.9969)	(.8161)	(.6535)	(.7792)	(.9016)	(.3372)	(.3531)	(.3445)	(.3565)	(.3286)	(.7691)	(.7955)		
[744]	[744]	[620]	[496]	[372]	[248]	[124]	[744]	[744]	[620]	[496]	[372]	[248]	[124]		
$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$	1.292	1.013	.9239	.9123	-3353	-9611	-1.469	$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$	7.622*	4.109***	2.021***	-2903	-1.384***	-1.904*	-1.253
(1.761)	(1.305)	(1.153)	(1.037)	(.7814)	(.7911)	(1.006)	(.4469)	(.3516)	(.2738)	(.3175)	(.3577)	(1.131)	(1.305)		
[620]	[620]	[620]	[496]	[372]	[248]	[124]	[620]	[620]	[620]	[620]	[496]	[372]	[248]		
$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$	-1.214	.5248	.7451	1.023	.2963	-.8779	-1.131	$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$	8.96*	4.559	1.656***	.773*	.2807	-1.863	-2.862*
(2.636)	(1.493)	(1.141)	(1.233)	(.9948)	(.7632)	(.958)	(.447)	(.3276)	(.3895)	(.3166)	(.3523)	(1.203)	(1.513)		
[496]	[496]	[496]	[496]	[372]	[248]	[124]	[496]	[496]	[496]	[496]	[372]	[248]	[124]		
$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$	2.762	1.497	.6401	.9343	8.255	.0557	-.7296	$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$	6.771	4.2	2.674	1.37**	1.218**	.0466	-.9547
(2.789)	(1.582)	(1.159)	(1.327)	(1.321)	(1.075)	(.9715)	(.4608)	(.3933)	(.3116)	(.4105)	(.366)	(1.102)	(1.424)		
[372]	[372]	[372]	[372]	[372]	[248]	[124]	[372]	[372]	[372]	[372]	[372]	[372]	[248]		
$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$	1.173	-.0136	-.1242	.5196	.7148	.268	-.2217	$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$	-3.75	-3.932	-1.412	1.607	2.131**	1.361	1.259
(3.168)	(1.733)	(1.064)	(1.352)	(1.401)	(1.2)	(1.155)	(.4658)	(.5868)	(.485)	(.5851)	(.7027)	(1.039)	(1.238)		
[248]	[248]	[248]	[248]	[248]	[248]	[124]	[248]	[248]	[248]	[248]	[248]	[248]	[124]		
$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$	1.95	.9475	2.239	1.608	1.061	.5778	$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$	-8.272	-9.99	-7.339	-4.884	1.753	1.488		
(1)	(2.88)	(1.409)	(1.909)	(1.845)	(1.673)	(1.231)	(1)	(5.72)	(6.196)	(10.06)	(7.615)	(1.624)	(1.267)		
[0]	[124]	[124]	[124]	[124]	[124]	[124]	[0]	[124]	[124]	[124]	[124]	[124]	[124]		

(a) Aggregate Change - Horizontal							(b) Aggregate Change - Vertical								
	Mergers _{1,1}	Mergers _{1,2}	Mergers _{1,3}	Mergers _{1,4}	Mergers _{1,5}	Mergers _{1,6}	Mergers _{1,1}	Mergers _{1,2}	Mergers _{1,3}	Mergers _{1,4}	Mergers _{1,5}	Mergers _{1,6}	Mergers _{1,7}		
$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$	-4858	1609	-.1497	-.0547	-5516	-4983	-.5798	$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$	7167**	1.299**	-1786	-1.148**	-.0801	-6596	-3945
(.6161)	(.4389)	(.3757)	(.501)	(.3848)	(.4861)	(.593)	(.2245)	(.1987)	(.1986)	(.2063)	(.1494)	(.5351)	(.5379)		
[868]	[744]	[620]	[496]	[372]	[248]	[124]	[868]	[744]	[620]	[496]	[372]	[248]	[124]		
$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$	-.0844	-.0663	.0962	-.0324	-1.006	-1.181*	-1.144	$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$	2.187***	2.385***	1.178***	-1.329**	-1.361**	-1.209	-1.04
(1.291)	(.8365)	(.6183)	(.7689)	(.6484)	(.6677)	(.9029)	(.3604)	(.227)	(.2869)	(.3942)	(.3177)	(.8663)	(.9504)		
[744]	[744]	[620]	[496]	[372]	[248]	[124]	[744]	[744]	[620]	[496]	[372]	[248]	[124]		
$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$	-.8645	-2635	-.0121	.4449	-.7515	-1.33	-1.574	$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$	7.288	4.261***	2.233***	-.08	-1.296**	-2.289*	-1.373
(1.326)	(1.061)	(.7985)	(.9403)	(.8418)	(.8229)	(1.067)	(.5265)	(.2815)	(.2347)	(.3476)	(.3585)	(1.115)	(1.271)		
[620]	[620]	[620]	[496]	[372]	[248]	[124]	[620]	[620]	[620]	[620]	[496]	[372]	[248]		
$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$	-1.599	-.7591	-.2652	.1847	-.6348	-1.791*	-1.912	$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$	8.742	4.778	1.816**	1.039**	.3182	-2.344*	-3.046*
(2.289)	(1.404)	(1.023)	(1.056)	(.9041)	(.7866)	(1.165)	(.5473)	(.3118)	(.4636)	(.3612)	(.333)	(1.202)	(1.533)		
[496]	[496]	[496]	[496]	[372]	[248]	[124]	[496]	[496]	[496]	[496]	[372]	[248]	[124]		
$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$.3177	-.0795	-.41	1.762	-.3582	-1.349	-1.695*	$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$	14.82*	8.446*	5.406*	1.768**	1.156**	-.9579	-1.212
(2.561)	(1.606)	(1.044)	(1.253)	(1.065)	(.8187)	(.9073)	(.8536)	(.4433)	(.3067)	(.5382)	(.3705)	(1.2)	(1.427)		
[372]	[372]	[372]	[372]	[372]	[248]	[124]	[372]	[372]	[372]	[372]	[372]	[248]	[124]		
$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$	-.6119	-1.266	-.5525	-.3762	-.9082	-1.485	-1.908	$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$	9.988	9.249*	7.048*	7.57	1.252*	-.0524	-.7065
(2.914)	(1.564)	(1.041)	(1.216)	(1.217)	(1.049)	(1.243)	(.8563)	(.502)	(.4182)	(.4586)	(.7315)	(1.208)	(1.43)		
[248]	[248]	[248]	[248]	[248]	[248]	[124]	[248]	[248]	[248]	[248]	[248]	[248]	[124]		
$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$	-.235	-.0715	1.573	.0877	-1.043	-1.098	$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$	6.052	5.695	5.879	5.09	3.538	.6347		
(1)	(2.437)	(1.176)	(1.725)	(1.657)	(1.504)	(1.148)	(1)	(7.621)	(6.96)	(8.028)	(6.524)	(1.745)	(1.399)		
[0]	[124]	[124]	[124]	[124]	[124]	[124]	[0]	[124]	[124]	[124]	[124]	[124]	[124]		

(c) Stayers Change - Horizontal							(d) Stayers Change - Vertical								
	Mergers _{1,1}	Mergers _{1,2}	Mergers _{1,3}	Mergers _{1,4}	Mergers _{1,5}	Mergers _{1,6}	Mergers _{1,1}	Mergers _{1,2}	Mergers _{1,3}	Mergers _{1,4}	Mergers _{1,5}	Mergers _{1,6}	Mergers _{1,7}		
$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$	4371	-.5776	-.5561	.2763	4113	.5607	.5837	$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$	2.136**	2.095**	-.4518	-2.615***	.3807	2.695**	3.144**
(1.878)	(.8953)	(.6112)	(.4547)	(.5811)	(.4789)	(.5426)	(.2024)	(.2173)	(.2724)	(.4299)	(.5618)	(.4018)	(.8315)		
[868]	[744]	[620]	[496]	[372]	[248]	[124]	[868]	[744]	[620]	[496]	[372]	[248]	[124]		
$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$	2.109	-.4908	-.6615	-.2159	1.714	.7785	.6512	$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$	2.686***	3.481***	1.53***	-2.264***	-1.437	3.732**	5.101**
(2.464)	(1.241)	(.8562)	(.5459)	(.8512)	(.7535)	(.8375)	(.2488)	(.3933)	(.3223)	(.6034)	(1.031)	(1.617)	(.9892)		
[744]	[744]	[620]	[496]	[372]	[248]	[124]	[744]	[744]	[620]	[496]	[372]	[248]	[124]		
$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$	1.072	-.5766	-.5557	.085	3125	1.079	.5923	$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$	-.6589	4.558***	2.861***	-.4033	-1.939*	2.273*	4.807**
(2.666)	(1.47)	(1.198)	(.7852)	(.678)	(.8548)	(.9742)	(.3711)	(.434)	(.4077)	(.5928)	(1.057)	(.74)	(1.205)		
[620]	[620]	[620]	[496]	[372]	[248]	[124]	[620]	[620]	[620]	[620]	[496]	[372]	[248]		
$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$	1.21	-.1089	-.6591	.0488	.6021	.5999	1.107	$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$	1.472	2.669	1.449*	.8975	.4906	1.488*	2.031
(1.557)	(1.406)	(1.136)	(.9148)	(.6881)	(.7046)	(.8645)	(.3971)	(.3952)	(.6165)	(.6298)	(.7074)	(.864)	(1.264)		
[496]	[496]	[496]	[496]	[372]	[248]	[124]	[496]	[496]	[496]	[496]	[372]	[248]	[124]		
$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$.575	-1.397	-1.695	-.2969	1.559	.2214	1.486	$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$	4.234	6.457	6.144	9.266	1.456*	3.572**	3.708**
(3.309)	(1.402)	(1.312)	(.9852)	(.8501)	(.7545)	(.8907)	(.7298)	(.5794)	(.5082)	(.9753)	(.8683)	(.8958)	(1.372)		
[372]	[372]	[372]	[372]	[372]	[248]	[124]	[372]	[372]	[372]	[372]	[372]	[248]	[124]		
$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$	5.545	-1.603	-1.177	-.6405	.427	.5934	.5081	$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$	1.625	7.163	7.148	9.013	2.156	5.073**	6.301**
(6.489)	(1.865)	(1.217)	(1.139)	(1.059)	(.8744)	(1.027)	(.8477)	(.6904)	(.606)	(.8977)	(2.126)	(.9326)	(1.483)		
[248]	[248]	[248]	[248]	[248]	[248]	[124]	[248]	[248]	[248]	[248]	[248]	[248]	[124]		
$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$	-.217	-1.435	-.4956	.6049	.9633	.9348	$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$	5.805	7.178	13.07	6.835	7.511**	6.733**		
(1)	(3.121)	(1.966)	(1.54)	(1.545)	(1.071)	(1.108)	(1)	(7.866)	(6.909)	(15.42)	(13.93)	(1.599)	(1.589)		
[0]	[124]	[124]	[124]	[124]	[124]	[124]	[0]	[124]	[124]	[124]	[124]	[124]	[124]		

(e) Within Change - Horizontal							(f) Within Change - Vertical								
	Mergers _{1,1}	Mergers _{1,2}	Mergers _{1,3}	Mergers _{1,4}	Mergers _{1,5}	Mergers _{1,6}	Mergers _{1,1}	Mergers _{1,2}	Mergers _{1,3}	Mergers _{1,4}	Mergers _{1,5}	Mergers _{1,6}	Mergers _{1,7}		
$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$	-.9229	.7385	.4064	-.331	-.9629	-1.059*	-1.163	$\frac{MP_{1,t}^{MVO}}{X_{1,t}^{MVO}}$	-1.419**	-.7958**	.2733	.4671	-.4608	-3.355**	-3.539**
(1.968)	(.9332)	(.5946)	(.4748)	(.6252)	(.5781)	(.799)	(.3041)	(.1622)	(.2595)	(.3065)	(.5941)	(.5285)	(.705)		
[868]	[744]	[620]	[496]	[372]	[248]	[124]	[868]	[744]	[620]	[496]	[372]	[248]	[124]		
$\frac{MP_{1,t}^{MVO}}{X_{$															

Table C67: Cumulative lagged large mergers and sales weighted materials markups by nature of overlap - II

	Mergers _{1,1}	Mergers _{1,2}	Mergers _{1,3}	Mergers _{1,4}	Mergers _{1,5}	Mergers _{1,6}	Mergers _{1,7}	Mergers _{1,1}	Mergers _{1,2}	Mergers _{1,3}	Mergers _{1,4}	Mergers _{1,5}	Mergers _{1,6}	Mergers _{1,7}	
$\frac{MP_{1,t}^{MP}}{X_{1,t}^{MP}}$	-3.757*	-1.61	-.5902	-.0876	-.4223	-.0289	-.4872	$\frac{MP_{1,t}^{MP}}{X_{1,t}^{MP}}$	-.1838	-.1178	.5159	.6139	1.164*	1.307	1.754
	(1.858)	(.9746)	(.639)	(.6006)	(.7662)	(.9381)	(1.732)	(.9013)	(.8291)	(.5389)	(.5034)	(.6084)	(.8924)	(1.343)	(1.434)
	[868]	[744]	[620]	[496]	[372]	[248]	[124]	[868]	[744]	[620]	[496]	[372]	[248]	[124]	[124]
$\frac{MP_{1,t}^{MP}}{X_{1,t}^{MP}}$	-3.604*	-2.905*	-1.446	-.7264	-.5811	-.5106	4.164	$\frac{MP_{1,t}^{MP}}{X_{1,t}^{MP}}$	-.7895	-.7065	-.0337	.7413	2.503*	2.549	2.777
	(2.141)	(1.704)	(1.134)	(.8988)	(1.338)	(1.493)	(2.699)	(1.152)	(1.377)	(1.223)	(.701)	(1.21)	(1.717)	(1.821)	(2.121)
	[744]	[744]	[620]	[496]	[372]	[248]	[124]	[744]	[744]	[620]	[496]	[372]	[248]	[124]	[124]
$\frac{MP_{1,t}^{MP}}{X_{1,t}^{MP}}$	-2.404	-1.408	-1.156	-1.224	-1.443	-.8556	-1.279	$\frac{MP_{1,t}^{MP}}{X_{1,t}^{MP}}$	-3.59**	-2.103*	-2.226*	-1.635*	.649	3.119	4.466
	(4.332)	(2.556)	(1.869)	(1.189)	(1.263)	(1.697)	(2.68)	(1.244)	(.9317)	(1.097)	(.8156)	(1.245)	(2.713)	(3.372)	(3.72)
	[620]	[620]	[620]	[496]	[372]	[248]	[124]	[620]	[620]	[620]	[496]	[372]	[248]	[124]	[124]
$\frac{MP_{1,t}^{MP}}{X_{1,t}^{MP}}$	-7.235	-2.716	-.983	-1.353	-.5514	5372	.78	$\frac{MP_{1,t}^{MP}}{X_{1,t}^{MP}}$	-.4842	-2.226*	-2.371*	-2.443*	-.8164	2.89	3.653
	(5.302)	(3.902)	(2.723)	(1.91)	(1.797)	(2.31)	(3.207)	(1.167)	(1.032)	(1.308)	(1.063)	(1.412)	(2.758)	(3.683)	(3.68)
	[496]	[496]	[496]	[496]	[372]	[248]	[124]	[496]	[496]	[496]	[496]	[372]	[248]	[124]	[124]
$\frac{MP_{1,t}^{MP}}{X_{1,t}^{MP}}$	.088	-3.494	-.6498	-.8591	-1.177	-.1497	2.02	$\frac{MP_{1,t}^{MP}}{X_{1,t}^{MP}}$	-.5217	-.9169	-.849	-1.315	-1.634	.8887	3.278
	(8.412)	(5.198)	(4.941)	(3.326)	(2.647)	(2.948)	(3.947)	(1.458)	(1.039)	(1.58)	(1.448)	(1.278)	(2.521)	(3.574)	(3.74)
	[372]	[372]	[372]	[372]	[372]	[372]	[372]	[372]	[372]	[372]	[372]	[372]	[248]	[124]	[124]
$\frac{MP_{1,t}^{MP}}{X_{1,t}^{MP}}$	-5.355	.7575	-.482	-1.34	-1.929	-1.57	-1.056	$\frac{MP_{1,t}^{MP}}{X_{1,t}^{MP}}$	3.364**	2.01*	.9184	-.2019	-1.272	-.715	1.216
	(15.4)	(11.37)	(7.941)	(6.449)	(4.341)	(3.761)	(4.736)	(1.075)	(1.021)	(1.601)	(2.008)	(1.699)	(2.372)	(3.097)	(3.72)
	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[248]	[124]
$\frac{MP_{1,t}^{MP}}{X_{1,t}^{MP}}$		-6.122	3.627	-.7247	-1.259	-1.883	-1.357	$\frac{MP_{1,t}^{MP}}{X_{1,t}^{MP}}$		2.224	1.401	-1.034	-4.223	-.6564	-.129
	()	(14.52)	(12.2)	(9.239)	(7.848)	(5.384)	(5.517)	()	(1.465)	(1.928)	(2.49)	(2.697)	(3.802)	(3.188)	(3.72)
	[0]	[124]	[124]	[124]	[124]	[124]	[124]	[0]	[124]	[124]	[124]	[124]	[124]	[124]	[124]

(a) Aggregate Change - Horizontal-and-Vertical

(b) Aggregate Change - No Overlap

(c) Stayers Change - Horizontal-and-Vertical

(d) Stayers Change - No Overlap

(e) Within Change - Horizontal-and-Vertical

(f) Within Change - No Overlap

(g) Between Change - Horizontal-and-Vertical (h) Between Change - No Overlap
 Note: this table shows the result of a regression on the MP decomposed change in markups defined in the first column over the cumulative proportion of mergers over the period that starts the number of years indicated in the column and ending one period before the last year of markup change. All regressions control for year effects and one-digit industry effects. All regressions are weighted by mean total sales per year in the three digit industry. All regressions are clustered at the two-digit level and there are 59 two-digit industries in the sample.

Each regression includes horizontal, vertical, no-overlap, and horizontal-and-vertical mergers. Materials markups are defined as in Equation (7), using the output elasticity of materials against the adjusted materials share of sales. The decompositions are defined in the following equations: Aggregate Change (22), Stayers Change (23), Within Change (24), and Between Change (25). We do not provide individual coefficients entry or exit individually these regressions due to confidentiality concerns; the measures are included in the main regressions to remain consistent with other results provided in this paper. Standard errors are in parentheses and the number of observations are in brackets below the coefficients. † $p < .1$, * $p < .05$, ** $p < .01$, *** $p < .001$. Source: authors' calculations based on NT and UNU-WIDER (2023).