

Aggregate Labor Share and Tax Havens: Things are not always what they seem

Margarita Lopez Forero¹

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ABSTRACT

We study the impact of multinational enterprises' (MNEs) presence in tax havens on income inequalities between labor and capital by measuring its contribution to the dynamics of the aggregate labor share in France over 1997-2014. A difference-in-differences and a panel-event study are implemented to analyze the effect of firm entry in tax havens on firms' labor share and on each of its components. The average firm labor share experiences an increase by 2.6% over the immediate years following the establishment in a tax haven, given that domestic value added drops by 11.4%. This drop is due both to a real decline (60% of the effect) and to a mismeasurement (40% of the effect). The labor share increases despite an 8.8% decrease in its numerator, total wage bill, when MNEs enter a tax haven. Additionally, the total wage bill drop is explained by a decline in employment (-8.5%) rather than a decline in average firm wages, on which there is no effect. The mechanism at play is the "opacity effect" instead of the "tax effect" as the job cuts and tax haven entry nexus is not explained by an increase in capital intensity but rather by a restructuring decision triggering collective layoffs procedures, which are strongly regulated in France. We show that these developments are exclusively related to foreign investments in tax havens and not to other foreign investments. Given these firms' weight in the economy, we find that the presence of MNEs in tax havens accounts for around 10% of the observed increase in the aggregate share of labor in France between 1997-2014.

Keywords: Tax Havens, Labor Shares, Profit Shifting FDI, Inequalities.

JEL classification: D33, F23, H26, H87, F66

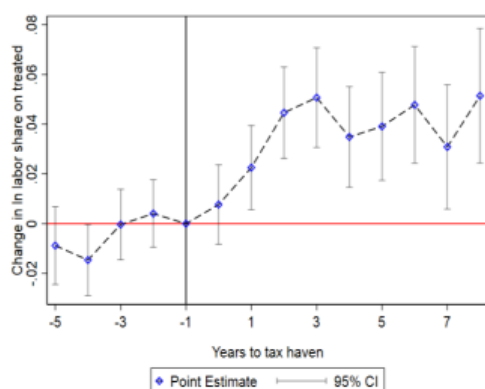
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NON-TECHNICAL SUMMARY

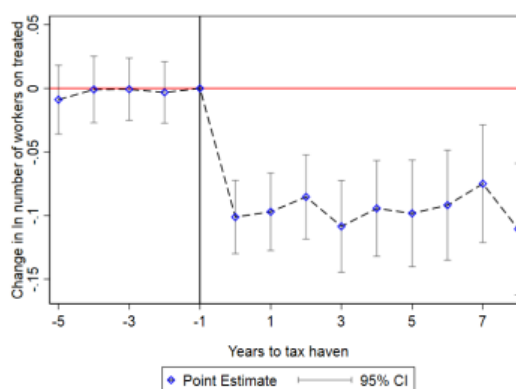
This paper investigates the impact of multinational enterprises' (MNEs) use of tax havens on the aggregate labor share of added value, a key measure of inequality. The labor share is defined as the ratio of the total wage bill to value added, and the study explores how MNEs' tax haven presence affects both the numerator (the wage bill) and the denominator (value added) of this ratio. Using firm-level data from France between 1997 and 2014, the paper provides a detailed analysis of how entry of French MNEs in tax havens alters the distribution of income between workers and shareholders at the aggregate level.

The findings reveal two distinct mechanisms by which tax haven entry affects the labor share. First, the "tax channel," extensively discussed in the literature, explains how profit-shifting reduces the value added reported in high-tax jurisdictions, artificially inflating the labor share in these countries. Second, the paper uncovers a novel "financial opacity channel," through which tax havens allow MNEs to circumvent costly labor regulations and restructure their operations, leading to significant reductions in employment. The analysis shows that, at the micro level, an MNE's entry into a tax haven is associated with an average increase in its labor share of 2.6%. However, this increase masks competing effects. Firms experience an 11.4% decline in value added, partly due to profit-shifting, accounting for 40% of the effect, and partly due to reduced real activity, accounting for the remaining 60%. Simultaneously, the total wage bill decreases by 8.8%, driven almost entirely by a sharp decline in employment (-8.5%), while average wages remain unchanged. The paper proposes a methodology to map the micro-level estimates to the macro-level change in the labor share, whereby MNE's usage of tax havens explains 0.49 basis points (bp) of the increase of the aggregate labor share in France over 1997-2014. Given that the observed change of the aggregate labor share over 1997-2014 is 5.16 percentage points (pp), 0.49 represents around 10% of the observed increase in France's aggregate labor share during the sample period.

(a) Tax haven entry and labor share



(b) Tax haven entry and employment



Note: Plot of estimated coefficients of year dummies indicating the distance to the event of interest: entry in a tax haven.

The "financial opacity channel" highlighted in this paper is novel in the sense that it reveals a real effect on employment, whereas prior literature had focused on how opacity allows reducing profits on which workers bargain their wages. By providing financial secrecy, tax havens enable firms to artificially demonstrate a decline in sales, which, under French labor law, can justify collective layoffs. Beyond allowing the firm to justify a collective layoff procedure, it allows firms to reduce the costs associated to these as they depend on the firms' profits. The paper also finds no evidence that the employment reductions associated with tax haven entry are linked to increased capital intensity, reinforcing the argument that these reductions stem from systematic firm restructuring enabled by financial opacity and not by a decline in the cost of capital following the decline in taxes paid by the

firm. In summary, this study contributes to the literature by demonstrating that MNEs' use of tax havens has significant effects on the aggregate labor share through both the tax channel and the financial opacity channel. These findings have important implications for understanding the relationship between global finance and labor market outcomes.

Paradis fiscaux et part du travail dans la valeur ajoutée au niveau agrégé

RÉSUMÉ

Cet article étudie l'impact de l'implantation des firmes multinationales (FMN) dans les paradis fiscaux sur les inégalités de revenus entre le travail et le capital, en mesurant leur contribution à la dynamique de la part du travail dans la valeur ajoutée (VA) au niveau agrégé en France sur la période 1997-2014. Une analyse des « différences dans les différences » ainsi qu'un panel *event-study* permet d'examiner l'effet de l'implantation des FMNs dans les paradis fiscaux sur la part du travail dans la VA ainsi que sur chacune de ses composantes. En moyenne, la part du travail des entreprises augmente de 2,6 % dans les années suivant leur implantation dans un paradis fiscal, alors que la VA domestique diminue de 11,4 %. Cette diminution résulte à la fois d'un déclin réel, représentant 60 % de l'effet, et d'un biais de mesure, contribuant aux 40 % restants. La part du travail dans la VA augmente malgré une baisse de 8,8 % de son numérateur, la masse salariale totale, lorsque les FMN s'installent dans un paradis fiscal. De plus, cette baisse de la masse salariale s'explique par une diminution de l'emploi (-8,5 %) plutôt que par une réduction des salaires moyens des entreprises, qui ne subissent aucun effet. Le mécanisme que cet article met en lumière est celui de « l'opacité financière » plutôt que celui du « coût du capital », car le lien entre les suppressions d'emplois et l'entrée dans un paradis fiscal ne s'explique pas par une augmentation de l'intensité capitalistique, mais plutôt par une décision de restructuration déclenchant des procédures de licenciements collectifs, fortement réglementées en France. Par ailleurs, ces évolutions sont exclusivement liées aux investissements dans les paradis fiscaux et non à d'autres formes d'investissements directs à l'étranger. Compte tenu du poids de ces entreprises dans l'économie, cet article constate que la présence des FMN dans les paradis fiscaux représente environ 10 % de l'augmentation observée de la part du travail dans la VA agrégée en France entre 1997 et 2014.

Mots-clés : paradis fiscaux, part du travail dans la valeur ajoutée, IDE, transfert des profits, inégalités.

Classification JEL : D33, F23, H26, H87, F66.

Les Documents de travail reflètent les idées personnelles de leurs auteurs et n'expriment pas nécessairement la position de la Banque de France. Ils sont disponibles sur publications.banque-france.fr

1 Introduction

The growing discontent with globalization among citizens has crystallized after the Great Recession and has fueled the crisis of multilateralism that we face today. An important factor behind the growing discontent of globalization in developed countries is the perception that it has widened inequalities between the elites, who largely benefit from it, and the rest of the society. Particularly, globalization, and more specifically, financial globalization, is perceived as an unfair process where equality of individuals and firms before taxation is trampled given that the wealthiest individuals -and firms - are able to benefit from international tax optimization. Given that global finance comes with the threat that capital flies away to countries with a more attractive fiscal environment, governments are constrained to carry out public policies that limit this threat. However, the response to this threat has, so far in many cases, resulted in a 'race to the bottom' in terms of taxation and capital regulation. The fall of more than half in the global average statutory corporate tax rate in the past three decades may end up exacerbating inequalities.¹

In this sense, proper measurement of the effects of global finance on inequalities is crucial in the decision-making when considering the trade-offs of corporate taxation and capital account openness. Based on the French case, this paper sheds light on the issue by focusing on the impact of multinational enterprises' (MNEs) usage of tax havens on one specific type of inequality, the aggregate labor share of added-value. Indeed, inequalities related to MNEs' usage of tax havens are usually understood as an unequal tax burden, as this implies that the wealthiest are able to reduce their effective tax rates.² Here we show that it also alters MNEs' labor share, and thus, given these firms' weight in the economy, the way in which income is distributed between workers and shareholders at the aggregate level. Our contribution is threefold: 1) Our findings highlight the different mechanisms through which MNEs' presence in tax havens affects both the numerator (wage bill) and the denominator (value added) of the labor share at the micro level.³ 2) Beyond the standard tax channel, we uncover a novel "financial opacity channel" whereby the use of tax havens by MNEs impacts the labor share by reducing employment. 3) We assess the contribution of MNEs' use of tax havens to the evolution of the aggregate labor share of income in France.

Our results are summarized as follows. Using French firm-level data over 1997 and 2014, we implement a standard difference-in-differences (DiD) with variation in firm entry in tax havens. We propose a micro-to-macro mapping using our firm-level regression estimates to calculate the aggregate effect on the labor share. At the micro level, we find that when an MNE goes to a tax haven, its labor share increases on average by 2.6%. At the macro level, this represents 10% of the observed increase in the aggregate labor share in France over the sample period. Nonetheless, this is the result of two competing effects at the micro level, one on the denominator and the other on the numerator of the firm labor share. On the one hand, the firms' value added (denominator) experiences an average drop by 11.4%, which is partly explained by profit-shifting and partly by a decline in real activity – accounting, respectively for 40 and 60% of the decline in value added. On the other hand, the total wage bill decreases on average by 8.8% when MNEs enter a tax haven (numerator). This effect is almost essentially due to a strong decline in employment, equivalent to -8.5%, rather than a decline in average firm wages, which are not altered. Our results are robust to a placebo test and to control variables accounting for alternative explanations for a positive evolution of MNEs' labor share. Given that the tax haven

¹Indeed, [Clausing et al., 2020] document how the global average statutory corporate tax rate between 1985 and 2019 has passed from 49% to 23%.

²See [Tørsløv et al., 2022].

³The labor share is equal to the ratio of the total wage bill of the firm to its value added. In turn, the total wage bill can be expressed as the product of average wages and the total number of workers.

entry is not an exogenous decision we implement a panel event-study design in order to inspect the pre-trends and we restrict our analysis to an almost balanced panel. This significantly alleviates concerns about omitted variable bias, alternative explanations and composition effects. The results allow us to be confident about the identification of the parameter associated to tax haven entry. Finally, we show that the job cuts and tax haven entry nexus, is not explained by an increase in capital intensity but rather by a systematic firm restructuring, which is specific to MNEs in tax havens. Tax haven entry triggers mass layoff procedures and the conditions that enables them.

The existing literature on public finance has focused on the denominator of the labor share and the "tax channel" ([Guvenen et al., 2022] and [Tørsløv et al., 2022]). MNEs can geographically disentangle production, value creation and profits among different affiliates. They can artificially book value added in tax haven affiliates in order to reduce their tax bill in a given country (country A). This reduces the income they register in country A. The measured labor share in the production affiliate in country A will thus artificially look higher: for the same level of wage bill (numerator), the declared income is decreased (denominator). Hence, MNEs' ability to shift profits to low-tax jurisdictions leads to an overestimation of the labor share in high tax economies (and an underestimation in low tax economies). Additionally, this overestimation at the micro-level has aggregate consequences given that profit-shifting is concentrated in a handful of very big firms.⁴

Focusing on France, we uncover a new "financial opacity" channel in addition of this "tax" channel. In contrast to many other advanced economies, France has seen an increase in its labor share over the past two decades, as documented by [Bauer and Boussard, 2020]. Our findings suggest that 10% of the observed rise of the aggregate labor share in France over 1997-2014 is due to MNEs' presence in tax havens. However, we show that beyond the "tax channel", which overestimates the labor share (negative effect on the denominator), MNEs' presence in tax havens translates into a significant decline in the number of workers, and, consequently, in the labor share (negative impact on the numerator). This means that activity in France declines and this should also have a negative effect on value added. However, given the data at our disposal, it is not possible to disentangle one effect from the other on the value added. We rationalize these findings by uncovering this new "financial opacity" channel, which allows firms to circumvent costly employment protection regulation in France. Indeed, tax havens provide, beyond low taxation, financial secrecy for firms, which in turn allows them to circumvent all types of rules and not only those related to taxation. In order to test this hypothesis, we show that MNEs' use of tax havens also increases the probability of carrying out a mass layoff procedure. Employment protection in France can be very costly for firms who want to offshore production, as mass layoffs are strongly regulated: they require an approval by a judge and the cost of the procedure depends on the firms' financial means.⁵ Financial opacity in tax havens can allow firms to show an artificial decline in sales in France. Unlike a decline in profits, a decline in sales over 3 quarters, is enough for the judge to approve the mass layoff procedure. This is important given that profit-shifting does not necessarily involve a decline in sales. Hence, financial opacity allows firms to motivate mass layoffs in front of the judge, and once approved, it makes the procedure less expensive. The financial opacity channel and its effects on wages have already been

⁴Indeed, a recent paper by [Martin et al., 2020] explores the contribution of tax avoidance to sales concentration, implying that offshore profit-shifting allows firms to become even larger and supporting the idea that tax avoidance is a granular phenomenon.

⁵Nonetheless, since 2017, the law significantly reduced the regulation related to mass layoffs, making the procedure easier and hence, less expensive. See Articles L1233-61 à L1233-64 of the French Labor Code.

studied theoretically by [Krautheim and Schmidt-Eisenlohr, 2016] and supported empirically by [Souillard, 2020] using US MNEs, where profit-shifting compresses wages as it reduces the profits on which workers claim wage bargaining power. However, the impact of financial opacity on employment has not yet been documented in the literature, despite being well known by trade unions and practitioners.⁶

The regulation of international corporate taxation is being re-thought globally. In this context, it is crucial understanding how profit-shifting and more broadly the mere existence of tax havens -which often go hand in hand with lack of financial transparency - affect workers and other stakeholders, aside from shareholders.⁷ The remaining of the paper is organized as follows: in the next section we discuss the closely related literature, in section 3 we present our data and some descriptive statistics on the evolution of the labor share in France and its relation with MNEs' presence in tax havens. In section 4 we present our baseline empirical analysis on the firm labor share and on its different components, scrutinize the identification strategy, and assess the dynamics of the tax haven presence effect. section 5 inspects the mechanisms at play. Finally, we link our micro-level results with aggregate changes in the labor share in France in section 6 and section 7 concludes.

2 Related literature

On aggregate labor share evolution and inequalities. The evolution of the labor share of value added has gained important attention among academia and policymakers in recent years as there has been an increased interest on inequality, its roots and consequences. The labor share measures how income is distributed between capitalists and workers and for a long time macroeconomic models have considered both, the labor and the capital share of value added as constant. One of the famous stylized fact established by [Kaldor, 1957] was that the shares of national income received by labor and capital are roughly constant over long periods of time, with $2/3$ for the former and $1/3$ for the latter. Keynes himself thought that the stability of this ratio was "miraculous". The downward trend of this share in many advanced economies has been highlighted in recent work such as [Karabarbounis and Neiman, 2014], [Piketty and Zucman, 2014] and, more recently, in [Autor et al., 2020]. Since then a literature around the debate on the decline of the labor share of value added and its causes has largely developed. [Elsby et al., 2013] emphasize the importance of import competition and delocalizations, [Acemoglu and Restrepo, 2018] show that capital-based technological change and automation is an important channel while [Autor et al., 2020] attribute the fall of the labor share to the rise of "superstar firms", whose low labor shares increasingly weight more due to their increasing market shares. While [De Loecker et al., 2020] argue for the increased markups and the rise of market power exerted by "superstar firms". The fall of the aggregate labor share might also be due to compositional effects due to rising housing returns, as argued by [Gutiérrez and Piton, 2020]. Additionally, this trend is not necessarily observed in every country and period and it may also strongly differ between different firms, as pointed out by [Autor et al., 2020]. In this

⁶See for instance: the TUAC ([Tyrala and Habbard, 2016]) claiming that corporate complexity affects workers by compressing their "remuneration, non-wage benefits, the coverage and quality of the collective bargaining agreement, as well as information and consultation rights; the ETUC (<https://www.etuc.org>) who denounces the "use of shell entities for the circumvention of tax, social security and employment obligations, and criminal activities.", and [Rilov and Eychenne, 2019] who detail the different techniques that MNEs in France have used in order to carry out mass layoffs and avoid paying severance payments to employees.

⁷See the Financial Secrecy Index from the Tax Justice Network for details on the connection between financial transparency and tax havens: <https://fsi.taxjustice.net/en/>.

paper, we examine the contribution of MNEs' profit-shifting to tax havens to the evolution of the labor share. In the same way as [Guvenen et al., 2022] and [Tørsløv et al., 2022], we argue that the share of income that rewards labor is overestimated in high tax countries and therefore, inequality between shareholders and workers is understated.

On evidence of profit-shifting by MNEs and mismeasurement. The academic literature and statistical offices have extensively documented measurement issues that are related to tax evasion and that affect official statistics, such as GDP (and thus, factor shares), and those relating to the external sector statistics such as the balance of payments (BOP) and the international investment position (IIP).⁸ In the specific case of the labor share, [Guvenen et al., 2022] use a *formulary apportionment* technique to evaluate the contribution of US MNEs offshore profit-shifting to the measurement of different aggregates from 1982 to 2016.⁹ Their findings suggest that, on average, 38% of income attributed to affiliates abroad is reattributable to the US, which exacerbates the observed decline of US labor share over the period. [Tørsløv et al., 2022] document how MNEs are systematically more profitable in low tax jurisdiction countries than in other places, and they are even much more profitable than domestic firms in low tax countries. Exploiting these tax generated anomalies, they estimate that around 36% of global profits in 2015 are shifted to tax havens and revise official statistics adjusted by profit-shifting. Their proposed database reports adjusted GDP, trade balance and factor shares, documents how activity is significantly understated in high tax countries. In particular, their estimates suggest that the European corporate capital share has increased twice as much as recorded in official national accounts since the early 1990s, an important finding in light of the literature arguing that when real estate is excluded, labor shares in Europe may not have declined since the 1970s.¹⁰

On inequalities, rent sharing and profit-shifting. To the best of our knowledge, only three additional papers study the effect of profit-shifting on wages. On the one hand, [Krautheim and Schmidt-Eisenlohr, 2016] analyze, theoretically, rent-sharing between workers and firms in a context of international tax competition. They argue that as rent-sharing reduces profits, firms have an incentive to shift profits when workers imperfectly observe shifted surplus, reducing workers bargaining power and wages. On the other, [Souillard, 2020] studies how profit-shifting affects wage inequality between different workers using US listed MNEs. He finds that profit-shifting increases executives' compensation while it compresses compensation for the rest of employees. More recently [Alstadsæter et al., 2022] find a profit-shifting premium on wages in the case of Norwegian MNEs; they argue that profit-shifting acts like a tax cut increasing rent-sharing within firms present in havens and therefore increasing between-firm inequalities.

On tax havens and employment. Last but not least, the literature on the employment effects of profit-shifting, tax havens, and particularly financial secrecy, is even scarcer. A handful of papers study the real effects of profit-shifting and find a positive relation between the latter and employment. The intuition behind this relation lies in the idea that lower tax rates reduce the cost of capital, which in turn increases real investments and employment. In this sense, by studying different policies that aim at limiting profit-shifting, a negative effect is uncovered for domestic employment by [Suarez-Serrato, 2018] for the US, by [Bilicka et al., 2022] for the UK, and by [Buettner et al., 2018] for German subsidiaries in high-tax countries. In the same vein,

⁸See [Bricongne et al., 2023] for a more detailed review of the literature on the mismeasurement at the aggregate level related to profit-shifting.

⁹More specifically, they apportion the worldwide income of MNEs who are headquartered in the US to locations where they have operations, based on a combination of labor inputs and sales to unaffiliated entities.

¹⁰See [Gutiérrez and Piton, 2020].

[Souillard, 2022], by focusing on US MNEs' entry in tax havens, finds a positive relation between tax haven entry and global employment of these MNEs. All these studies emphasize the "tax effect" of tax havens, yet very little is known about the effect of secrecy and opacity in tax havens on employment. The present paper emphasizes this channel.

Finally, a third channel, "substance requirements channel" is explored by [Lopez-Forero and Michallet, 2024] and [Davies and Scheuerer, 2024], who also find a negative effect of tax haven usage on local employment for France and Norway, respectively. The authors argue that MNEs relocate some employment in tax havens in order to justify their presence in these jurisdictions.

3 Data and stylized facts

3.1 Sources

Our data main data sources for firms domiciliated in France come from the FICUS and FARE bases and are made available by the French national statistical institute (INSEE) and the public finances directorate (DGFIP). These bases are drawn from fiscal files and no firm size threshold determining the inclusion/exclusion is applied. Hence, there is full coverage of French firms given that every firm is subject to compulsory reporting with fiscal authorities. The FICUS-FARE base contains balance sheet information on value added, employment, capital, depreciation, investment, the wage bill, materials, four-digit sector the firm belongs to, etc. that are important in estimating productivity and labor share. In addition, a unique firm identifier is associated to each firm (siren number) which is used to link it to other French databases (LIFI and DADS) which we use in order get yearly information on the firms' bilateral international trade, the firms' bilateral presence in a foreign country (and in a tax haven), and on the detailed composition of the firms' workforce and wage bill in France.

The LIFI data is the "financial linkages base" (Liaisons Financières) which comes from the INSEE. More specifically, it provides information about the composition of economic groups through firm's ownership relations (foreign and domestic) of companies residing in Metropolitan France and French overseas departments. Although the base has a good coverage, it is not exhaustive in the sense that it is constructed by applying different thresholds. More specifically, it includes firms verifying at least one of the following conditions: having more than 500 employees, holding equity securities above 1.2 million euro, having a turnover of more than 60 millions euro, being the parent of a group or being held by foreign capital in the previous year. The survey is complemented with additional administrative sources (DIANE) in order to ensure a better coverage of smaller groups. The relevant information that we can extract from this base is the position of the firm within the group (parent, subsidiary), the list of subsidiaries abroad as well as their nationality, the nationality of the parent when a French firm is a subsidiary of a foreign company and the amount of direct participations of the main shareholders.

The DADS database (Déclaration annuelle de données sociales) which is provided by the INSEE, is based on mandatory annual reports filled by all firms with employees; it contains annual hours paid in a firm, as well as the number of workers employed by different socio-professional occupation types from which we determine the share of skilled labor in the firm.

Finally, the base "Base accords collectifs", from the Ministry of Labor (DARES) contains company collective agreements data and is based on information provided by the territorial units

Table 1: Main descriptive statistics by type of firm

	Domestic	MNE non tax haven	MNE Tax haven	Mean	Median
Labor Share	0.76	0.83	0.83	0.76	0.74
ln TFP	-0.03	0.11	0.09	-0.03	-0.02
Labor productivity	36.65	62.03	63.62	37.00	30.10
Employees	10	154	371	13	3
Sales	1 758	44 114	73 454	2 503	285
Intangible shares	0.24	0.21	0.23	0.24	0.07
Share of skilled workers	0.07	0.27	0.26	0.06	0.00
Export intensity	0.02	0.20	0.18	0.02	0.00
N firms	2 302 261	33 302	18 490	-	-
N obs	17 555 154	178 269	79 724	-	-

Note: Sales in thousand euro, Labor product. (ALP) is real value added per hours worked.

ln TFP is constructed based on an index number approach (Caves et al. 1982).

Source: FICUS-FARE et LIFI.

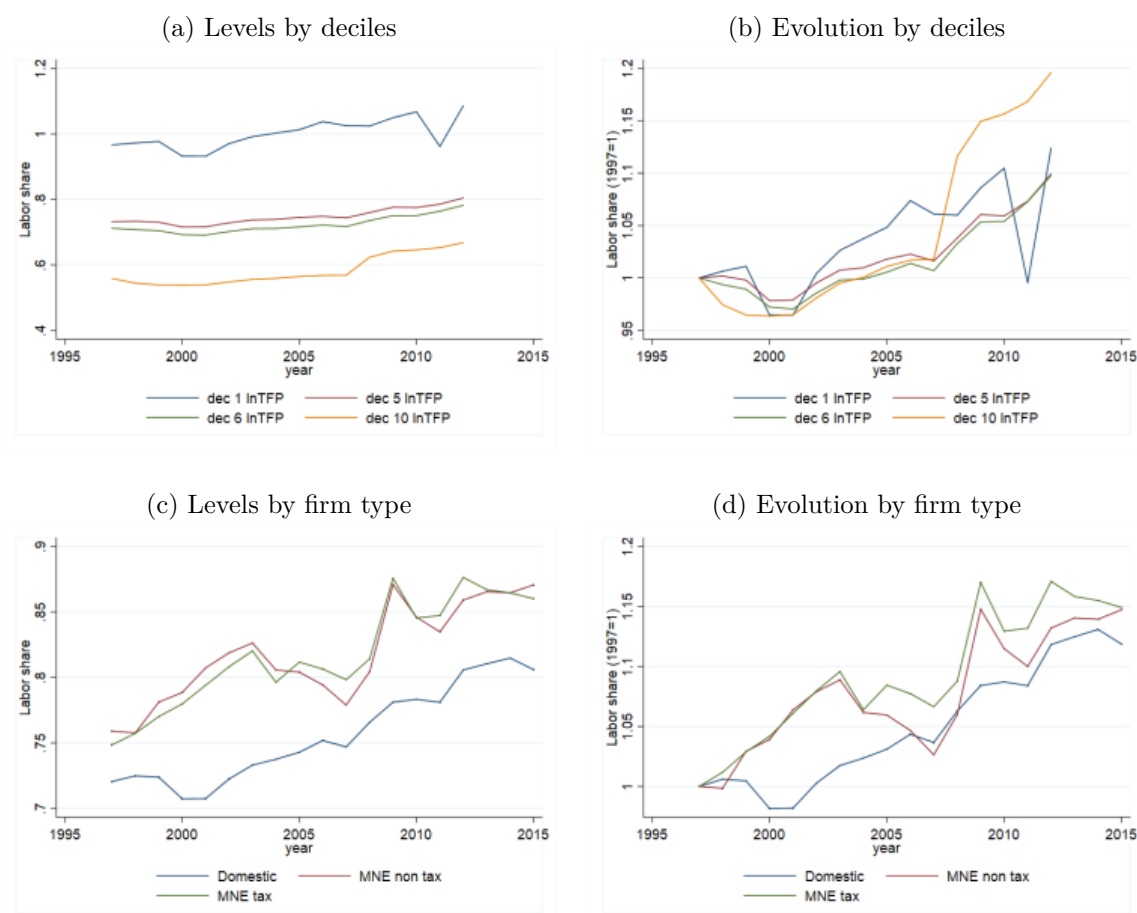
of the Direcctes (Regional Directorate for Business, Competition, Consumer Affairs, Labor and Employment). The administrative services of the Ministry of Labor identify and record certain characteristics of company agreements. In accordance with Articles L.2231-5 to L.2231-7 of the French Labor Code, in order to be valid, a company collective agreement must be filed at the end of the opposition period with the Direccte of the place of signature. It must also be filed with the clerk of the industrial tribunal. The relevant information that we extract from this base is whether among these company collective agreements, there has been at least one agreement concerning a mass layoffs procedure, that is a *Plan de sauvegarde de l'emploi* (PSE).

3.2 Data at a glance

In the specific case of France, the aggregate labor share declined in the late 90s but then started increasing from the early 2000s. However, the speed of this progression is far from homogeneous across different firms. Panels (a) and (b) in Figure 1 depict the evolution of the observed labor share of French firms over 1997-2015 according to their location on the productivity distribution. The increase in labor share is steeper for highly productive firms that typically exhibit lower labor shares in level, which is a trend that has also been documented by [Bauer and Boussard, 2020]. Furthermore, despite the clear positive trend among all firms, when we separately depict the evolution of the labor share for domestic firms and for multinational firms in panels (c) and (d) of Figure 1, it can be observed that it is strongly influenced by MNEs. Additionally, it appears that this progression is the strongest for MNEs based in France and with a presence in a tax haven¹¹.

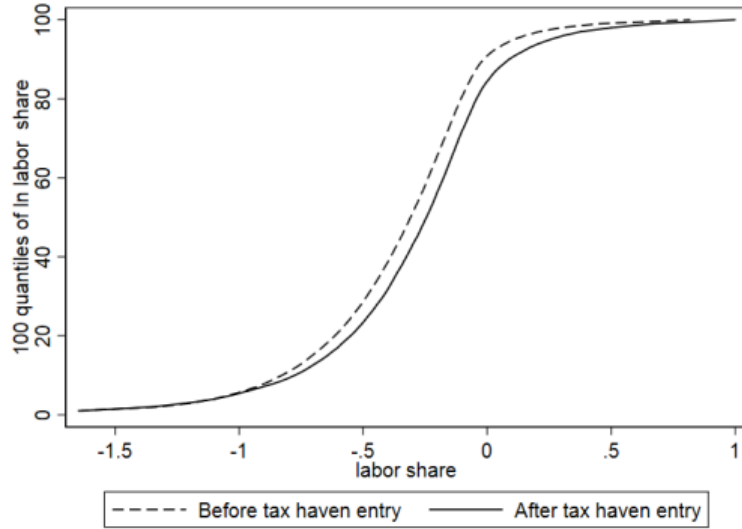
¹¹Following the IMF list, which is presented in the Appendix A.

Figure 1: Average labor share by deciles and firm type



Source: Ficus-Fare.

Figure 2: Labor share distribution and tax haven entry



Beyond averages, changes in the whole distribution of the labor share can also be analyzed when firms enter a tax haven. This is done in Figure 2, where the dashed line depicts the cumulative distribution function (CDF) of the labor share of firms before their entry in a tax haven and the solid line depicts the CDF of the labor share after the tax haven entry. The latter clearly lies at the right of the former, which means that the labor share CDF after firms enter a tax haven stochastically dominates the labor share CDF before firms' tax haven entry. This dominance is also confirmed by a Kolmogorov-Smirnov test of equality of distributions (see Table 10 in the appendix).

Finally, one way of assessing the granularity of profit shifting is to implement a decomposition of the aggregate labor share dynamics by accounting for the contribution of tax haven MNEs. More specifically, section A.3 implements a decomposition of the changes of the aggregate labor share in France, using a dynamic approach inspired by Melitz (2015) and Olley-Pakes (1996). The goal is to determine whether the aggregate increase in labor share is driven by within-firm changes, reallocation of market shares to firms with higher labor shares, or market entry and exit dynamics. The decomposition analysis shows that unlike the case in the US ([Autor et al., 2020]), most of the labor share change is driven by the within-firm component and not by the between-firm component. This means that big firms influence less the dynamics of the labor share, as the reallocation of market shares plays a secondary role.

However, excluding tax-haven MNEs significantly reduces the increase in aggregate labor share, passing from 6.6 to 4.8%. Hence, the labor share change without tax haven MNEs is around 2 percentage points lower, and it is mainly explained by the between-firm reallocation term, as shown in Table 12 in the Appendix. This suggests that tax haven MNEs, which have higher labor shares, significantly influence the increase in the labor share over the period. Although tax haven MNEs represent a small portion of the sample—around 0.7% of firms—they dominate a disproportionately large share of the market shares, influencing overall labor share dynamics. When these firms are excluded, the reallocation of market shares more strongly favors low labor

share firms, reinforcing the argument that tax haven MNEs help maintain a higher aggregate labor share. This finding points to the broader impact of tax haven MNEs on domestic value-added and labor share measurements, suggesting that profit-shifting activities may distort these figures, especially in sectors where PS like Information and Communication, where intangible assets and footloose activities facilitate PS, as shown in Table 14 in the Appendix.

In what follows, we implement a standard a DiD in order to formally evaluate the contribution of PS –through tax haven foreign direct investments (FDI)- to the increase of labor share in France at the micro-level and macro level.

4 Estimation strategy & main results

Using detailed French data on firm foreign presence by destination and on balance-sheet information and presence abroad over 18 years, we begin by estimating a standard two-way fixed effects model in order to test our central hypothesis, that is, that firm presence in a tax haven is associated with higher labor shares in France. In the baseline specification we restrict the sample to an almost balanced panel and we keep all MNEs that enter a tax haven at some point throughout the whole sample period in order to avoid composition effects and to compare firms that are alike.¹² For the sake of robustness, we also report estimations on a sample where we keep all MNEs, as well as on the unbalanced panel of tax haven MNEs.¹³ Given that firms' entry in a tax haven happens in different periods, the control group is composed by those observations of firms in those years when firms were not present in a tax haven. Next, we disentangle the tax haven entry effect by assessing its effect on each of the different components of the labor share. Results from this exercise will be used to calculate the aggregate labor share effects of tax haven presence of MNEs, which we report in section 6. Finally, we scrutinize the identification strategy by (i) inspecting the pretreatment trends with the help of a panel event study, and (ii) implementing a placebo test.

4.1 Labor share

4.1.1 Difference-in-differences

Baseline specification. We run a two-way fixed effects model, where the identification comes from pure within-firm variation over time. More specifically, we estimate the following equation,

$$\ln Labor\ share_{fst} = \beta_1 \mathbb{1}[Tax\ haven_{ft}] + \alpha Z'_{ft} + \delta_f + \delta_{st} + \epsilon_{ft} \quad (1)$$

where $\ln Labor\ share_{fst}$ is the log-ratio of the total wage bill and value added, both in nominal terms, for firm f , belonging to sector s at year t . $\mathbb{1}[Tax\ haven_{ft}]$ is an indicator of whether firm f is present in a tax haven (either with a parent or an affiliate company) in year t and 0 otherwise. Z'_{ft} is a vector of time-varying firm-level controls, including a dummy variable for MNE status, and it is equal to 1 when firm f has a foreign presence (different from a tax haven)

¹²As it has been shown in Table 1, MNEs in tax havens and those that are not in tax havens largely differ in terms of size in particular.

¹³See Tables 15 - 17 in the Appendix.

in year t and 0 otherwise, the number of foreign affiliates that the firm has at time t and its export intensity. δ_f and δ_{st} are firm and 2-digit sector \times year fixed effects. The former allow controlling for unobservable firm heterogeneity to the extent that it doesn't vary over time, while the latter account for aggregate shocks and trends that are common to all firms as well as those that are specific to each 2-digit sector, such as targeted regulations or demand and technology shocks that are sector specific. Finally, ϵ_{ft} is the robust standard error term. Given that our data cover the universe of MNEs and that our "treatment" variable of interest (i.e. presence in a tax haven) as well as the dependent variable are firm and time specific, we report robust standard errors and not clustered ones.¹⁴

We expect the coefficient of the tax haven dummy, β_1 , to be positive and significant, according to the profit-shifting hypothesis. Given that our preferred specification includes firm fixed effects, the coefficient of interest captures the differential effect within a given firm, of starting a presence in a tax haven in a given year with respect to the previous years, where she was not a tax haven MNE. We additionally report estimates of pooled regressions where no control variables and no fixed effects are included, where β_1 is interpreted as the differential effect of being a tax haven MNE with respect to the rest of MNEs. In this case, we don't necessarily expect a positive and significant coefficient given that tax haven and non-tax haven MNEs have comparable labor shares (in levels) over the sample period.¹⁵

Last but not least, we explore alternative mechanisms that could explain a positive relation between labor shares and MNE that invest in tax havens. A higher rent-sharing with workers and a higher degree of offshoring of low-skilled labor may indeed be confounding variables, providing alternative explanations for the positive and significant coefficient of the presence in a tax haven and labor shares.¹⁶ In order to rule out these confounding explanations, we include proxies for offshoring of low-skilled which is measured by a dummy accounting for foreign presence in a low-wage country and rent sharing which is measured by the share of skilled workers. We expect that by accounting for these two confounding factors, our variable of interest, tax haven MNE remains positive and statistically significant, if it is the case that tax optimization is relevant in the determination of labor shares.

Baseline results. Estimation results from our baseline specification are presented in Table 2. The first two columns display the results of a pooled regression of firm labor share on the tax haven dummy, where column (1) presents the results where year dummies are included, column (2) includes sector-year fixed effects and column (3) presents the DiD where firm fixed effects are additionally introduced. Columns (4)-(6) present the same regressions as columns (1)-(3), where additional time varying firm level controls are included. Column (6) is our preferred specification, as presented in equation (1). The main message arising from Table 2 is that, as expected, the coefficient of the tax haven dummy is positive and significant at the highest levels of acceptance across all specifications. Results for the pooled regression with time effects and the tax haven dummy in column (1), where heterogeneity between firms and sectors is not accounted for, indicates that among all the observations of MNEs that become tax haven MNEs at some point in the sample period, labor shares are on average 2.7% higher for those observations when MNEs are present in a tax haven than those when they are not.¹⁷ Only accounting for sector-year

¹⁴See [Abadie et al., 2022] for a recent contribution to when and how standard errors be clustered should.

¹⁵See descriptive statistics in Table 1.

¹⁶See for instance [Laffineur and Gazaniol, 2019] for evidence of offshored activities in low-wage countries and its effects on French wages.

¹⁷Recall that the percentage effect of a dummy in a log-linearized dependent variable is given by: $100[\exp(\beta) - 1]$, where β is the estimated coefficient of the dummy variable.

heterogeneity in column (2) results in a coefficient which is significant at the 99% confidence level and with a slightly higher magnitude, at around 2.9%. Nonetheless, these first regressions do not capture for the effect of entering a tax haven. Column (3), which additionally exploits the within-firm dimension of the panel with the firm fixed effects, suggests that when a firm becomes a tax haven MNE, its labor share increases on average by 1.8%, relative to the years before she was not present in a tax haven.

Table 2: Tax haven entry and Labor Share

	Dependent variable: ln labor share					
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Tax haven_{ft}</i>	0.0271 ^a (0.0043)	0.0292 ^a (0.0044)	0.0176 ^a (0.0045)	0.0573 ^a (0.0058)	0.0490 ^a (0.0059)	0.0257 ^a (0.0060)
<i>MNE_{ft}</i>				-0.0395 ^a (0.0051)	-0.0260 ^a (0.0053)	-0.0111 ^b (0.0054)
<i>MNE Lwc_{ft}</i>				0.0144 (0.0175)	0.0130 (0.0175)	0.0048 (0.0173)
<i>Share skilled_{ft}</i>				0.1070 ^a (0.0076)	0.0623 ^a (0.0098)	0.0193 (0.0129)
<i>Num. Affiliates_{ft}</i>				-0.0001 (0.0003)	-0.0006 ^b (0.0003)	-0.0002 (0.0003)
<i>Export intensity_{ft}</i>				-0.0753 ^a (0.0068)	-0.0849 ^a (0.0076)	-0.0712 ^a (0.0111)
<i>N</i>	52820	52782	52782	51706	51670	51670
adj. <i>R</i> ²	0.015	0.075	0.550	0.022	0.079	0.555
Firm FE	No	No	Yes	No	No	Yes
2-dig. sector X year FE	No	Yes	Yes	No	Yes	Yes
Year dummies	Yes	No	No	Yes	No	No

Robust standard errors in parentheses

^c $p < 0.10$, ^b $p < 0.05$, ^a $p < 0.001$

How robust is this effect to alternative explanations which may confound with tax haven presence and higher labor shares, such as rent sharing and offshoring of low-skilled jobs? Estimation results in the last three columns show that the effect is indeed robust as the tax haven dummy coefficient remains statistically significant at the 99% confidence level across the three specifications, with coefficients that are stronger in magnitude than without control variables. Again, exploiting the within-firm variation with the firm fixed-effects reduces the coefficient. Column (6) displays our preferred specification, where firm unobserved time invariant heterogeneity is controlled for and where results are purged out from all shocks that are sector specific, none of the alternative explanations for a positive correlation labor share and MNE is has a statistically significant effect. Columns (4) and (5), which only exploit the between-firm dimension

of the panel, show a positive and statistically significant coefficient of the dummy capturing the (between-firm) share of high skilled labor, but this effect vanishes in the within-firm specification.

As mentioned earlier, given that we cover 18 years and that firms can enter tax havens at different years of the panel, the tax haven entry treatment may also capture the changing composition of the sample. Thus, our baseline estimation keeps only those firms that are observed at least 15 years over the sample, in order to get an almost balanced panel. For the sake of robustness, we also provide estimation results on different samples in Tables 15 - 17 in the in appendix. First, on the unbalanced panel of treated firms, second, on all MNEs, including those who never enter a tax haven. Our results on the tax haven entry effect remain robust to different estimation samples. Despite our stringent estimations where with the set of fixed effects, only explanatory variables that simultaneously vary by firm and year can be identified and where all time variation that is sector specific is purged out, it is difficult to argue that our treatment variable is exogenous and thus, that it is independent of our outcome of interest. However, assessing the existence of a conditional common trend allows testing whether the dependence between our treatment assignment and the treatment-specific outcome has been removed or at least strongly reduced by conditioning on observable variables and fixed effects. To test this, we rely on an event-study design in what follows.

4.1.2 Dynamics: panel event-study design

Does the DiD design in which we rely, allow us making inference about causal effects of tax haven presence of MNEs? If unobserved confounders vary over time, our two-way fixed effect model will not fully control for bias due to omitted variables. Nonetheless, if one can show that trends in pre-treatment outcomes are the same for the control and the treated group, despite having different levels of the outcome prior to the treatment, one significantly alleviates concerns regarding omitted variables and alternative explanations. Thus, we rely on a panel event-study design to test whether the parallel trends assumption holds, so that the parameter associated to tax haven entry can get closer to a causal effect, as follows,

$$\begin{aligned} \ln \text{ Labor share}_{fst} = & \sum_{j=2}^J \sigma_j \mathbb{1}[\text{Lag } j]_{ft} + \sum_{k=1}^K \eta_k \mathbb{1}[\text{Lead } k]_{ft} \\ & + \alpha Z'_{ft} + \delta_f + \delta_{st} + \epsilon_{ft} \end{aligned} \quad (2)$$

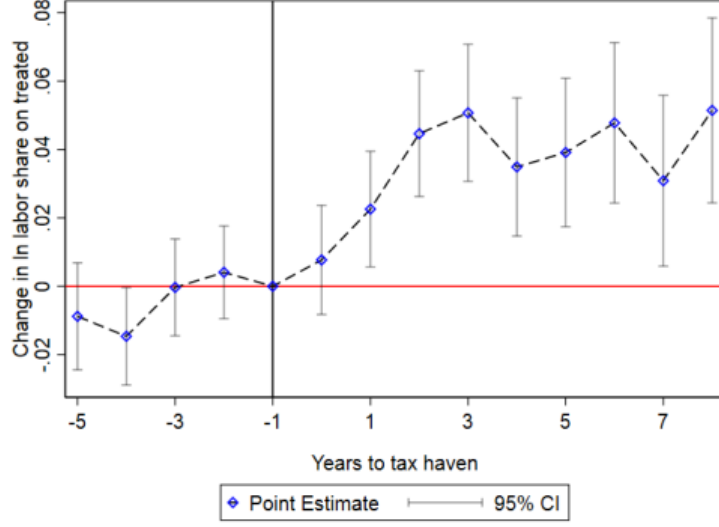
We are interested in the impact of the Event_f , which is the switch from not being present in a tax haven to being present in a tax haven, where the set of dummy variables $\text{Lag } j$ and $\text{Lead } k$ denote the distance to the Event_f of interest, which is the first entry in tax haven, are defined as follows,

$$\begin{aligned} (\text{Lag } J)_{st} &= \mathbb{1}[t \leq \text{Event}_f - J] \\ (\text{Lag } j)_{st} &= \mathbb{1}[t = \text{Event}_f - j] \text{ for } j \in \{1, \dots, J-1\} \\ (\text{Lead } k)_{st} &= \mathbb{1}[t = \text{Event}_f + k] \text{ for } k \in \{1, \dots, K-1\} \\ (\text{Lag } K)_{st} &= \mathbb{1}[t \geq \text{Event}_f + K] \end{aligned}$$

The final lags and leads accumulate lags and leads beyond periods J and K , in our case we set them equal to -6 and 9 years, respectively. As indicated in equation 2, the reference period with respect to which we compare the effect of tax haven entry is $j = 1$, which is the year before the event. As before, we include a set of time-varying observables in Z' . If the conditional common trend assumption is verified, then the coefficients on the lags should not be significantly different from zero, in which case we could be confident about giving a causal interpretation to our estimated effects. The results from this estimation are displayed in Table 18 in the Appendix and are plotted in Figure 3.

The main message arising from Table 18 and Figure 3 is that the results from the static version of the DiD are corroborated with the dynamic version. The absence of any clear pre-treatment trend for the labor share make us confident about the fact that our treatment captures the productivity effect of entering a tax haven and not any other confounding effect. On top of this, our results suggest that the tax haven entry on each of these variables of interest has strong dynamic effects, which remain statistically significant at the 99% confidence level 9 years after the event.

Figure 3: Labor share



4.2 Labor share components

In the previous subsection we tested the central hypothesis of this paper, that is that when firms book their value added in a tax haven in order to lower their tax bill, the share of income that rewards labor is overstated in the high tax country as the denominator of the labor share is underestimated. Indeed, we found evidence compatible with this hypothesis, as on average, the labor share of income immediately increases by around 2.6% when firms enter a tax haven.

One can also wonder whether the labor share of income changes due to the effect on its numerator. In other words, is the effect of tax haven presence on labor share only explained by changes in its denominator (shifted value added abroad) or does it also have an effect on the total wage bill of firms? Thus, we analyze the effect of tax haven presence on the different components of the firm labor share, which is the ratio of the total wage bill to the value added of the firm. Additionally, the effect on the numerator, the total wage bill, can be additionally decomposed into two different terms, the firm average wages on the one hand, and the total number of workers on the other. More precisely, the firm labor share is composed by the different following terms,

$$\text{Labor share} = \frac{\text{Total wage bill}}{\text{Value added}} = \frac{\text{Average wages} \times \text{Number of workers}}{\text{Value added}}$$

We therefore re-estimate a DiD as in equation (1) on the labor share and on each of the different components of the firm labor share as follows,

$$\ln Y_{fst} = \beta_1 \mathbb{1}[\text{Tax haven}_{ft}] + \alpha Z'_{ft} + \delta_f + \delta_{st} + \epsilon_{ft} \quad (3)$$

and equation 2 on the labor share and on each of the different components of the firm labor

share as follows,

$$\begin{aligned} \ln Y_{fst} = & \sum_{j=2}^J \sigma_j \mathbb{1}[Lag\ j]_{ft} + \sum_{k=1}^K \eta_k \mathbb{1}[Lead\ k]_{ft} \\ & + \alpha Z'_{ft} + \delta_f + \delta_{st} + \epsilon_{ft} \end{aligned} \quad (4)$$

Where $\ln Y_{fst}$ alternatively represents the firm labor share, its value added, the total wage bill, the firm average wages and the total number of workers. Results from these estimations are displayed in Table 3 for the DiD and are plotted in Figure 4 (and Table 18 in the Appendix) for the event study. Based on the profit-shifting hypothesis, we expect the effect on the denominator, value added, to be negative. Whereas we remain agnostic on the effect on the denominator, the total wage bill. On the one hand, one could argue that when firms are present in tax havens their tax bill decreases, hence their costs decrease. Which in turn may give firms more flexibility to increase their rent sharing with workers, at least the most productive ones. This hypothesis is consistent with [Alstadsæter et al., 2022] who find a positive relation between presence in tax havens and firm wages. On the contrary, one could also argue that when firms book their profits in tax havens, workers in high tax countries have a lower value on which they can bargain their wages and contract conditions, pushing the total wage bill downwards, consistent with [Krautheim and Schmidt-Eisenlohr, 2016] and [Souillard, 2020].

Column (1) in Table 3 is equivalent to column (6) in the baseline results, where we find an average 2.6% increase in the average firm labor share. Column (2) shows the results for the effect on value added, which is unsurprisingly very much in line with the profit-shifting hypothesis. The results suggest that on average, value added decreases by 11.4% with respect to the years prior to the tax haven presence. Much more interestingly, column (3) displays the results for the numerator of the labor share, the total wage bill, which on average decreases by 8.8% when firms begin to be present in a tax haven. Therefore, despite a strong decrease in the numerator, the effect of tax haven presence on the labor share remains positive due to an even stronger decrease in its denominator, the value added. Finally, the decline in total wage bill is explained by a sharp job cut with no statistically significant effect on the average wages (despite a negative sign). Our results imply that when a firm enters a tax haven, its number of workers is on average reduced by around 8.5% relative to the years prior to the tax haven presence. From a back of the envelope calculation, this means that the labor share increases despite an average decrease by 30 jobs at the level of the firm, when MNEs' go to tax havens.¹⁸ This suggests, that the 11.4% drop on value added is not only explained by a tax motivated profit-shifting, and therefore, not only due to mismeasurement in France, but that it also partly involves a real negative effect. Estimation results from event-study in the Table 18 and Figures 3-4 confirm these conclusions. As before, except for the average wages of the firm, the treatment has a statistically significant at the highest levels of acceptance. Additionally, the absence of any clear pre-treatment trend for the labor share, the value added, the total wage bill and the number of workers, make us confident about the fact that our treatment captures the effect of entering a tax haven and not any other confounding effect. On top of this, our results suggest that the tax haven entry on each of these variables of interest has strong dynamic effects, which remain statistically significant at the 99% confidence level 9 years after the event. It is clear from these figures that the effect on the labor share has two opposing forces, where the one on its denominator, the value added,

¹⁸30 jobs represents 8.5% of 371, which is the average number of employees in MNEs that are present in tax havens from Table 1.

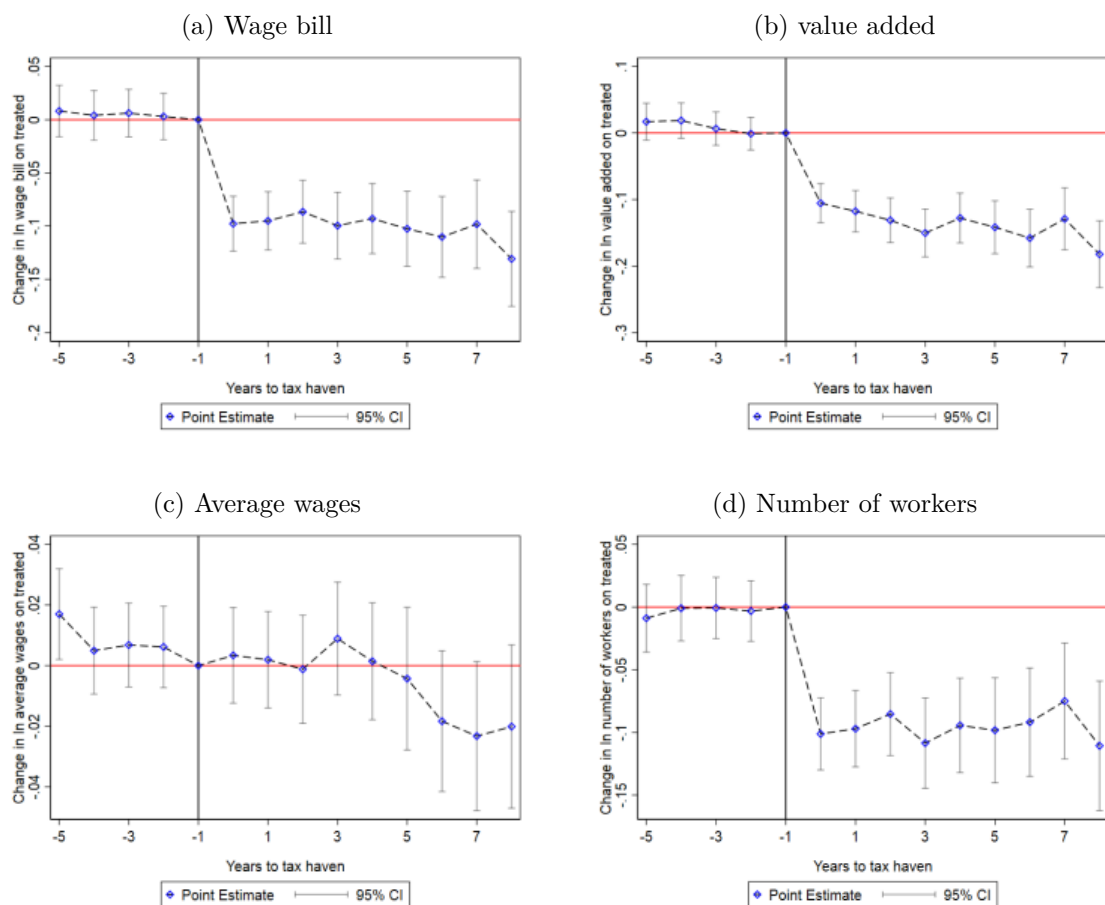
Table 3: Labor share components and tax haven entry

	Dependent variable				
	ln labor share (1)	ln VA (2)	ln wage bill (3)	ln av. wages (4)	ln num. workers (5)
<i>Tax haven_{ft}</i>	0.0257 ^a (0.00603)	-0.114 ^a (0.0112)	-0.0882 ^a (0.00974)	-0.00333 (0.00594)	-0.0849 ^a (0.0111)
<i>MNE_{ft}</i>	-0.0111 ^b (0.00545)	0.119 ^a (0.0103)	0.108 ^a (0.00901)	-0.00402 (0.00536)	0.112 ^a (0.0103)
<i>MNE Lwc_{ft}</i>	0.00476 (0.0173)	0.0886 ^b (0.0374)	0.0933 ^b (0.0349)	0.0239 (0.0192)	0.0694 ^c (0.0393)
<i>Share skilled_{ft}</i>	0.0193 (0.0129)	-0.212 ^a (0.0286)	-0.192 ^a (0.0271)	0.270 ^a (0.0163)	-0.462 ^a (0.0315)
<i>Num. Affiliates_{ft}</i>	-0.000212 (0.000321)	0.00191 ^b (0.000629)	0.00170 ^b (0.000565)	0.00163 ^a (0.000325)	0.0000703 (0.000620)
<i>Export intensity_{ft}</i>	-0.0712 ^a (0.0111)	0.208 ^a (0.0230)	0.137 ^a (0.0200)	0.0453 ^a (0.0127)	0.0914 ^a (0.0223)
<i>N</i>	51670	51670	51670	51670	51670
adj. <i>R</i> ²	0.555	0.906	0.924	0.755	0.903
Firm FE	Yes	Yes	Yes	Yes	Yes
2-dig. sector X year FE	Yes	Yes	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes	Yes

Robust standard errors in parentheses

^c $p < 0.10$, ^b $p < 0.05$, ^a $p < 0.001$

Figure 4: Labor share components



Notes: Plot of estimated coefficients of year dummies indicating the distance to the event of interest: entry in a tax haven.

jeopardizes the one on its numerator, the total wage bill.

What could explain a negative effect on employment and, more generally, on real activity, when firms start to invest in tax havens? There are two non-mutually exclusive explanations, one that is general and a second one that may be specific to a country with strong employment regulation such as France. First, firms may need to offshore some workers in order to comply with "substance requirements". This means that to shift profits, an MNE must justify its large payments to the tax haven. These payments are typically related to the usage of intellectual property, managerial services, and other high-skill functions (see [Lopez-Forero and Michallet, 2024] and [Davies and Scheuerer, 2024]). On top of this in the specific case of France, a plausible explanation for can be linked to a stringent and costly employment protection regulation in France. Labor protection legislation in France can be restrictive and translates into higher labor costs. This increases incentives for firms to use tax havens, as financial opacity allows firms to avoid these stringent regulation and its higher costs. In particular, mass layoff procedures are not only expensive, but they also need to be approved by a judge on the basis of "serious economic difficulties".¹⁹ Opacity in tax havens can help firms to artificially show that they are subject to economic difficulties in order for the judge to approve the mass layoff procedure, besides making the procedure less expensive.²⁰

More generally, this is consistent with claims made by trade unionists, whistle-blowers, and lawyers defending former employees of multinationals, whose common ground is that tax accountability matters and employer accountability matters are intimately linked. This nexus has been acknowledged even by PwC, one of the Big Four audit firms, who have been key drivers of tax haven usage by MNEs.²¹ In a 2014 report prepared for the European Commission, PwC states that "[...] tax related business confidentiality also weakens corporate accountability to stakeholders of the firm, including workers, long term investors and creditors, as well as the public at large".²² In the same vein, the Trade Union Advisory Committee to the OECD (TUAC) states that artificial fragmentation of MNEs' domestic activity into different entities allows them to partially or fully avoid the *permanent establishment status*, which in turn, can affect workers by compressing their "remuneration, non-wage benefits, the coverage and quality of the collective bargaining agreement, as well as information and consultation rights".²³ The latter, being a key ingredient in avoiding disbursing severance packages and other obligations toward workers when MNEs decide to shut down a healthy subsidiary in France, as recently documented by [Rilov and Eychenne, 2019].²⁴ This suggests that the employer accountability connection with the tax haven presence is above and beyond the "tax effect" also about the "opacity effect".

In section 5 we formally test this by inspecting the mechanisms at play with the data at our disposal. Before that, next subsection provides a robustness analysis by performing a placebo

¹⁹This is what is called the Plan de Sauvegarde de l'Emploi (PSE) which is an employment safeguard plan concerning firms above 50 employees who fire more than 10 employees within a month in France. For more details, see: <https://www.service-public.fr/particuliers/vosdroits/F2811?lang=en>

²⁰This supports claims made by civil society. For instance, a recent book by Renahy (2019), a former employee at a law firm in Jersey, exposes how the firm he worked for in the 2000s not only engaged in tax evasion, but also helped companies artificially understate their profits or hide funds in various tax havens to finance mass layoffs in France. See mechanisms in section 5 for more details.

²¹See for instance [Jones et al., 2018], who show a strong causal relation between an MNE's use of one of the Big Four and its tax haven network size.

²²[PwC, 2014] (as cited in [Tyralla and Habbard, 2016]).

²³[Tyralla and Habbard, 2016].

²⁴See [Rilov and Eychenne, 2019] for details on how MNEs have avoided their liabilities toward their former employees and the different techniques that they have used.

test.

4.3 Robustness

Placebo Test. An extremely simple but equivalently helpful supplementary check consists in re-estimating equation 3 and artificially re-defining the "treatment" variable of interest in such a way that it is not related to the original treatment. The interest of doing this is that in case the estimated coefficients on the placebo treatment were similar or pointed in the same direction as our baseline regressions, it would mean that our tax haven dummy fails to capture our effect of interest, namely, MNEs' profit-shifting. The results from this test are displayed in Tables 20-22, for each of the different exercises carried out in the previous section and subsection. In this sense, Table 20 displays the placebo test for the baseline results for the labor share in Table 15; Table 21 for each of the labor share components in Table 16; and Table 22 for each of the labor share components with a balanced panel as in Table 3. The main message that arises from this exercise is that the placebo tax haven dummy does not appear to be significant anymore at any level of acceptance in any of the different specifications or samples. This suggests, therefore, that the entry in a tax haven does capture MNEs' profit-shifting and that it increases firms' domestic labor share (in France).

5 Mechanisms

In this section we delve, with the data at our disposal, into the mechanism behind our main results. In particular, the literature on profit-shifting and on capital taxation predicts that a decline in taxes translates into a decline in the cost of capital. This, in turn, should translate into a positive real effect, and we should observe an increase in investment. One could therefore argue that the decline in labor that we observe could be explained by an increase in capital intensity, where labor is being substituted by -the relatively cheaper - capital. Hence, we begin by inspecting the evolution of capital in relation to the tax haven entry, and we are able to rule out this hypothesis. Capital stocks are constructed by applying the perpetual inventory method using investment and tangible assets (in book values) from balance-sheet firm level data (see Appendix A for details).

Panel (a) in Figure 5 depicts the event-study results displayed in Table A.4.5 in the appendix, and it shows a sharp and sudden drop in the (physical) stock of capital in France right after the tax haven entry. This points to a decline in activity in France when firms become tax haven MNEs. Importantly, this excludes intangible capital, where a decline would not allow making the case for a decline in real activity, given that the location of intangible capital can be decoupled from real activity. Once again, we don't find systematic differences between control and treated observations before the tax haven entry.

Next, in order to further understand the mechanism behind the job cuts nexus and the tax haven entry, we examine in more detail the hypothesis suggested in the previous section, that is, that offshore financial centers, thanks to their financial secrecy, allow firms to circumvent not only rules related to taxes but also costly and stringent employment protection rules related to mass layoffs. For this, after having excluded that capital substitutes with labor, to rule out the "tax effect" at play, we test whether the tax haven entry triggers mass layoffs procedures and the conditions needed to carry them out. Additionally, if it is the case that it is the opacity in tax havens that allows these developments to take place, we have to show that all these restructuring-related

changes are uniquely related to entry in tax havens as opposed to becoming a multinational firm. We hence reproduce the main event-studies by substituting the "event" to the moment where the domestic firm becomes an MNE, excluding presence in tax havens.

Mass layoffs procedure or Plan de Sauvegarde de l'Emploi (PSE). As explained earlier, employment protection law in France stipulates that when a firm with more than 50 employees wants to carry out "economic layoffs" (i.e., not related to a personal failure) of more than 10 employees over a period of 30 days, she is obliged to undertake a specific mass layoff procedure, called *Plan de Sauvegarde de l'Emploi*. This is an employment safeguard plan that is intended to limit the employment losses and where the judge decides whether it can be implemented or not. Additionally, the PSE: (1) needs to be motivated by "real and serious economic difficulties" (for instance, it is not sufficient to show that is implemented due to a decline in profits); (2) requires the worker representatives to be consulted; and (3) its total cost depends on the resources of the economic group (i.e., the affiliates and the headquarters of the firm if any). Importantly, one way of motivating the "real and serious economic difficulties" for the average MNE (in terms of employment size) is by proving a decline in sales during three to four consecutive quarters compared to the same period of the previous year.²⁵ In this sense, one can argue that opacity in tax havens can allow both, artificially reducing sales in France - a sufficient condition for undertaking a mass layoff procedure, and reducing the costs of the procedure itself. Indeed, given that the cost of the PSE is linked to the resources of the whole economic group, profits hidden in tax haven subsidiaries can reduce the resources that the firm is required to spend in the PSE.

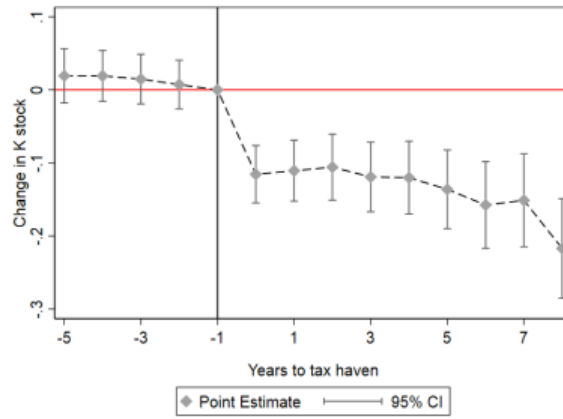
Panels (b) and (c) in Figure 5 display the event-study results for the relation between tax haven entry and (1) a dummy variable indicating whether the firm implemented a mass layoff procedure over the year, and (2) the total sales of the firm over the year. In both cases, we can conclude that treated and control units did not systematically differ before the tax haven entry, and that this resulted in sudden and sustained differences—positive in the case of mass layoff procedures and negative in the case of sales. Therefore, we can infer that tax haven entry triggers both the conditions necessary to implement a mass layoff procedure (such as a sustained decline in sales) and the procedure itself. Taken altogether, these results allow establishing that the job cuts and tax haven entry nexus is not explained by an increase in capital intensity - as predicted by theory when the cost of capital declines- but rather by a restructuring decision triggering mass layoffs procedures, which French labor law only allows in case of "real and serious economic difficulties". We thus argue that it is the "opacity effect" instead of the "tax effect" that is more likely to be driving the negative relation between tax haven entry and a decline in the number of workers in France.

This also suggests that part of the 11% decline in value added is explained by a decrease in real activity and partly by an artificial decline related to tax avoidance. The ideal data which would allow disentangling one effect from the other would provide time-varying information on capital (tangible and intangible) and labor in foreign affiliates. In the absence of these data, we perform a simple exercise by repeating the baseline regressions on value added by including employment and physical capital, which provides some indirect insight into this question. This

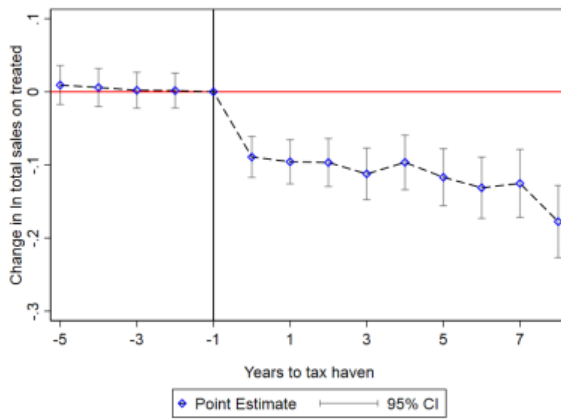
²⁵More specifically, the law does not provide any precise definition of economic difficulties and only the judge can decide on whether the conditions under which an economic layoff is justified. However, in practice, a drop in sales can be sufficient to implement a PSE. For firms whose workforce is between 50 and 300 employees, proving a drop in sales compared to the same period of the previous year over three consecutive quarters can be sufficient. While a firm with more than 300 employees requires proving a drop in sales over four consecutive quarters. For more details, see: https://www.legalplace.fr/guides/licenciement-economique/Quels_sont_les_motifs_justifiant_un_licenciement_economique

Figure 5: Mechanisms

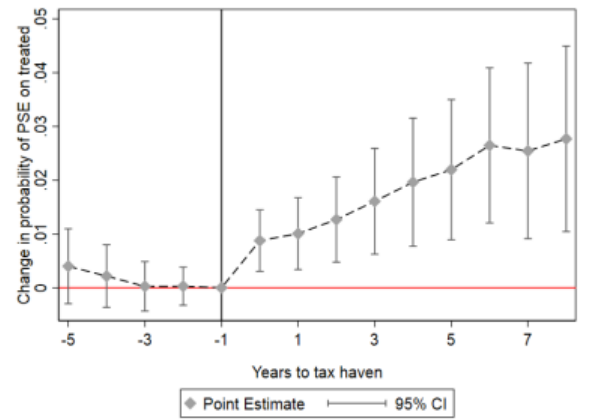
(a) Capital stock



(b) Total sales



(c) Mass layoff procedure (PSE)



Notes: Plot of estimated coefficients of year dummies indicating the distance to the event of interest: tax haven entry.

exercise allows assessing the tax haven entry effect on value added by controlling for the decline on labor and capital associated to the tax haven entry. These results are displayed in Table 23 in the Appendix. The magnitude of the tax haven variable passes from 11% to 4.5%. This suggests that almost half of the tax haven effect of value added is linked to a decline in real activity. This also suggests that using tax haven presence as a proxy for profit-shifting can lead to overestimating "missing profits" from profit-shifting, in cases where real activity takes place in tax havens.

Effects of becoming an MNE (excluding tax havens). Given that the decision of entering a tax haven is far from exogenous, one could also argue that the tax entry and job cuts nexus is the result of a group restructuring decision. In this sense, a simultaneous drop in employment and tax haven entry can be triggered by a business restructuring decision, following, for instance, the advice of an accounting firm in order to increase profitability by offshoring costly labor and reducing tax-related costs. Nonetheless, we show that these developments associated to a decline in activity in France such as those on employment, on mass layoffs procedures, on sales and on capital, are exclusively related to tax haven foreign investment and not to other foreign investments. Event-study results from this exercise are displayed in Panels (a)-(d) in Figure 6, where we replace the "event", and instead of considering the distance to the tax haven entry, we assess the effect of the distance to becoming an MNE (not including tax haven countries). Note, that different from the tax haven event studies, most of these developments related to becoming an MNE display a pre-trend. This means that our variables of interest are co-determined with becoming an MNE. Whereas in the case of the tax haven entry, we are more likely to be capturing the effects of the tax haven entry decision, given the absence of pre-trends.

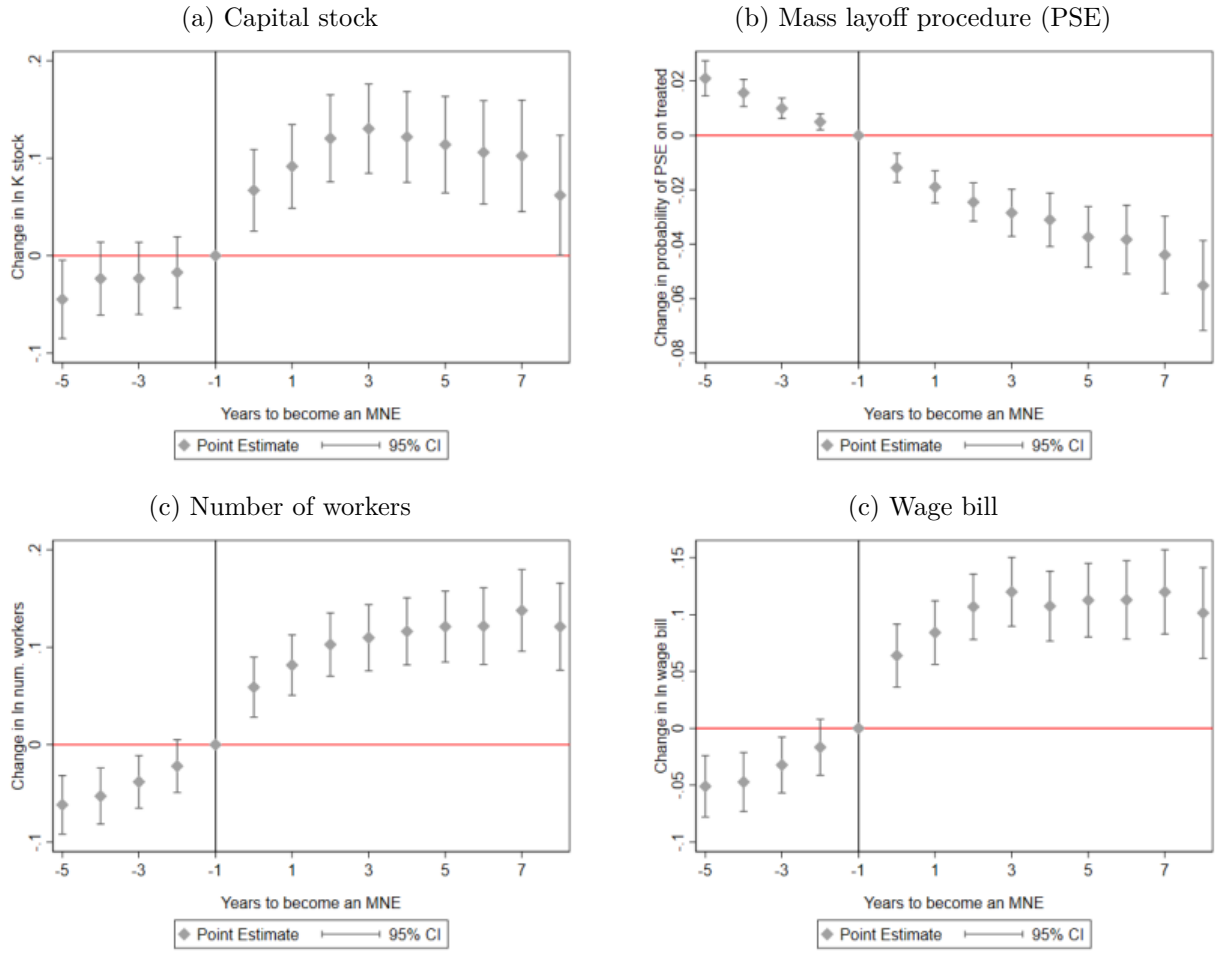
These results suggest that, in addition to tax incentives, MNEs in France leverage their presence in tax havens to implement group restructuring and scale back their real activity in France, including substantial job cuts. The opacity provided by tax havens helps MNEs obscuring their financial health, which can be used to justify evading labor regulation. By reducing the apparent profitability of their operations in France, they can justify downsizing or relocating jobs to lower-wage countries. Although these specific results may be related to stringent and costly mass layoff regulation in France, more generally, tax haven effects on employees can range from wage reductions to job cuts and erosion of labor protection. This is in line with claims made by different actors of the civil society such as lawyers, trade unionists and whistle-blowers who argue that *employer liability is intimately intertwined with tax liability*, where financial opacity plays a central role.

[Krautheim and Schmidt-Eisenlohr, 2016] develop a theoretical model, while [Souillard, 2020] provides empirical evidence on US MNEs, on how profit-shifting can negatively affect workers' wage bargaining power and therefore compress wages.²⁶ Besides these rare exceptions, the economic literature is still very limited, while the civil society has largely documented the employer and tax liability nexus. For instance, MNEs may want to avoid paying severance packages or other employee benefits by claiming financial hardship after shifting profits to tax havens, as it can affect their global capitalization.²⁷ Indeed, in France, the payment of severance packages

²⁶The literature on the real effects of profit-shifting and its effects on employment has rather focused on the cost of capital and how it translates into a positive real effect. See for instance: [Suarez-Serrato, 2018].

²⁷For instance, [Rilov and Eychemne, 2019], page 19, argue that if Bain Capital, the owner of Samsonite - who unduly avoided paying workers for mass layoffs- would have disbursed what American groups usually pay out in France when they shut down an establishment of similar size as the one that Samsonite shut down, its excellent performance in 2006 would not have been possible and would have prevented a rebound of its shares a year later.

Figure 6: Becoming an MNE (excluding tax havens)



Notes: Plot of estimated coefficients of year dummies indicating the distance to the event of interest: becoming an MNE.

can be transferred to the taxpayer and thus, avoided, if the firm is insolvent.²⁸ Profit-shifting to tax havens can serve this purpose. Some anecdotal evidence of this, commonly known as "social fraud", is documented in a book by [Rilov and Eychenne, 2019]. The latter, being a professional lawyer who has defended several groups of employees who have been laid-off without the due severance payments, documents some highly mediatized cases, where firms avoided paying severance packages and transferred the related costs to taxpayers by using complex corporate structures.²⁹ Rilov argues that in the case of Samsonite's layoffs in 2007, without the firm's affiliates multiplication technique to avoid paying employees' due compensation, which in the end had to be paid with taxpayers' resources, these layoffs would have costed Samsonite tens of million USD.

In the same vein, the Trade Union Advisory Committee to the OECD argues that MNEs shift capital to tax havens deterring it from productive investment and job creation in the home country, undermining employment. Particularly, they claim that aggressive tax planning is instrumented as way of corporate "regulatory planning" or regulatory arbitrage allowing MNEs to escape not only its tax duties but also its obligations to other stakeholders, including workers.³⁰ The reasoning behind this is that tax-motivated restructuring results in fragmentation of the firm into multiple entities and in decision making centers that are transferred outside of the legal perimeter of the local firm. This allows to artificially reduce local profits and significantly reduce workers' access to information on the real financial health of the firm. The TUAC argues that this, in turn motivates, cuts in investment in local productive capacities, cuts in employment and even allows firms to display a reduced ability to face their liabilities.³²

More recently, in 2022 France had two unprecedented cases in terms of tax fraud justice where workers actively participated in bringing MNEs to justice on the grounds of tax avoidance. On the one hand, following McDonald's employees' complaints on wages and tax justice with the European Parliament dating back to 2015, French tax authorities imposed a 1.2 billion euros record fine to McDonald's for tax fraud in 2022³³ Later in the same year, General Electric's trade union directly filed a complaint with the French National Financial Prosecutor on the detrimental effects of tax fraud on employees. In both cases, labor unions got involved in MNEs' tax affairs because tax avoidance and financial secrecy can affect employees (wages, worker conditions, perspectives and employment protection), yet academic literature, despite its growing interest in tax avoidance, has very little to say about this relation.

All in all, in this section we argue that the mechanism at play is the "opacity effect" instead

²⁸More precisely, this is what is called the "Assurance garantie des salaires" (AGS) a salaries insurance which guarantees the payment of sums due to employees (salaries, notice periods, severance payments, etc.) in the event of insolvency, compulsory liquidation or employment safeguard measures.

²⁹These cases include for instance Goodyear, Conti, Faurecia, Continental, Samsonite, 3 Suisses, UPS, Flodora and Coca-Cola. Although, these social frauds do not necessarily involve affiliates in tax havens, they certainly serve the purpose of hiding profits and avoiding paying the due redundancy packages, which can be expensive for big and profitable firms. Theoretically, this affiliate does not necessarily need to be domiciled in a tax haven, nor in a foreign country. However, opening this affiliate in a tax haven may have at least two advantages. First, the obvious one, which is a reduction on the tax bill and a second one, which is related to the lack of transparency that these countries usually offer, exposing themselves less to any lawsuit filed by its former employees.

³⁰For instance, they argue that: *[...] tax liability issues are intertwined with employer responsibility issues. A trade unionist of the French subsidiary of Colgate perfectly captured why tax planning matters for trade union action: "the farther you are from where tax is being declared within the MNE group structure, the higher the risk for worker misery"*.³¹

³²See TUAC2016assessment.

³³See: EPSU brings McDonald's tax avoidance scheme in European parliament; Lesson For McDonald's: Beware The Tax Whistleblower Unions and McDonald's will pay \$1.3 billion penalty to settle French tax dispute..

of the "tax effect" by showing that the job cuts and tax haven entry nexus is not explained by an increase in capital intensity but rather by a restructuring decision triggering mass layoffs procedures, which French labor law only allows in case of "real and serious economic difficulties". Finally, we show that these developments are exclusively related to tax haven foreign investment and not to other foreign investments. Next section calculates the impact of presence in tax havens on the aggregate labor share in France over 1997 and 2014.

6 From Micro to Macro: aggregate labor share

[Guvenen et al., 2022] and [Tørsløv et al., 2022] have documented how the labor share in high tax countries is artificially inflated, as its denominator (value added) is underestimated due to profit-shifting. Indeed, given that MNEs and particularly those with a presence in tax havens are on average very big firms who are responsible for a significant share of total sales, employment and value added, one should expect changes happening within these firms to affect aggregate changes as well.³⁴ In this sense, this section aims at assessing the share of the aggregate variation of labor share that can be explained by micro-level fiscal optimization of MNEs. We do so with the help of our regression results from the previous section, the tax haven MNEs' weights on total employment and the change in the proportion of firms who have become tax haven MNEs over the sample period.

Predicted aggregate labor share. We begin by computing the observed change in aggregate labor share, next we compute the predicted change in aggregate labor share which should have occurred had not MNEs had a presence in tax havens. Finally, we compute the difference between these two aggregates, which gives us an approximation of the increase of aggregate labor share that is due to the micro-level offshore profit-shifting of MNEs. Aggregate labor share (LS_t), which is defined as the share of value added that rewards labor -in the form of wages ($\frac{W}{VA}$), in a given year t can be expressed as the weighted sum of individual labor shares, as follows,

$$LS_t = \sum_i \omega_{i,t} \cdot LS_{i,t} = \frac{\sum_i W_{i,t}}{\sum_i VA_{i,t}}$$

where LS_{it} is the individual labor share, can be expressed both in logs or levels and where ω_{it} is the size weight of the firm which can be value added, sales or inputs. In the case where LS_{it} is measured in levels and the weights are value added shares, LS_t measures aggregate labor share. This particular choice has thus the advantage that the aggregate labor share measure that results from the firm-level measure can have a direct data counterpart.³⁵ Additionally, one can express aggregate labor share in terms of the contribution of firms following their status as domestic or non-tax haven MNEs (NT) on the one hand and, and tax haven MNEs (TH) on the other hand,

$$LS_t = \sum_{i \in NT,t} (\omega_{i,t}^{NT} LS_{it}^{NT}) + \sum_{i \in TH,t} (\omega_{i,t}^{TH} LS_{it}^{TH})$$

³⁴See descriptive statistics in Table 1 for more details.

³⁵More specifically, if aggregate labor share is given in levels and value added is the chosen weight, such that $\omega_{i,t} = \frac{VA_{i,t}}{\sum_i VA_{i,t}}$, one has that the weighted average exactly corresponds to the aggregate LS:

$$LS_t = \frac{\sum_i W_{i,t}}{\sum_i VA_{i,t}} = \frac{\sum_i W_{i,t} \cdot \frac{VA_{i,t}}{VA_{i,t}}}{\sum_i VA_{i,t}} = \sum_i \left(\frac{W_{i,t}}{VA_{i,t}} \cdot \frac{VA_{i,t}}{\sum_i VA_{i,t}} \right) = \sum_i \omega_{i,t} \cdot LS_{i,t}$$

where the aggregate change in labor share between 1997 and 2014 is given by the difference of each groups' contribution to the weighted average labor share in levels in 1997 and in 2014, as follows,

$$\begin{aligned}
\Delta LS_{97-14} &= LS_{14} - LS_{97} = \sum_{i,14} (\omega_{i,14} LS_{i,14}) - \sum_{i,97} (\omega_{i,97} LS_{i,97}) \\
&= \sum_{i \in NT,14} (\omega_{i,14}^{NT} LS_{i,14}^{NT}) - \sum_{i \in NT,97} (\omega_{i,97}^{NT} LS_{i,97}^{NT}) \\
&\quad + \sum_{i \in TH,14} (\omega_{i,14}^{TH} LS_{i,14}^{TH}) - \sum_{i \in TH,97} (\omega_{i,97}^{TH} LS_{i,97}^{TH})
\end{aligned} \tag{5}$$

Our econometric results imply that if every MNE that established a new presence in a tax haven between 1997 and 2014 had decided not to, its predicted labor share in 2014 would have been on average 2.3% lower, while the value added would have been 10.3% higher. Therefore, the only thing that changes with respect to equation 5 is that we alter the labor share (-2.3%) and the value added (+10.3%) in 2014 for each firm that enter a tax haven during the sample. Thus, the predicted aggregate labor share change is given by the following expression,

$$\begin{aligned}
\Delta \widehat{LS}_{97-14} &= \sum_{i \in NT,14} (\widehat{\omega}_{i,14}^{NT} LS_{i,14}^{NT}) - \sum_{i \in NT,97} (\omega_{i,97}^{NT} LS_{i,97}^{NT}) \\
&\quad + \sum_{i \in NT,14} \underbrace{\widehat{\omega}_{i,14}^{TH} LS_{i,14}^{TH}}_{\text{observed}} \underbrace{[1 - \exp(\widehat{\beta}_{LS}^{TH}) - 1]}_{\text{predicted loss}} \\
&\quad - \sum_{i \in TH,97} (\omega_{i,97}^{TH} LS_{i,97}^{TH})
\end{aligned} \tag{6}$$

with the predicted value added for each tax haven firm in 2014,

$$\widehat{VA}_{i,14}^{TH} = \underbrace{VA_{i,14}^{TH}}_{\text{observed}} \underbrace{[1 + \exp(\widehat{\beta}_{VA}^{TH}) - 1]}_{\text{predicted gain}}$$

where $\widehat{\beta}_{VA}^{TH}$ and $\widehat{\beta}_{LS}^{TH}$ are the predicted coefficients of equation (1) for value added and for labor share, respectively and which equal 0.022 and 0.108; where $\widehat{\omega}_{i,14}^{NT}$ and $\widehat{\omega}_{i,14}^{TH}$ are the predicted value added weights using $\widehat{VA}_{i,14}^{TH}$.³⁶ This term represents the loss in labor share that we would have observed had THMNEs not been present in a tax haven. Table 4 displays the observed aggregate labor share in 1997 and in 2014, the difference between these two aggregates, the predicted aggregate labor share in 2014 if THMNEs had not been present in tax havens and the predicted change with respect to 1997. Given the choices made to calculate the aggregate, LS represents the amount of euros that go to wages per euro of value added (in our sample), which tantamount to 69.26 euros in 1997 and 74.42 in 2014.³⁷ Thus, we observe an increase of 5.16 percentage

³⁶This coefficients correspond to the tax haven entry dummy in our preferred equation (1), estimated on all tax haven MNEs and not only on the balanced panel. Results are displayed in columns (1) and (2) in Table 16.

³⁷It is worth noting that our sample is composed of firms in the market economy who have at least one employee, it excludes therefore public administrations and self-employed. Additionally, we drop some specific sectors and firms after the data cleaning. This means that aggregate labor share does not necessarily coincide with official statistics.

points (pp) in the aggregate labor share between 1997 and 2014.

Our econometric estimates imply that the predicted aggregate labor share in 2014, \widehat{LS}_{15} , would have been 73.93 if we had not observed firms in tax havens and everything else had remained equal.³⁸ In which case, the predicted difference with respect to 1997 is 4.67 pp. Thus, we find a 49 basis points difference between the predicted aggregate labor share change and the observed one. This difference represents around 10% of the labor share that we would have observed if MNEs did not use tax havens over the period.³⁹

Table 4: Observed and Predicted Aggregate Labor Share

	LS_{97}	LS_{14}	ΔLS_{97-14}	\widehat{LS}_{14}	$\Delta \widehat{LS}_{97-14}$
$LS = \frac{\sum_i W_i}{\sum_i VA_i}$	69.26	74.42	5.16	73.93	4.67

Source: Authors' calculations using LIFI and FICUS-FARE databases.

The effect on the aggregate labor share reflects the granularity of the profit-shifting phenomenon. Indeed, a 0.5 percentage point difference between the observed labor share and the predicted one is non-negligible, particularly given that tax haven MNEs account for only 0.7% of firms in the economy, and the effect is estimated from just 0.1% of observations in the sample where a firm transitions into a tax haven MNE.⁴⁰ Furthermore, we measure a lower bound of the effect, as the microeconomic estimation in equation 1 excludes MNEs that were already in a tax haven in 1997, whose profit-shifting activities and their impact on the aggregate labor share are not taken into account.

7 Conclusion

In this paper we argue that the evolution of the aggregate labor share, which measures how income is distributed between workers and shareholders, is overestimated in high tax economies due to MNEs' profit-shifting. More specifically, using French firm-level data over 1997 and 2014, we implement a standard difference-in-differences (DiD) design with variation in firm entry in tax havens -our treatment variable, thus in treatment timing. Next, we use our micro estimates to calculate the aggregate effect of MNEs' presence in tax havens on the market economy labor share in France. First, we find that when an MNE goes to a tax haven, its domestic labor share increases on average by 2.6%, relative to the years before the tax haven presence. Our results are robust to a placebo test, where tax haven entry is artificially randomly reassigned, and to control variables accounting for alternative explanations of a positive evolution of labor share in MNEs, such as higher rent-sharing and offshoring of low-skilled labor. An event-study design shows that our estimates capture the tax haven entry effect and not differential trends between treated and

³⁸The weights used for these calculations are displayed in Tables 7 and 6.

³⁹This number reflects the predicted difference in aggregate labor share changes as a percentage: $\text{abs}(5.16 - 4.67)/5.16 = 9.5\%$.

⁴⁰See Tables 1 for the descriptive statistics and 8 for the transitions.

control units. Second, due to the weight of these firms in the economy, this micro-level effect represents around 10% of the observed increase in the aggregate labor share in France over the sample period.

Nonetheless, the 2.6% increase in firms' labor share is the result of two competing effects of MNEs' presence in tax havens. One on the numerator and another on the denominator. On the one hand, the firms' value added, the denominator, experiences an average drop by 10.2%, which appears to be partly explained by profit-shifting and partly by a real decline in domestic activity (accounting for 60% of the decline). Indeed, the total wage bill decreases on average by 8.8% when MNEs enter a tax haven and this effect is almost completely explained by a strong decline in employment, equivalent to -8.5%, rather than a decline on average firm wages, which are not altered by profit-shifting.

We show that these developments are not explained by an increase in capital intensity, where the "tax effect" translates into a lower capital cost, by showing that capital also experiences a sharp decline when MNEs enter a tax haven. We argue that the mechanism at play is the "opacity effect" by showing that the job cuts and tax haven entry nexus is linked to a restructuring decision triggering mass layoffs procedures, which French labor law only allows in case of "real and serious economic difficulties". Thus, we argue that there can be at least two non-mutually exclusive explanations for such a link between tax haven entry and job cuts. On the one hand, we suggest that a plausible explanation of these results is that "tax liability issues are intertwined with employer responsibility issues", as trade unionist, whistle-blowers and professional lawyers claim. This may be particularly true, in a country such as France, where mass layoffs can be very expensive for big and healthy firms. Under costly domestic employment protection, opacity in tax havens provides incentives for MNEs for using tax haven subsidiaries in order to avoid expensive employer liabilities related to mass layoffs. Indeed, beyond fiscal benefits, tax havens usually offer financial secrecy. On the other hand, a simultaneous drop in employment and a tax haven entry can be triggered by a business restructuring decision, following for instance an accounting firm's consultancy. Finally, we show that these developments are exclusively related to tax haven foreign investment and not to other foreign investments, pointing to a group restructuring that is systematically and exclusively related to tax haven entry.

All in all, our results show that in a high tax country with a strong social protection such as France, assessing the labor share effect of MNEs' presence in tax havens, requires not only accounting for the mismeasurement in value added, and therefore the overstatement of the labor share due to profit-shifting. One also has to account for its real effects in terms of employment losses, whose severance payments may be transferred to the taxpayers, which can exacerbate inequalities between workers and shareholders.

Appendix A Appendix

A.1 Data details and descriptive statistics

Capital stocks. Capital stocks are computed using investment and tangible assets (in book values) following the traditional perpetual inventory method (PIM), as follows,

$$K_t = (1 - \delta_{t-1}) K_{t-1} + I_t \quad (7)$$

where δ_t is the depreciation rate and I_t is real investment (deflated nominal investment). Both investment price indexes and depreciation rates are available at the 2-digit industrial classification from INSEE data series.

Table 5: Tax haven jurisdictions as defined by the IMF

ANDORRA	DOMINICA	LIECHTENSTEIN	NIUE
ANGUILLA	GIBRALTAR	LUXEMBOURG	PANAMA
ANTIGUA AND BARBUDA	GRENADA	MACAU	NETHERLANDS
DUTCH ANTILLES	GUAM	MALAYSIA	PHILIPPINES
ARUBA	GUERNSEY	MALTA	SAINT LUCIA
BAHRAIN	HONG KONG	MAN (ISLAND)	WESTERN SAMOA
BARBADOS	IRELAND, or EIRE	NORTHERN MARIANA (ISLANDS)	SEYCHELLES
BELIZE	ISRAEL	MARSHALL ISLANDS	SINGAPORE
BERMUDA	JAPAN	MAURITIUS	SWITZERLAND
CAIMANS (ISLANDS)	JERSEY	MICRONESIA (FEDERATED STATES OF)	THAILAND
CYPRUS	JORDAN	MONACO	TURKS AND CAICOS (ISLANDS)
COOK (ISLANDS)	LEBANON	MONTERRAT	URUGUAY
COSTA RICA	LIBERIA	NAURU	VANUATU
DJIBOUTI			

Source: Offshore Financial Centers (IMF, 2000). www.imf.org/external/np/mae/oshore/2000/eng/back.htm

41

Table 6: Total Employment and value added tax haven MNEs

	Average 1997-2014	1997	2014
Tax haven MNE employment	1 558 985	1 359 957	1 583 659
Tax haven MNE value added	108 529	87 531	134 315
Total employment	12 239 148	9 494 977	13 842 753
Total value added	679 394	447 060	821 361

Source: Authors' calculations using LIFI and FICUS-FARE databases. Value added in million euro.

⁴¹The weights used for these calculations are displayed in Tables 7 and 6.

Table 7: Employment and value added share of tax haven MNEs in total economy

	Average 1997-2014	1997	2014
Employment	12.7	14.3	11.4
Value added	16.1	19.6	16.4

Source: Authors' calculations using LIFI and FICUS-FARE databases.

Figure 7: Statutory Corporate tax rate

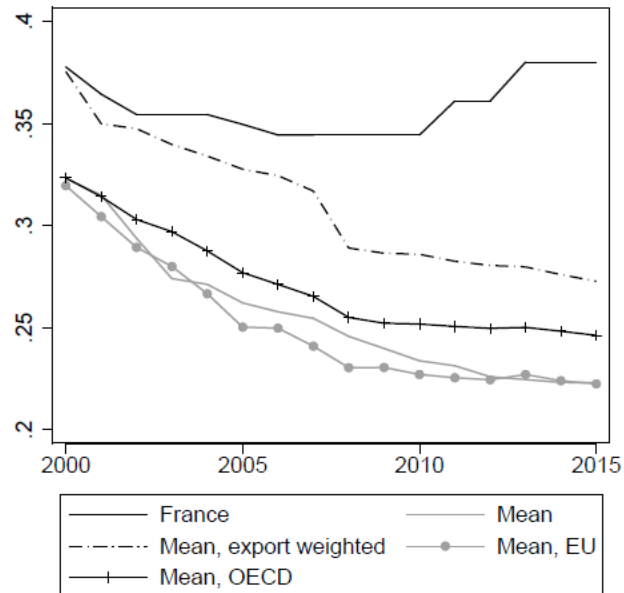


Table 8: Transitions from not having to having foreign presence in a tax haven

Dummy Tax haven			
Dummy Tax haven	0	1	Total
0	15,416,060 99.88	18,841 0.12	15,343,901 100.00
1	12,385 17.90	56,796 82.10	69,181 100.00
Total	15,428,445 99.51	75,637 0.49	15,504,082 100.00

Source: FICUS-FARE and LIFI.

Note: Transitions in frequencies and percentages.

Table 9

Low-wage countries from Bernard et al. (2006)			
Afghanistan	China	India	Pakistan
Albania	Comoros	Kenya	Rwanda
Angola	Congo	Lao PDR	Samoa
Armenia	Equatorial Guinea	Lesotho	Sao Tome
Azerbaijan	Eritrea	Madagascar	Sierra Leone
Bangladesh	Ethiopia	Malawi	Somalia
Benin	Gambia	Maldives	Sri Lanka
Bhutan	Georgia	Mali	St. Vincent
Burkina Faso	Ghana	Mauritania	Sudan
Burundi	Guinea	Moldova	Togo
Cambodia	Guinea-Bissau	Mozambique	Uganda
Central African Rep	Guyana	Nepal	Vietnam
Chad	Haiti	Niger	Yemen

Note: Low-wage countries dummy takes the value of one when the country's per capita GDP is less than 5% of U.S. per capita GDP (lwc throughout the whole period).

A.2 Kolmogorov-Smirnov test

The Kolmogorov-Smirnov test allows concluding whether one cumulative distribution lies to the right of another one. The firm labor share distribution in each period (before and after tax haven entry) is therefore ranked according to the concept of first-order stochastic dominance, and the (one- and two-sided) KS-statistics formally test their difference. More specifically, let $B(z)$ and $A(z)$ denote the cumulative distribution functions of the labor share of firms before and after they enter tax haven, respectively, where the hypothesis to be tested is whether both distributions are identical. This is done with the help of the two-sided KS test:

$$H_0 : B(z) - A(z) = 0 \quad \forall z \in \mathbb{R} \quad \text{versus the alternative hypothesis,}$$

$$H_0 : B(z) - A(z) \neq 0 \quad \text{for some } z \in \mathbb{R}$$

while the one-sided KS test allows testing whether $B(z)$ stochastically dominates $A(z)$, which is formulated as follows:

$$H_0 : B(z) - A(z) \leq 0 \quad \forall z \in \mathbb{R} \quad \text{versus the alternative hypothesis,}$$

$$H_0 : B(z) - A(z) > 0 \quad \text{for some } z \in \mathbb{R}$$

In this sense, if the two-sided test is rejected while the one-sided test isn't, one can conclude that the labor share distribution of firms after tax haven entry lies to the right of the labor share distribution of firms before tax haven entry, thereby implying a first-order stochastic dominance of period 2 over period 1.

Table 10: Two-sample K-S test of equality of distributions on ln LS

Smaller group	D	P-value
Period 1 (before tax haven entry) :	0.0949	0.000
Period 2 (after tax haven entry):	-0.0027	0.853
Combined K-S:	0.0949	0.000

Note: Authors' calculations. D is the largest distance between the distributions functions.

The first line tests the hypothesis that ln labor share for period 1 contains smaller values than for period 2. The largest difference between the distribution functions is 0.09 and the p-value for this difference is statistically significant at the highest levels of acceptance. The second line tests the hypothesis that ln labor share for period 1 contains larger values than for period 2. The largest difference between the distribution functions in this direction is -0.0027, and the p-value for this difference is not significant.

A.3 Labor share decomposition

Aggregate evolutions are the result of changes at the micro level, where a pertinent question to ask is whether there are compositional effects. In particular, we would like to know if the increase of the aggregate labor share in France stems mostly from generalized changes in labor shares (i.e., the average firm increases its labor share at constant market shares), from reallocation of market shares towards firms with high labor share firms (at constant levels of labor shares) or from firms entering and exiting the market. In order to assess this question, as [Autor et al., 2020], we follow [Melitz and Polanec, 2015] decomposition for productivity, which we apply to aggregate labor share changes.

More specifically, the [Melitz and Polanec, 2015] decomposition is a dynamic version of the [Olley and Pakes, 1996] (OP) static method of decomposing productivity levels, which applied to the labor share changes in levels between two different periods (ΔLS) reads as follows,⁴²

$$\Delta LS = \underbrace{\Delta ls_S}_{\text{Within-firm}} + \underbrace{\Delta \text{cov}_S}_{\text{Between-firm}} + \underbrace{S_{E2} (LS_{E2} - LS_{S2})}_{\text{Exitors}} + \underbrace{S_{X1} (LS_{S1} - LS_{X1})}_{\text{Entrants}}$$

where the change of the aggregate labor share LS of individual firms ls_i in a given sector between year 1 and year 2 (in sub-indices) is decomposed into four terms accounting for the contribution of survivors (subindex S), exitors (X) and entrants (E). The first term is the within-firm contribution and is the average change of surviving firms in the two periods (S in sub-indices). The second term assesses the between-firm contribution and is the change in the allocation of market shares among survivors; it is measured as the covariance between firm market shares and labor share. The third term is the contribution of entrants (E which by definition are only observed in period 2 and where the reference share of labor is that of surviving firms in period 2). And a fourth term captures the contributions of exitors (X which are only observed in period 1 and whose labor share is compared to that of the surviving firms in period 1).

⁴²For illustration purposes, the static OP decomposition applied to the labor share reads as follows,

$$LS = \underbrace{\left[\frac{1}{N} \sum_i^N ls_i \right]}_{\text{within-firm}} + \underbrace{\sum_i^N (s_i - \bar{s}) (ls_i - \bar{ls})}_{\text{between-firm}}$$

Table 11: Labor Share Dynamic Olley-Pakes Decomposition

	Δ Aggregate labor share	Within-firm term	Between-firm term	Exitors	Entrants
1997-2006	2.08	5.96	-1.63	-2.61	0.36
2007-2015	6.61	11.49	-3.54	-0.93	-0.41

Note: Authors' calculations using manufacturing firms from Ficus-Fare data bases.

The results from this decomposition are shown in Tables 11-14, where we first look at the total market economy, then we exclude MNEs with a presence in a tax haven and then we analyse sector by sector including and excluding tax haven MNEs. The first message arising from this exercise in Table 11, where we examine the whole market economy and we split our sample before and after the 2008 crisis, is that even if we observe a progression of the aggregate labor share in both periods, the increase is much more important after than before the crisis (around 4.5 percentage points higher than before 2008) and this evolution is mostly explained by within-firm increases in the labor share. Interestingly, this result is different from what [Autor et al., 2020] find for the US economy in the sense that the fall in the labor share is (entirely) driven by a reallocation of market shares towards low labor share firms (i.e. by the between-firm term). Nonetheless, our results indeed echo [Autor et al., 2020]'s findings in the sense that the between-firm term drives down the aggregate labor share and this is particularly true after the Great Recession. In this sense, the singularity of the French economy is that, even if we observe an increasing reallocation of market shares towards low labor share firms, there has been a generalized positive trend in firm labor shares which largely counterbalances the negative reallocation effect.

Table 12: Labor Share Dynamic Olley-Pakes Decomposition with/without MNE in tax havens

	Δ Aggregate labor share	Within-firm term	Between-firm term	Exitors	Entrants
All firms 1997-2015	6.64	12.06	-1.07	-3.32	-1.04
Excl. tax havens 1997-2015	4.79	12.09	-4.38	-1.67	-1.25

Authors' calculations using manufacturing firms from Ficus-Fare and Lifi data bases.

On top of this, Table 12 shows that excluding tax haven MNE's, which we define as having either an affiliate or a parent in a tax haven country during the year of interest, strongly drives the aggregate labor share downwards and this happens entirely through the reallocation term. This means that when including tax haven MNEs in the analysis, market reallocation towards low labor share firms - [Autor et al., 2020]'s argument - is weaker than when excluding them, given that their labor shares are relatively higher, as documented by our stylized facts. This is all the more interesting when one takes into account that tax haven MNEs represent only a tiny fraction of our sample - around 0.7% of all firms and 1.21% of all firm-year observations.⁴³ However, these firms are usually responsible for a very important share of the market, which explains why these firms' characteristics strongly influence the between-firm and very little the within-firm term of the decomposition. All in all, the share of value added that rewards labor is more than 2.5 percentage points lower when tax haven MNEs are excluded from the analysis, where we argue that part of this result is explained by a mismeasurement of value added generated in France due to PS. This claim will be formally tested in the following sections. Before that, we briefly analyze how different sectors contribute to the aggregate evolution of the labor share and how they differ when excluding tax haven MNEs from the sample.

Table 13 displays the sector decomposition for the whole sample of firms. A first message arising from this exercise is that the weak contribution of the reallocation term is mainly explained by strong sector composition effects. Indeed, the two sectors for which there is a positive sign for this term, are sectors with a relatively large weight in the overall added value of the market economy. The between-firm term of Electricity, gas, water and waste (D-E) and Information and communications (J) sectors are positive and have, respectively, an average weight of 6% and 8% in the total added value of the market sector during the period. With the exception of these two sectors, the reallocation term is negative and often counterbalances the positive contribution of the within-firm evolution, as pointed out by [Autor et al., 2020].

⁴³More specifically, tax haven MNEs concerns only 19,096 firms (222,523 observations) out of 2,755,473 firms (18,259,555 observations).

Table 13: Labor share Dynamique Olley-Pakes Decomposition (Δ) 1997-2015

Code	Sector	Δ LS	Within Firms	Between Firms	Exit	Entry
A	Agriculture	-18.32	9.23	-19.12	-9.84	1.41
B	Mining and quarrying	5.11	5.39	-9.42	7.06	2.08
C	Manufacturing	1.92	12.01	-6.99	-2.54	-0.55
D-E	Electricity, gas, water & waste	28.70	17.44	51.53	-5.78	-34.49
F	Construction	-0.15	8.86	-6.63	0.52	-2.91
G	Retail	4.78	14.08	-6.73	-2.77	0.20
H	Transportation & storage	-14.02	11.85	-27.75	3.59	-1.07
I	Accommodation & food serv.	10.25	14.66	-4.37	1.60	-1.64
J	Information & communication	20.48	10.94	12.53	-7.62	4.62
K	Financial & insurance act.	8.43	6.47	-12.91	10.32	4.55
M-N	Professional, scientific, technical, administration serv.	2.39	11.59	-6.44	0.19	-3.55
R	Arts & entertainment	8.24	16.88	-9.95	-15.28	16.59
S	Other services	4.05	8.62	-7.28	0.79	1.92
TOTAL	Market economy	6.64	12.06	-1.07	-3.32	-1.04

Source: FICUS-FARE (INSEE), authors' calculation

A more interesting result arises when we repeat the exercise by excluding tax haven MNEs in Table 14. The between-firm term of D-E and J sectors which previously seemed to be outliers given their positive sign, are strongly reduced without tax haven MNEs. The same is true across a number of other sectors, which echoes the results in the aggregate market economy (Tables 1-2), where tax haven MNEs push the labor share upwards. The most interesting case among all is sector J, which includes Information and communication activities, where the reallocation term becomes negative when excluding MNEs with a presence in tax havens. This sector includes the social medias and more generally economic activities that are strongly intensive in intangible assets, which given their footloose nature facilitate PS.⁴⁴ In this respect, this sector may be an exacerbated example of the potential bias introduced by PS on domestic value added (and labor share) measurement. This may also be part of the explanation for the lower magnitude of the between-firm term in Electricity, gas, water and waste sectors (D-E) and is consistent with the "Panama Papers" scandal in which Engie, the French energy giant MNE and one of the few

⁴⁴See for instance [Bricongne et al., 2021] for recent evidence for French firms on how intangible assets facilitate PS.

players in the D-E sector, was involved.⁴⁵

Table 14: Labor share Dynamique Olley-Pakes Decomposition (Δ) 1997-2015, excl. MNE in tax havens

Code	Sector	Δ Aggregate labor share	Within-firm term	Between-firm term	Exiters	Entrants
A	Agriculture	-19.26	9.29	-16.89	-14.39	2.74
B	Mining and quarrying	3.74	5.81	-13.81	8.73	3.02
C	Manufacturing	1.58	12.02	-7.50	-1.91	-1.03
D-E	Electricity, gas, water & waste	11.22	17.81	43.52	-14.51	-35.60
F	Construction	-0.25	8.86	-6.89	0.55	-2.77
G	Retail	4.77	14.19	-6.16	-2.54	-0.72
H	Transportation & storage	0.19	12.04	-3.82	-2.52	-5.52
I	Accommodation & food serv.	9.83	14.42	-5.13	1.96	-1.43
J	Information & communication	5.67	11.19	-5.78	7.40	-7.14
K	Financial & insurance act.	13.66	6.21	-9.94	10.20	7.19
M-N	Professional, scientific, technical, administration serv.	7.14	11.63	-6.16	0.21	1.47
R	Arts & entertainment	13.03	16.89	-12.95	-9.68	18.77
S	Other services	4.89	8.66	-5.67	1.34	0.57
TOTAL	Market economy	4.79	12.09	-4.38	-1.67	-1.25

Source: Author's calculations using LIFI and FICUS-FARE (INSEE) bases.

⁴⁵For more details see next url: https://www.lemonde.fr/paradise-papers/article/2017/11/08/paradise-papers-le-tour-de-passe-passe-d-engie-pour-economiser-des-millions-d-euros-d-impots_5212202_5209585.html

A.4 Additional Tables and Figures

A.4.1 DiD on unbalanced panel

Table 15: Tax haven entry and Labor Share

Dependent variable: ln labor share						
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Tax haven_{ft}</i>	0.0373 ^a (0.00252)	0.0423 ^a (0.00252)	0.0175 ^a (0.00256)	0.0601 ^a (0.00370)	0.0543 ^a (0.00369)	0.0223 ^a (0.00379)
<i>MNE_{ft}</i>				-0.0309 ^a (0.00344)	-0.0179 ^a (0.00348)	-0.00831 ^b (0.00367)
<i>MNE Lwc_{ft}</i>				0.0561 ^a (0.0128)	0.0457 ^a (0.0126)	0.0108 (0.0135)
<i>Share skilled_{ft}</i>				0.130 ^a (0.00450)	0.0834 ^a (0.00583)	0.0491 ^a (0.00829)
<i>Num. Affiliates_{ft}</i>				-0.000287 (0.000194)	-0.000671 ^a (0.000193)	0.000128 (0.000260)
<i>Export intensity_{ft}</i>				-0.0538 ^a (0.00432)	-0.0562 ^a (0.00464)	-0.0647 ^a (0.00781)
<i>N</i>	139817	139762	139602	135221	135164	134922
adj. <i>R</i> ²	0.013	0.072	0.549	0.021	0.077	0.555
Firm FE	No	No	Yes	No	No	Yes
2-dig. sector X year FE	No	Yes	Yes	No	Yes	Yes
Year dummies	Yes	No	No	Yes	No	No

Robust standard errors in parentheses

^c $p < 0.10$, ^b $p < 0.05$, ^a $p < 0.001$

Table 16: Tax haven entry and Labor Share components

	Dependent variable				
	ln labor share (1)	ln VA (2)	ln wage bill (3)	ln av. wages (4)	ln num. workers (5)
<i>Tax haven_{ft}</i>	0.0223 ^a (0.00379)	-0.108 ^a (0.00697)	-0.0859 ^a (0.00606)	-0.00549 (0.00390)	-0.0804 ^a (0.00684)
<i>MNE_{ft}</i>	-0.00831 ^b (0.00367)	0.128 ^a (0.00673)	0.120 ^a (0.00586)	0.00273 (0.00375)	0.117 ^a (0.00663)
<i>MNE Lwc_{ft}</i>	0.0108 (0.0135)	0.0257 (0.0279)	0.0365 (0.0247)	0.0370 ^b (0.0149)	-0.000541 (0.0270)
<i>Share skilled_{ft}</i>	0.0491 ^a (0.00829)	-0.194 ^a (0.0179)	-0.145 ^a (0.0170)	0.228 ^a (0.0107)	-0.373 ^a (0.0186)
<i>Num. Affiliates_{ft}</i>	0.000128 (0.000260)	0.00268 ^a (0.000539)	0.00281 ^a (0.000430)	0.00153 ^a (0.000279)	0.00128 ^b (0.000436)
<i>Export intensity_{ft}</i>	-0.0647 ^a (0.00781)	0.218 ^a (0.0157)	0.154 ^a (0.0138)	0.0452 ^a (0.00891)	0.108 ^a (0.0146)
<i>N</i>	134922	134922	134922	134922	134922
adj. <i>R</i> ²	0.555	0.907	0.924	0.735	0.909
Firm FE	Yes	Yes	Yes	Yes	Yes
2-dig. sector X year FE	Yes	Yes	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes	Yes

Robust standard errors in parentheses

^c $p < 0.10$, ^b $p < 0.05$, ^a $p < 0.001$

A.4.2 DiD on whole sample of MNES

Table 17: Whole sample of MNES

Dependent variable: ln labor share						
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Tax haven_{ft}</i>	0.00445 ^b (0.00209)	0.00723 ^b (0.00223)	0.0115 ^a (0.00207)	0.00810 ^a (0.00222)	0.0143 ^a (0.00221)	0.0134 ^a (0.00243)
<i>MNE_{ft}</i>		-0.00180 (0.00139)		0.00767 ^a (0.00140)		0.00129 (0.00147)
<i>MNE Lwc_{ft}</i>		0.0281 ^a (0.00844)		0.0237 ^b (0.00826)		0.0174 ^b (0.00855)
<i>Share skilled_{ft}</i>		0.131 ^a (0.00248)		0.0886 ^a (0.00315)		0.0557 ^a (0.00443)
<i>Num. Affiliates_{ft}</i>		-0.000889 ^a (0.000160)		-0.00138 ^a (0.000184)		-0.0000177 (0.000208)
<i>Export intensity_{ft}</i>		-0.0441 ^a (0.00234)		-0.0403 ^a (0.00247)		-0.0651 ^a (0.00412)
<i>N</i>	424217	410075	424165	410019	423521	409078
adj. <i>R</i> ²	0.010	0.018	0.052	0.057	0.522	0.529
Firm FE	No	No	Yes	No	No	Yes
2-dig. sector X year FE	No	Yes	Yes	No	Yes	Yes
Year dummies	Yes	No	No	Yes	No	No

Robust standard errors in parentheses

^c $p < 0.10$, ^b $p < 0.05$, ^a $p < 0.001$

A.4.3 Dynamics: Panel-event study

Table 18: Labor share components: dynamics

	Dependent variable				
	ln labor share (1)	ln VA (2)	ln wage bill (3)	ln av. wages (4)	ln num. workers (5)
MNE_{ft}	-0.0103 ^c (0.00545)	0.117 ^a (0.0103)	0.106 ^a (0.00903)	-0.00351 (0.00535)	0.110 ^a (0.0103)
$MNE\ Lwc_{ft}$	0.00490 (0.0173)	0.0885 ^b (0.0374)	0.0934 ^b (0.0349)	0.0242 (0.0192)	0.0691 ^c (0.0393)
$Share\ skilled_{ft}$	0.0181 (0.0129)	-0.208 ^a (0.0286)	-0.189 ^a (0.0271)	0.270 ^a (0.0163)	-0.459 ^a (0.0315)
$Num.\ Affiliates_{ft}$	-0.000278 (0.000320)	0.00205 ^b (0.000625)	0.00177 ^b (0.000564)	0.00163 ^a (0.000324)	0.000147 (0.000618)
$Export\ intensity_{ft}$	-0.0704 ^a (0.0111)	0.207 ^a (0.0230)	0.136 ^a (0.0201)	0.0450 ^a (0.0126)	0.0912 ^a (0.0223)
Lag 6	-0.0129 (0.00838)	0.0222 (0.0160)	0.00932 (0.0142)	0.0199 ^b (0.00823)	-0.0106 (0.0156)
Lag 5	-0.00890 (0.00810)	0.0171 (0.0142)	0.00816 (0.0123)	0.0171 ^b (0.00767)	-0.00889 (0.0138)
Lag 4	-0.0145 ^c (0.00738)	0.0185 (0.0136)	0.00406 (0.0119)	0.00484 (0.00733)	-0.000779 (0.0133)
Lag 3	-0.0000570 (0.00732)	0.00622 (0.0129)	0.00617 (0.0114)	0.00666 (0.00708)	-0.000491 (0.0125)
Lag 2	0.00392 (0.00698)	-0.000885 (0.0126)	0.00304 (0.0111)	0.00625 (0.00689)	-0.00321 (0.0123)
Lead 0	0.0118 (0.00823)	-0.110 ^a (0.0150)	-0.0979 ^a (0.0132)	0.00114 (0.00808)	-0.0991 ^a (0.0147)
Lead 1	0.0271 ^b (0.00871)	-0.122 ^a (0.0159)	-0.0953 ^a (0.0140)	-0.000530 (0.00814)	-0.0947 ^a (0.0156)
Lead 2	0.0478 ^a (0.00949)	-0.135 ^a (0.0172)	-0.0867 ^a (0.0151)	-0.00297 (0.00913)	-0.0837 ^a (0.0169)
Lead 3	0.0553 ^a (0.0104)	-0.155 ^a (0.0184)	-0.0998 ^a (0.0160)	0.00644 (0.00955)	-0.106 ^a (0.0184)
Lead 4	0.0400 ^a (0.0104)	-0.133 ^a (0.0192)	-0.0932 ^a (0.0168)	-0.00136 (0.00990)	-0.0918 ^a (0.0192)
Lead 5	0.0450 ^a (0.0113)	-0.148 ^a (0.0204)	-0.103 ^a (0.0180)	-0.00751 (0.0120)	-0.0953 ^a (0.0214)
Continued on next page					

Table18– continued from previous page

	Dependent variable				
	ln labor share	ln VA	ln wage bill	ln av. wages	ln num. workers
	(1)	(2)	(3)	(4)	(5)
Lead 6	0.0544 ^a (0.0122)	-0.165 ^a (0.0223)	-0.110 ^a (0.0194)	-0.0220 ^c (0.0119)	-0.0885 ^a (0.0220)
Lead 7	0.0390 ^b (0.0130)	-0.138 ^a (0.0240)	-0.0986 ^a (0.0212)	-0.0277 ^b (0.0126)	-0.0709 ^b (0.0235)
Lead 8	0.0623 ^a (0.0141)	-0.194 ^a (0.0257)	-0.131 ^a (0.0227)	-0.0261 ^c (0.0138)	-0.105 ^a (0.0264)
Lead 9	0.0818 ^a (0.0134)	-0.261 ^a (0.0256)	-0.180 ^a (0.0227)	-0.0112 (0.0129)	-0.168 ^a (0.0249)
<i>N</i>	51670	51670	51670	51670	51670
adj. <i>R</i> ²	0.555	0.906	0.924	0.755	0.903
Firm FE	Yes	Yes	Yes	Yes	Yes
2-dig. sector X year FE	Yes	Yes	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes	Yes

Robust standard errors in parentheses

^c $p < 0.10$, ^b $p < 0.05$, ^a $p < 0.001$

A.4.4 Placebo test

Table 19: Placebo

	Dependent variable: ln labor share					
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Tax haven Placebo_{ft}</i>	0.00150 (0.00202)	0.00110 (0.00198)	0.000535 (0.00148)	0.00101 (0.00203)	0.000753 (0.00199)	0.000544 (0.00148)
<i>MNE_{ft}</i>				-0.000225 (0.00255)	0.00947 ^a (0.00250)	0.00448 ^b (0.00182)
<i>MNE Lwc_{ft}</i>				0.0281 ^c (0.0167)	0.0236 (0.0155)	0.0163 (0.0114)
<i>Share skilled_{ft}</i>				0.131 ^a (0.00514)	0.0884 ^a (0.00614)	0.0557 ^a (0.00610)
<i>Num. Affiliates_{ft}</i>				-0.000870 ^b (0.000402)	-0.00136 ^b (0.000443)	0.0000150 (0.000330)
<i>Export intensity_{ft}</i>				-0.0443 ^a (0.00550)	-0.0404 ^a (0.00563)	-0.0652 ^a (0.00570)
<i>N</i>	424217	424165	423521	410075	410019	409078
adj. <i>R</i> ²	0.010	0.052	0.521	0.018	0.057	0.529
Firm FE	No	No	Yes	No	No	Yes
2-dig. sector X year FE	No	Yes	Yes	No	Yes	Yes
Year dummies	Yes	No	No	Yes	No	No

Robust standard errors in parentheses

^c $p < 0.10$, ^b $p < 0.05$, ^a $p < 0.001$

Table 20: Placebo Tax haven entry and Labor Share

	Dependent variable: ln labor share					
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Tax haven Placebo_{ft}</i>	-0.0015 (0.0022)	-0.0017 (0.0022)	-0.0006 (0.0016)	-0.0006 (0.0022)	-0.0011 (0.0011)	-0.0001 (0.0016)
<i>MNE_{ft}</i>				0.0103 ^a (0.00251)	0.0176 ^a (0.00247)	0.00735 ^a (0.00179)
<i>MNE Lwc_{ft}</i>				0.0270 ^c (0.0163)	0.0243 (0.0153)	0.0115 (0.0112)
<i>Share skilled_{ft}</i>				0.128 ^a (0.00506)	0.0904 ^a (0.00603)	0.0569 ^a (0.00599)
<i>Num. Affiliates_{ft}</i>				-0.000671 ^c (0.000391)	-0.000997 ^b (0.000417)	-0.000111 (0.000325)
<i>Export intensity_{ft}</i>				-0.0374 ^a (0.00536)	-0.0374 ^a (0.00551)	-0.0679 ^a (0.00555)
<i>N</i>	139817	139762	139602	135221	135164	134922
adj. <i>R</i> ²	0.010	0.052	0.521	0.034	0.069	0.538
Firm FE	No	No	Yes	No	No	Yes
2-dig. sector X year FE	No	Yes	Yes	No	Yes	Yes
Year dummies	Yes	No	No	Yes	No	No

Robust standard errors in parentheses

^c $p < 0.10$, ^b $p < 0.05$, ^a $p < 0.001$

Table 21: Placebo Tax haven entry and Labor Share components

	Dependent variable				
	ln labor share (1)	ln VA (2)	ln wage bill (3)	ln av. wages (4)	ln num. workers (5)
<i>Tax haven Placebo_{ft}</i>	0.00239 (0.00166)	0.000935 (0.00302)	0.00332 (0.00267)	-0.000227 (0.00174)	0.00355 (0.00290)
<i>MNE_{ft}</i>	0.00745 ^b (0.00250)	0.0518 ^a (0.00458)	0.0593 ^a (0.00403)	-0.00116 (0.00265)	0.0604 ^a (0.00438)
<i>MNE Lwc_{ft}</i>	0.00711 (0.0135)	0.0435 (0.0280)	0.0506 ^b (0.0248)	0.0379 ^b (0.0148)	0.0127 (0.0272)
<i>Share skilled_{ft}</i>	0.0493 ^a (0.00830)	-0.195 ^a (0.0179)	-0.146 ^a (0.0170)	0.228 ^a (0.0107)	-0.374 ^a (0.0186)
<i>Num. Affiliates_{ft}</i>	0.000165 (0.000259)	0.00250 ^a (0.000539)	0.00266 ^a (0.000430)	0.00152 ^a (0.000278)	0.00114 ^b (0.000437)
<i>Export intensity_{ft}</i>	-0.0646 ^a (0.00782)	0.218 ^a (0.0157)	0.153 ^a (0.0138)	0.0452 ^a (0.00891)	0.108 ^a (0.0147)
<i>N</i>	134922	134922	134922	134922	134922
adj. <i>R</i> ²	0.555	0.907	0.924	0.735	0.909
Firm FE	Yes	Yes	Yes	Yes	Yes
2-dig. sector X year FE	Yes	Yes	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes	Yes

Robust standard errors in parentheses

^c $p < 0.10$, ^b $p < 0.05$, ^a $p < 0.001$

Table 22: Placebo Labor share components: treated firms and balanced panel

	Dependent variable				
	ln labor share (1)	ln VA (2)	ln wage bill (3)	ln av. wages (4)	ln num. workers (5)
<i>Tax haven Placebo_{ft}</i>	-0.00152 (0.00248)	0.000214 (0.00465)	-0.00131 (0.00413)	-0.00138 (0.00247)	0.0000734 (0.00458)
<i>MNE_{ft}</i>	0.00439 (0.00403)	0.0499 ^a (0.00755)	0.0543 ^a (0.00666)	-0.00602 (0.00393)	0.0603 ^a (0.00738)
<i>MNE Lwc_{ft}</i>	0.00116 (0.0173)	0.104 ^b (0.0377)	0.106 ^b (0.0351)	0.0243 (0.0191)	0.0813 ^b (0.0396)
<i>Share skilled_{ft}</i>	0.0197 (0.0129)	-0.214 ^a (0.0286)	-0.194 ^a (0.0271)	0.270 ^a (0.0163)	-0.464 ^a (0.0314)
<i>Num. Affiliates_{ft}</i>	-0.000160 (0.000321)	0.00168 ^b (0.000635)	0.00152 ^b (0.000571)	0.00162 ^a (0.000324)	-0.0000972 (0.000627)
<i>Export intensity_{ft}</i>	-0.0711 ^a (0.0111)	0.208 ^a (0.0230)	0.136 ^a (0.0201)	0.0453 ^a (0.0127)	0.0912 ^a (0.0223)
<i>N</i>	51670	51670	51670	51670	51670
adj. <i>R</i> ²	0.554	0.905	0.923	0.755	0.903
Firm FE	Yes	Yes	Yes	Yes	Yes
2-dig. sector X year FE	Yes	Yes	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes	Yes

Robust standard errors in parentheses

^c $p < 0.10$, ^b $p < 0.05$, ^a $p < 0.001$

A.4.5 Mechanisms

[INCLUDE TABLE MECHANISMS HERE]

Figure 8: EBIDTA and tax haven entry

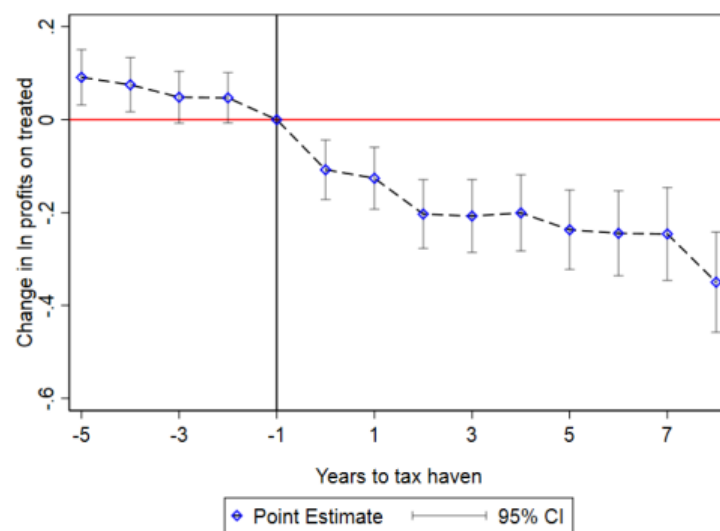


Figure 9: EBIDTA and becoming an MNE (excluding tax havens)

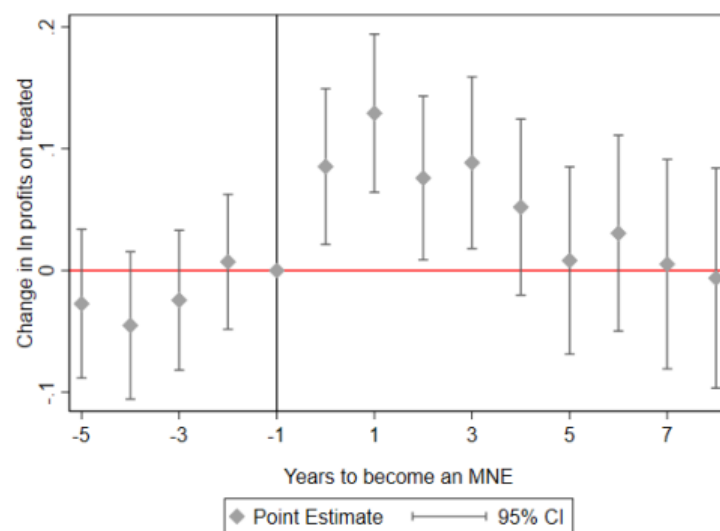


Table 23: Real vs. artificial decline in value added

	(1)	(2)
	ln VA	ln VA
<i>Tax haven_{ft}</i>	-0.114 ^a (0.0113)	-0.0450 ^a (0.00758)
<i>ln employment_{ft}</i>		0.652 ^a (0.00828)
<i>ln K_{ft}</i>		0.143 ^a (0.00436)
<i>MNE_{ft}</i>	0.114 ^a (0.0104)	0.0230 ^a (0.00685)
<i>MNE Lwc_{ft}</i>	0.0853 ^b (0.0385)	0.00623 (0.0225)
<i>Share skilled_{ft}</i>	-0.220 ^a (0.0294)	0.157 ^a (0.0182)
<i>N</i>	50466	50020
adj. <i>R</i> ²	0.907	0.959
Firm FE	Yes	Yes
2-dig. sector X year FE	Yes	Yes
Firm controls	Yes	Yes

Standard errors in parentheses

^c $p < 0.10$, ^b $p < 0.05$, ^a $p < 0.001$

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