

## WHAT LESSONS CAN BE LEARNED FROM CAPITAL INCOME TAX REFORMS?

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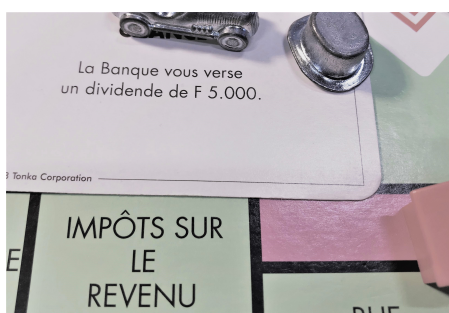
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The abolition of the flat-rate withholding tax (prélèvement forfaitaire libérateur - PFL) in 2013 and the introduction of the unique flat tax (prélèvement forfaitaire unique - PFU) in 2018 are two important—and contrary—capital income tax reforms. The first aimed to “restore tax justice” while the second aimed to “promote private investment”. Using the tax data of households and companies, we evaluate the impact of the 2013 reform and present preliminary findings regarding the impact of the 2018 reform. We find raising capital income taxes to have a strong negative impact on dividends received by households, and no impact on other types of income (pay, capital gains and other capital income). Using company data, we identify the mechanism explaining this decrease in dividends received: companies directly controlled by natural persons residing in France reduced or stopped the distribution of dividends between 2013 and 2017. We observe an increase in the financial assets held by these companies, an increase in equity capital and a decrease in net result, but no effect on investment. The implications of these findings are major: the 2013 reform led to a net loss in tax receipts but had no negative impact on investment. Based on data from commercial court registries, there was a 15.3% increase in dividends paid in 2018, attributable to the unique flat tax reform. This increase in the distribution of dividends, parallel to the decrease in 2013, will lead to greater tax receipts than initially anticipated. However, in light of the effects of the 2013 reform, it appears unlikely that this reform will have a positive effect on private investment.

- The 2013 reform abolishing the flat-rate withholding tax led to a 40% decrease in declared dividends, but no change in other types of household income.
- Companies controlled directly by natural persons stopped the distribution of dividends and accumulated more financial assets. We also observe an increase in equity and a decrease in net result.
- The 2013 reform did not have negative effects on investment. The finding that dividend taxation does not affect investment is corroborated by studies of American and Swedish data.
- The 2013 reform projected €400 million in tax receipts, but after factoring in the observed behavioural reactions, it led to a loss of €900 million in income tax and social security contribution receipts.
- The introduction of the unique flat tax in 2018 led to a 15% increase in dividends paid. If social security contributions are included, the unique flat tax would result in a cost to the public finances of €400 million in 2018, compared to €900 million if behavioural reactions are not factored in.
- In light of the effects measured in 2013, the unique flat tax reform is unlikely to lead to an increase in private investment.



The Institut des Politiques Publiques (IPP) has been developed through a scientific partnership between the Paris School of Economics (PSE) and the Centre for Research in Economics and Statistics (CREST). IPP's aim is to promote quantitative analysis and evaluation of public policy using cutting-edge research methods in economics.

When François Hollande announced the measure of abolishing the flat-rate withholding tax as part of his programme, the aim was to “restore tax justice” by taxing capital income like earned income according to the progressive income tax schedule. In 2017, Emmanuel Macron’s programme announced a measure to implement a unique flat tax of 30% in order to “promote private investment”. What can be said of the concrete implementation of these objectives?

Thanks to high-quality administrative data made available to researchers by the French General Directorate of Public Finances (Direction générale des Finances publiques - DGFIP), it is now possible to evaluate the impact of these reforms. We present here the summary results of a first study based on the tax data of households and companies, commissioned by the Finance Committee of the French Senate.

## 2013 and 2018 reforms

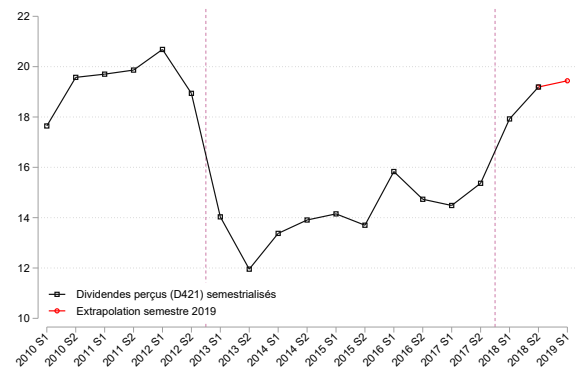
In 2012, French taxpayers had the choice, for the taxation of capital income, between being taxed according to the progressive income tax schedule—the default option—and being taxed at a fixed rate with the flat-rate withholding tax. The option was only advantageous for taxpaying households in higher income tax brackets.

In 2013, the flat-rate withholding tax option was abolished and capital income (dividends and interest) were once again taxed according to the income tax schedule. This increased the top marginal rate of tax on dividends by 2.5 per cent between 2012 and 2013, from 57.6% to 60.1%. In 2018, the unique flat tax was introduced by the Finance Law for 2018, at the rate of 12.8%, which, when combined with the social security contributions of 17.2%, raised the rate to 30%. This lowered the top marginal tax rate by 6.8 per cent, from 60.1% in 2017 to 53.3% in 2018 (see Box 1).

Graph 1 presents the aggregate data from the national accounts available up to the first half of 2019. We observe a massive drop in total dividends received by households in 2013, the first year in which this income was taxed according to the income tax schedule (decrease of €13.6 billion from the previous year), and a sharp rise in 2018, the first year affected by the introduction of the unique flat tax (increase of €7.3 billion). Changes in dividends depend first and foremost on company profits, which vary considerably according to the economic situation, and it is impossible to draw conclusions on the impact of the tax reforms based solely on these changes in the economic

context.

Figure 1: Changes in dividends received by households – national accounts



Source: National accounts, INSEE; authors' calculation for 2019.

## Impact evaluation methodology

To evaluate the impact of the capital income tax reforms, a counterfactual scenario must be established, i.e., the case of households or companies not affected by the reforms, in order to estimate the causal effect of these reforms separate from the economic situation. Access to individual data makes it possible to use this type of methodology.

### The data used

This study is based on new data. We use the data from the panel of income tax returns available to researchers since July 2019. The data provide all of the information pertaining to all tax households subject to income tax. Because each tax household is represented by an identifier that remains the same year to year, the tax households can be monitored over time. This access is obtained through the procedures of the Statistical Confidentiality Committee and the technical resources of the Centre for Secure Access to Data (CASD), ensuring strict compliance with the protection of personal data.

In addition to household tax data, we also use exhaustive data from company tax files provided by the DGFIP, INSEE data on the earnings of the self-employed (self-employment database), data on company accounts from the commercial court registries, information on financial relations between companies, and business data on the composition of their shareholder bodies.

Lastly, we use the TAXIPP microsimulation model developed at the IPP. This model simulates the entire French tax

## Box 1: Dividend tax reforms (2008-2018)

The decade from 2008 to 2018 was characterised by numerous dividend tax reforms.

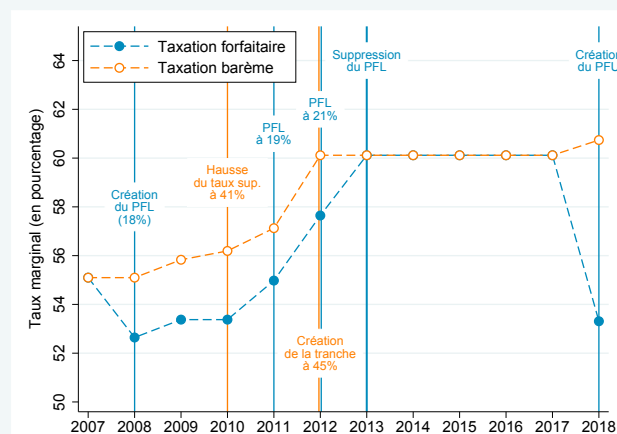
**2008 reform.** The introduction of flat-rate withholding tax for dividends offered the option of taxation at a flat rate of 18%, which, when combined with the social security contributions of 11% and the corporate tax rate of 33.3%, brought the top marginal rate to 52.6%.

**2011 and 2012 increases in flat-rate withholding tax** In 2011 and 2012, the rate of social security contributions rose from 12.1% to 15.5%, and the flat-rate withholding tax rate went from 18% to 21%. Thus, the top marginal rate of tax on dividends (with the flat-rate withholding tax) rose 4.2 per cent over this period, from 53.4% to 57.6%.

**2013 reform.** With the abolition of the flat-rate withholding tax, dividends were once again taxed according to the progressive income tax schedule, with a new 45% tax bracket. The top marginal rate of tax on dividends rose 2.5 per cent between 2012 and 2013, from 57.6% to 60.1%.

**2018 reform.** Flat-rate taxation of dividends was reintroduced in 2018 with the creation of the unique flat tax at 12.8%, which, when combined with the social security contributions of 17.2%, brought the rate to 30%. This reform constitutes the largest variation in dividend taxes over the decade. The top marginal tax rate decreased 6.8 per cent in 2018, from 60.1%

### Marginal tax rate of dividends



Notes: For a given test case, the graph shows the changes in the marginal rate of tax on dividends for two options: either declaring dividends to be taxed according to the progressive income tax schedule, or the flat-rate withholding tax not subject to income tax. In both cases, the marginal rate includes corporate tax at the standard rate. The test case shown corresponds to a household whose net taxable income places it in the 45% tax bracket, but which is not subject to the exceptional contribution on high income. Sources: IPP schedules; TAXIPP 1.0.

and social security system applied to administrative data, and can be used to precisely identify the impact on each French household of different variations in capital income taxes.<sup>1</sup>

### The difference in differences method

The method used to determine the causal impact of the 2013 reform consists in comparing two groups of tax households or companies, before and after the reform. One group, said to have been “treated”, contains taxpayers liable to be affected by the reform, whereas the control group is made up of taxpayers who are not affected. This technique, called the difference in differences method, is based on comparing the difference between the treatment and control groups before and after the reform. To check the method’s relevance for drawing robust conclusions, it must be verified that the two groups follow similar trend lines before the reform and only diverge after its implementation.

With the household tax data, we utilise the fact that a proportion of the households in the higher income tax bracket

had not chosen the flat-rate withholding tax option for their dividends. As they were taxed according to the income tax schedule before and after the reform, these households are not affected by the tax change. Conversely, the households that did opt for flat-rate withholding tax before the reform saw their rate of tax on dividends increase after the flat-rate withholding tax was abolished.

The company tax data does not tell us which shareholders were taxed according to which system (the flat-rate withholding tax or income tax schedule) before the reform. However, we can distinguish between companies wholly-owned by natural persons in 2011—and thus liable to be affected by the change in capital income tax—and those owned by legal persons or with a minority of natural-person shareholders unable to directly decide how profits are distributed. We apply the same difference in differences methodology to these two groups of companies.

### Taking account of the other 2013 reforms

The 2013 reform that abolished the flat-rate withholding tax option was concomitant with other tax changes. The introduction of 75% tax on remuneration for work in

<sup>1</sup>Documentation on the TAXIPP model is available on the IPP website: <https://www.ipp.eu/methodes/taxipp-outils/>.

excess of €1 million was studied by Guillot (2019), who shows the significant optimisation effects brought about by the reform. Also introduced in 2013 was an anti-abuse clause concerning managing directors of limited liability companies (SARL) in which they hold a majority stake, requiring their dividends to be taxed as pay. Boissel and Matray (2019) reveal a sharp decrease in dividends paid by these companies<sup>2</sup>.

In this study, we aim to isolate the effect of the abolition of final taxation of source (the flat-rate withholding tax) from other tax reforms, e.g., by excluding from our sample limited liability companies in which the managing directors hold a majority stake, and by excluding households having opted for the tax provisions reserved for said managing directors. It is important to note, however, that the multiple reforms implemented in 2013 may have been perceived as a package or based on announcements made during the 2012 presidential campaign, and therefore may also play a role in the effects measured in this study.

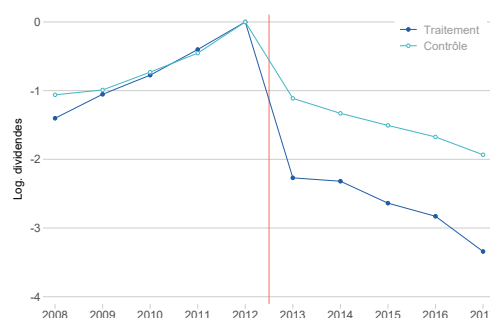
## Evaluation of the 2013 reform

### Measuring the impact on household income

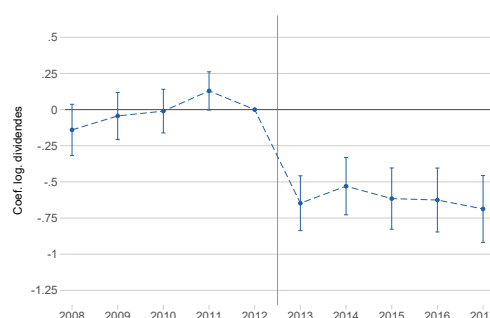
Based on the exhaustive income tax statement data, we estimate the impact of applying the schedule for capital income to declared income. To obtain comparable groups of taxpayers, we consider a sample of high-income households regularly receiving significant dividends before the reform. Graph 2a shows the change in dividends received by the households in the treatment and control groups. The upward trend is similar in both groups before the reform but diverges sharply after it, with a more significant decrease in the treatment group, i.e., for households which before 2013 had opted for the flat-rate withholding tax. Graph 2b shows the estimated difference in differences corresponding to the previous graph. We obtain a strongly negative impact of the 2013 reform on dividends, with a 40% decrease in declared dividends.

Figure 2: Impact of the 2013 reform on household income

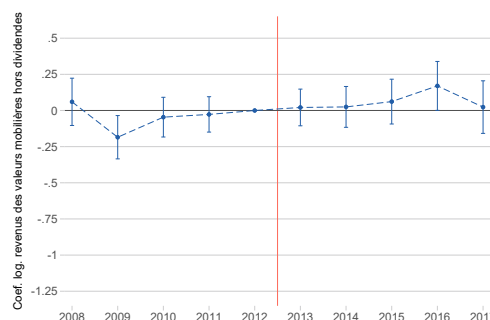
(a) Evolution of perceived dividends in treatment and control groups



(b) Impact estimates – perceived dividends



(c) Impact estimates – other capital income



Notes: The estimated difference in differences compares households receiving dividends in 2012, according to whether they opted for flat-rate withholding tax (treatment group) or taxation according to the income tax schedule (control group).

Sources: POTE panel study files, 2008-2017.

Performing the same estimate on other types of declared household income (pay, capital gains, and other income from securities), we find no impact of the reform in these cases. Graph 2c shows the impact on interest income or other fixed-yield income, for which no effect is detected.

**“The abolition of flat-rate withholding tax led to a 40% decrease in dividends received by households, but no variation in other types of income, pay or other capital income.”**

<sup>2</sup>Other studies are also in progress to evaluate the 2013 reforms, notably those by Aghion et al. (2019) and Lefèbvre et al. (2019).

rect effects of the reform—a tax household in the control group may in fact hold shares in companies for which the majority of the shareholders are affected by the reform—or the impact of other measures introduced, such as the 45% tax bracket. Our measurement of the reaction of treated households does not take account of these other effects, which may also affect declared income.

### Understanding dividends' strong reaction to taxes: contribution of company data

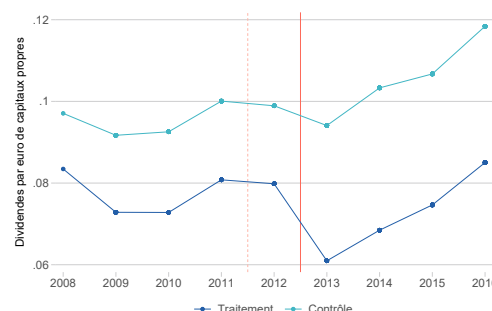
Thus, dividends received by households dropped significantly as a result of the 2013 reform. Understanding the mechanism behind this massive drop is essential in order to be able to draw conclusions on the effects of other tax reforms. From a theoretical perspective, households may react to a raise in capital tax by decreasing their savings ratio, by changing the composition of their assets, or, as shareholders, by impacting the profit distribution policy. Based on the company tax data, using the difference of differences method, we estimate the impact of applying the capital income tax schedule to dividends paid and companies' room for margin in decision-making. We define the treatment group as all companies wholly-owned by natural persons in 2011, and the control group as all companies with mixed ownership<sup>3</sup>.

Graph 3a shows the change in dividends paid in our treatment and control groups. The trends are parallel before the reform, and in 2013, a clear break in trend can be seen solely in the treatment group. The difference of differences estimation is shown in graph 3b. The ratio of dividends paid to equity goes down by around 1.6 cents (per euro of equity) in the treatment group, i.e. 20.7% of the pre-reform average. A significant part of this effect comes from the probability of paying dividends which decreases by 7 per cent in the treatment group (i.e. 17% lower than the pre-reform average). The estimated effect on companies is lower than for households because only a portion of the companies in the treatment group are actually affected by the reform.

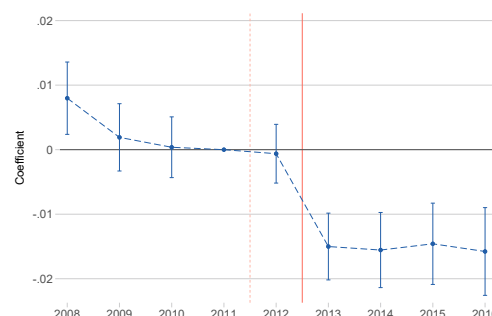
<sup>3</sup>Companies in which no legal-person shareholder holds more than 95% of the shares, and in which any natural-person shareholders collectively own less than 50% of the capital.

Figure 3: Impact of the 2013 reform in company accounts

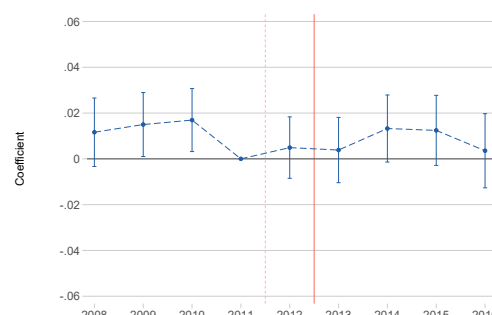
#### (a) Dividends paid by treatment vs control group



#### (b) Impact estimates – dividends paid



#### (c) Impact estimates – investment



Notes: For panels a) and b), the variable studied is the amount of dividends paid divided by the company's level of equity in 2011. For panel c), investment corresponds to the variation in tangible and intangible assets.

Sources: BIC-RN, FDG, LIFI, DADS Postes, Self-employment database files.

**“The 2013 reform led to a sharp decrease in dividends paid by companies wholly-owned by natural persons, but had no negative impact on investment.”**

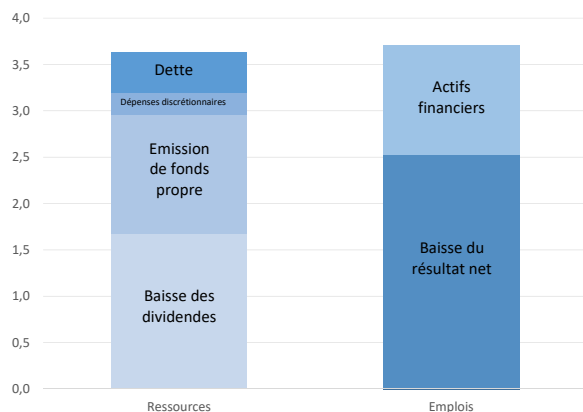
Graph 3c shows the effect of the 2013 reform on company investment: there is no apparent negative impact. This finding contradicts traditional economic theory which posits that companies' marginal investments are financed by issuing new shares, and should therefore be negatively impacted by the taxation of dividends. These findings on French data are however similar to findings in other countries where dividend tax reforms have been introduced, such as the 2003 reform in the United States



(Yagan, 2015) or Sweden's 2006 reform (Alstadsæter et al., 2017).

To understand all of the ways in which companies reacted to the 2013 reform, we estimate the impact of the reform on the different components of company accounts.

**Figure 4: Breakdown of the impact of the 2013 reform on company accounts**



Notes: This graph shows the regression coefficients of the double difference estimates for each company accounts variable. These coefficients are interpreted as the effects of the 2013 reform in cents per euro of equity in 2011.

Sources: BIC-RN, FDG, LIFI, DADS Postes, Self-employment database files.

Graph 4 shows these effects, distinguishing between impacts on company resources (cash inflow) and on employment (use of funds). In terms of resources, in addition to the decrease in dividends paid, we find a positive effect on company equity, suggesting that their shareholders also transferred personal resources to their companies. In terms of employment, we find a negative impact on the net result, suggesting higher intermediate consumption, which may be the result of either intangible investments or additional personal spending. Lastly, there is an increase in company assets (liquid and other financial assets), suggesting a form of “encapsulation” of undistributed profits.

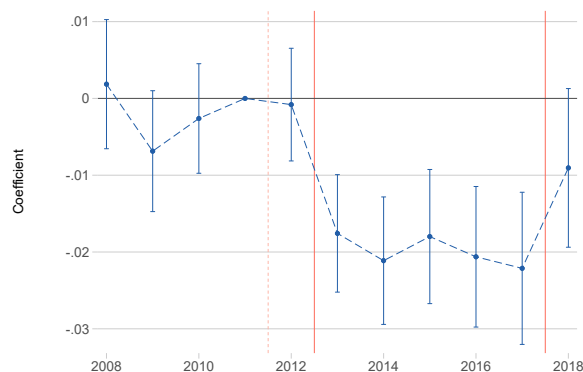
## Introduction of the unique flat tax in 2018: what effects can be expected?

### A first ex post evaluation

Analysing the impact of introducing the unique flat tax is limited by the available data: we have access to tax data only up to 2016. We therefore use the data from the commercial court registries for the years 2017 and 2018. Moreover, a single year of post-reform decrease

is not enough to detect certain potential effects of the reform.

**Figure 5: Impact of introducing the unique flat tax on distribution of company dividends**



Notes: The graph shows the regression coefficients obtained using the difference of differences dynamic, taking as the dependent variable the dividends paid per euro of fixed equity in 2011. All companies in the treatment group or the control group are companies that were present in 2011 and 2012 and have fiscal years ending on 31 December. Companies included in the treatment group were wholly-owned by natural persons in 2011 and in 2016.

Sources: Registry of trade and companies, BIC-RN, FDG, LIFI, DADS Postes, Self-employment database files.

Nevertheless, based on the available data for 2018, we find a positive causal effect of the reform on the distribution of dividends. Graph 5 illustrates this rise in dividends paid in 2018 for the sample of companies present in 2011 and also affected by the 2013 reform. We find a significant rise in both the proportion of companies paying dividends (+3.5 per cent) and the both amount paid (+6 cents per euro of results). This rise in dividends is associated with a decrease in company assets, suggesting that the reform stimulated the reallocation of capital into the economy, with affected companies reducing their cash situation.

### What lessons can be learned?

The first takeaway from this study is that there are strong behavioural responses to dividend taxes. The feedback channel is primarily in the name of tax optimisation: taxpayers affected by the rise in dividend taxes preferred to stop distributing their companies' profits to avoid the higher taxes between 2013 and 2017.

**“The strong behavioural responses to dividend taxes are primarily in the name of tax optimisation.”**

These optimisation behaviours had significant effects on tax receipts. Table 1 compares static estimates to dynamic

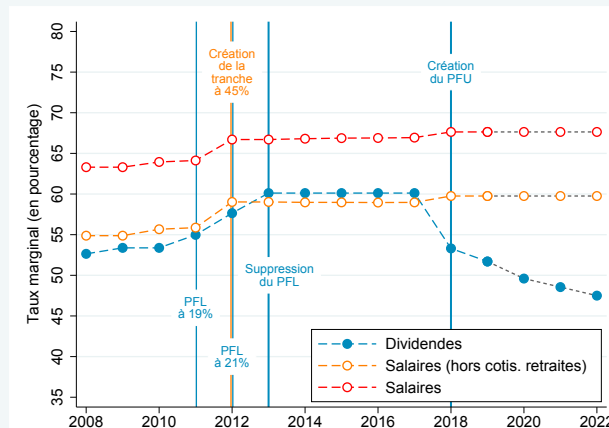
## Box 2: Income shifting phenomena

**A growing gap between tax on dividends and wages.** The graph opposite shows the change in the top marginal rate of tax on wages and dividends, factoring in all contributions. Throughout the entire period, tax on wages (including retirement contributions) is significantly higher than tax on dividends. If retirement contributions are considered deferred wages, the rate of tax on wages is close to the taxation of dividends up to 2017. The introduction of the unique flat tax leads to a greater difference in the taxation of the two forms of income, which goes from -1.7 to +6.4 per cent. The scheduled decrease in corporate tax up to 2022 will further increase this difference, bringing it to 10.1 per cent.

**The Nordic countries' experience.** The introduction of a flat-rate withholding tax on capital income in the 1990s led to multiple studies revealing the resulting conversion of earned income into dividends (Alstadsæter and Jacob, 2016; Harju and Matikka, 2016).

**Impact of the 2013 reform.** We estimate the impact of raising the tax on dividends (relative to pay) in 2013, but detect no effect of pay being substituted for dividends. This finding can be explained by the fact that, from a fiscal perspective, the incentive to provide compensation in the form of pay—which is taxed at a higher rate—remains low in the French context.

### Taux marginal d'imposition des dividendes et des salaires



Notes: The marginal rates shown are applied to super-gross income. They correspond to the case of an executive with annual taxable income between four and eight times the social security ceiling. The marginal rate on dividends includes corporate tax, social security contributions and income tax (assuming that the person elects the flat-rate withholding tax option). The marginal rate on pay includes social security contributions and income tax. The projections for 2019 to 2022 are calculated based on the announced corporate tax rates and the assumption that the rest of the tax conditions remain unchanged. Sources: IPP schedule: TAXIPP 1.0.

estimates, i.e. taking account of behavioural responses measured ex post. Whereas on the static estimate, the 2013 reform should have generated €400 million in income tax receipts, factoring in behavioural responses produces a negative estimate of €400 million. Including the impact of social security contributions brings the estimate to -€900 million. Conversely, the rise in dividend distribution in 2018 following introduction of the unique flat tax lowers the tax's estimated cost to the public finances. Combining the impact on receipts from income tax and social security contributions, we find a cost to the public finances of €400 million, compared to €900 million in the static estimate. This estimate does not take into account future effects on other tax bases such as earned income and capital gains, the effects of which remain uncertain at present (see Box 2).

A second type of behavioural response liable to affect receipts from the unique flat tax is the taxpayers' choice of option. The choice of making the unique flat tax the default option could lead to a large number of taxpayers not choosing the tax schedule, even though it would likely be to their advantage. If we make the assumption that 25% of taxpayers liable to benefit from choosing the tax schedule stay with the default option of the unique flat tax,

then, according to our estimates, the introduction of the unique flat tax would be neutral for the public finances. The final lesson from this study concerns the real economic effects, beyond tax optimisation behaviours. The finding that raising taxes on capital income in 2013 did not affect investments, confirming similar effects on American and Swedish data, implies that introducing preferential taxation of capital income is unlikely to have positive effects on private investment. The future tax data for 2018 and 2019 will provide more substantive information on this question.

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**Table 1:** Tax receipts of capital income tax reforms (in millions of euros)

	Prior evaluations	Static quantification	Dynamic quantification
<i>Réforme 2013</i>			
Income tax	400	400	-400
Soc. sec. contrib.			-500
Total			-900
<i>2018 reform (with perfect optimization)</i>			
IR	-1900	-1800	-1600
Prél. soc.		900	1200
Total		-900	-400
<i>2018 reform (with 25 % no take up for the schedule)</i>			
IR		-1500	-1200
Total		-600	0

Notes: This table shows the estimated tax receipts of each reform studied (with a negative figure representing a budgetary cost to the public finances). The dynamic quantification was produced using TAXIPP 1.0, based on impact estimates carried out for each reform. The quantification of social security contributions for the 2018 reform only takes into account variations in social security contributions associated with capital income subjected to the unique flat tax, as income tax. Forms of capital income not subject to income tax (e.g. life insurance) are not taken into account. The quantification "with perfect optimisation" assumes that households choose the optimal option between being taxed according to the tax schedule or the unique flat tax. The quantification with 25% non-election of the tax schedule assumes that 25% of households that would benefit from choosing to be taxed according to the tax schedule do not choose this option. Source: Prior evaluations of the 2013 draft budget law (PLF), p.39; Prior evaluations of the 2018 draft budget law (PLF), p.103; TAXIPP 1.0 for the static and dynamic quantifications. The prior evaluation estimates correspond to long-term effects of the reforms and may differ from the associated effects the year the reform is introduced.

## Reference study

This policy paper is based on a study published in French in the form of an IPP Report and an academic working paper in English:

Bach, Laurent, Antoine Bozio, Brice Fabre, Arthur Guillouzouic, Claire Leroy, and Clément Malgouyres (2019a). "Évaluation d'impact de la fiscalité des dividendes." *Rapport IPP* 25.

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