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"Some compulsory levies – and not the least of them – are 'profligate', meaning that, even before being eroded by collection costs, they provide less to the public authorities than they cost the taxpayers."

Maurice Lauré, André Babeau and Christian Louit (2001), *Les impôts gaspilleurs*,
PUF Quadrige, page 15.

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1. SYNOPSIS OF THE STUDY

▶ Bringing French taxation in line with the European level involves reducing production taxes by at least €45 billion (considered in terms of GDP, with production subsidies deducted).

▶ In comparison, the reduction enacted by the government as part of its recovery plan is limited to €10 billion.

▶ An additional €35-billion reduction in production taxes would generate win-win rippled effects for French society, with €156 billion in additional turnover and €12 billion in net surpluses for companies.

▶ Members of the workforce, whether employed or unemployed, along with their social security programs, would come out on top, with €42 billion in additional pay (including €25 billion in net wages) and the creation of 750,000 jobs.

▶ Public finances would not be destabilised: production taxes could be reduced without raising other forms of taxation or adding to public deficits. The decline in production taxes would be offset within two years by increases in social contributions (+€17 billion), corporate tax (+€7 billion), personal income tax (+€2 billion) and VAT (+€1 billion) along with a decline in unemployment-related expenditures (+€11 billion).

Table 1: Effect on public finances of a €35-billion production tax cut with other taxes unchanged

Impact after two years (billions of euros, jobs)	Businesses and households	Public finances
Decrease in production taxes	-€35 billion	-€35 billion
Increase in turnover of French companies	+€156 billion	
Increase in employee compensation (job creation and pay rises)	+€42 billion	
Increase in employment	753,000 jobs	
Additional employer and employee social security contributions		+€17 billion
Savings in public expenditures due to lower unemployment		+€11 billion
Additional income tax		+€2 billion
Additional VAT		+€1 billion
Additional corporate tax (automatic effect plus additional activity)		+€7 billion
Additional production tax due to additional activity		+€1 billion
Overall net impact on publinc finances		**Self-financing**

Source: Institut économique Molinari

▶ Comparisons show that the French economy is suffering from a level of production taxes that is out of line with the country's value added. France accounted for 33% of net production taxes in the EU 28 but only 15% of value added in 2019.

▶ In some business sectors, three-quarters of production taxes would have to be eliminated to move into alignment with the added value generated. This applies especially to information and communications, administrative and support services, and transport and storage. In industry, the cuts would have to go even further, with four-fifths of production taxes eliminated.

Table 2: Excess production taxes by business sector (2019)

Economic sector	Net production taxes (minus subsidies) in billions of euros (and % of total)		
	France	Exceeds rest of EU	Matches rest of EU
Specialised, scientific and technical activities	2	1.7 (71%)	0.7 (29%)
Trade and repairs	7	3 (39%)	4 (61%)
Construction	3	1 (34%)	2 (66%)
Water, sewerage, waste and site cleanup	0.5	0.2 (40%)	0.3 (60%)
Electricity, gas, steam and air conditioning	2	1 (44%)	1 (56%)
Finance and insurance	9	5 (57%)	4 (43%)
Real estate	28	17 (62%)	11 (38%)
Manufacturing	9.4	7.8 (83%)	1.6 (17%)
Information and communications	2.3	1.6 (72%)	0.6 (28%)
Administrative and support services	2.6	2.2 (83%)	0.4 (17%)
Transport and storage	3	2 (62%)	1 (38%)
Total activities	68	44 (65%)	24 (35%)

Source: Institut économique Molinari based on Eurostat figures for 2019.

▶ French industry is penalised by production taxes that account for 38% of the European Union total even though it produces only 10% of value added. Production taxes and, to a lesser degree, employers' contributions, explain its lack of competitiveness, with gross wages not at issue.

Table 3: Comparison of the main European industrial countries (2018)

Weight of France in industry in the EU 28 countries	Gross value added	Other taxes minus production subsidies	Employers' contributions	Grosss wages	Net operating surpluses
Germany	30%	1%	29%	35%	25%
Italy	12%	22%	17%	10%	10%
United Kingdom	10%	7%	8%	12%	9%
Spain	6%	1%	6%	5%	8%
Netherlands	4%	-2%	4%	3%	5%
Poland	4%	2%	3%	4%	5%
France	10%	38%	16%	10%	5%

Source: Institut économique Molinari based on Eurostat figures

▶ Production taxes are detached from companies' performance or financial health and imperil the survival of low-margin French businesses, as shown by the recent closing of the Bridgestone tyre factory in Béthune. With €7 million in production taxes in 2018, this venture could not operate at a profit in France. It was losing €5 million a year due to the severity of French taxation. With various other industrial sites under threat (including plants run by Alcatel-Lucent, Jacob-Delafon, Michelin, Schneider Electric and Verallia), maintaining this form of taxation, which was supposed to be eliminated with the advent of the VAT in the 1950s, is simply nonsensical.

▶ An analysis of the burden of production taxes shows that it is ultimately borne by consumers, shareholders and employees. This burden is split in proportions that depend on the respective power of the various players. In areas exposed to significant international competition, there is little impact on consumers who have access to foreign products that incorporate lower levels of taxation. The tax burden then falls on shareholders and employees, based on variable time factors. Shareholders, with less mobility in the short term, are likely at the outset to assume a significant portion of production taxes. But they remain mobile in the long term and can cut back on investments in countries with more highly developed taxation, or they can simply pull out.

Members of the workforce, whether employed or unemployed, are often the least mobile in the long term. They will bear most of the brunt of production taxes in the form of lower wages or lower employment rates.

▶ Local authorities will have to be compensated for shortfalls. They receive 66% of production tax revenues, and this accounts for 28% of their funding. The most promising solution is the sharing of traditional forms of taxation, as is done in many countries with consumption taxes (Canada, Spain and the United States), personal income tax (Denmark, Finland, Iceland, Norway and Sweden) or corporate tax (Germany).

2. THE CHALLENGE: TO REPLACE A STATIC ACCOUNTING VISION WITH A DYNAMIC ECONOMIC VISION

On September 3, 2020, the government announced a recovery plan, titled "France Relance", intended to overcome the economic crisis resulting from the Covid-19 epidemic and to redirect business towards the sectors of the future.[1] This €100-billion plan has three components: the environment, competitiveness and social cohesion.

The sum intended to strengthen companies' productive efficiency amounts to €34 billion, of which €20 billion is allocated to reducing production taxes in 2021 and 2022. This measure would then be made permanent in the 2023 and subsequent budgets.

While this €10-billion cut in production taxes is good news, it may seem timid. For years now, production taxes have been clearly identified as penalising French society. In particular, they are detrimental to employment and to wage growth. The announced tax cut does not go nearly far enough in reducing this French over-taxation.

If we consider the French economy as a whole, including households as well as government bodies, production taxes amounted to €120 billion in 2019. The €10-billion cut represents an 8% reduction.

If we consider only production taxes collected by companies, amounting to €85 billion in 2019, the €10-billion cut amounts to a 12% reduction.

If we consider net production taxes, €68 billion in 2019 after production subsidies are deducted, the €10-billion cut represents a 15% reduction.

In each of these cases, France is left with production tax levels double the EU average and nowhere close to the German level (Figure 1). This will hardly be enough to reduce the tax differential that penalises the French economy, which also faces higher social charges on labour[2] and relatively punitive regulations.[3]

Figure 1: French production taxes from 2002 to 2019 as % of GDP
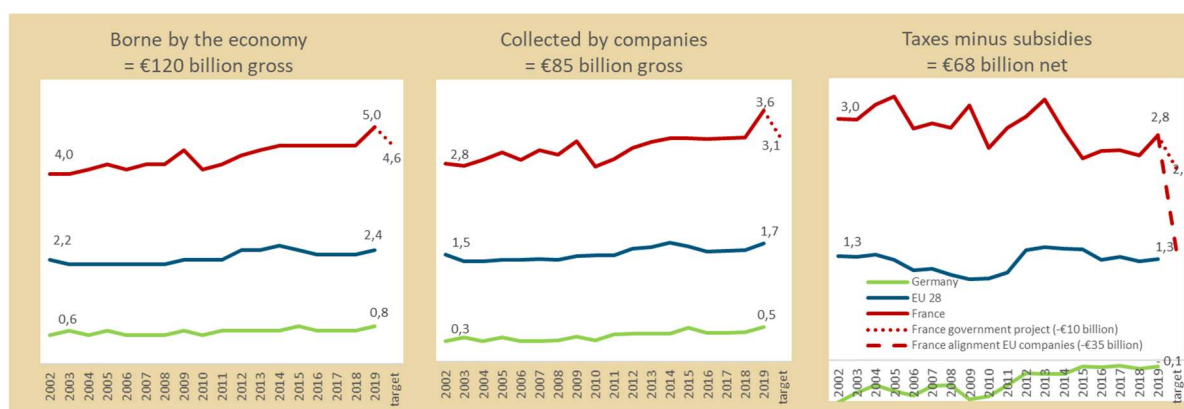
Source: Institut économique Molinari based on Eurostat figures: total net production taxes (D.29) as set out in [gov_10a_taxag] / of financial and non-financial [nasa_10_nf_tr] / corporations after deduction of production subsidies (D.39) as set out in [nama_10_gdp].

However, the implementation of an ambitious recovery plan should have eased short-term budgetary and financial constraints[4]. Supported and partially financed at the European level, it was aiming to make long-term investment possible. And a substantial cut in production taxes has all the characteristics of an excellent investment. In July 2020, Philippe Martin, Deputy Chair of the Conseil d'analyse économique, stated that the time had come to eliminate production taxes. In his view, "There is talk of relocation, but there are not a thousand ways of relocating. Lowering production taxes is one of them."[5]

In a context of sanitary and economic uncertainty linked to the pandemic, a massive decrease in production taxes would also have allowed to better protect the French productive apparatus. It should also be noted that our neighbors have used this lever in their programs to support activity.

In 2020, production taxes were fully offset by production subsidies in two-thirds of European countries (Figure 2). Net of subsidies, it represented 0.1 per cent of GDP in the EU-27, or 26 times less than in France. With 60 billion in production taxes, net of subsidies, our economy was three times more penalized than all of Europe combined. The contrast with Germany was even more striking, with our neighbor subsidizing its production to the tune of 1.2% of GDP or 41 billion euros.

Figure 2 : Gross and net production taxes in 2020

Source: Institut économique Molinari based on Eurostat, [nama_10_gdp].

In recent months, many economists have called for a more substantial decrease in production taxes than what the public authorities have planned.

In an article published in the newspaper *Les Echos*, 32 economists defended a €35-billion cut in production taxes.[6] This approach would enable France to converge towards the EU average, taking account of the weight of net productions taxes in relation to GDP and deducting production subsidies from gross taxation. The Cercle des économistes, a French think tank, has proposed bringing French production taxes to the German level within five years, which would amount to eliminating them.[7]

The government itself is aware that more needs to be done to bring French taxation to an even level. In September 2020, the Minister of the Economy, Finance and Recovery told senators: "We must also be competitive in terms of taxation; we cannot ask our industrialists to drag a ball and chain. We cannot continue to have production taxes twice as high as the European average or seven times as

high as in Germany."[8] A year later, he reiterated: "on production taxes, we must continue, we still have a gap with Germany". [9]

At this stage, however, the government has not established a trajectory that would lower production taxes to the European level. Beyond the trade-offs between numerous priorities, one objection – frequently raised by our great financiers – is a lack of budgetary leeway. In these times of economic crisis, it would be difficult, if not impossible, to take a more muscular approach, they suggest.

It is by no means clear that this argument is well founded from an economic and financial point of view.

On the one hand, public finances have been deteriorating for decades, despite the magnitude of compulsory levies.[10] This suggests that high levels of taxation, far from being the solution, are actually a problem. Though production taxes may provide revenues in the short term, they are costly in the medium and long term. Production taxes act as a subsidy to offshoring and to imports, holding back growth and employment. As such, they create shortfalls for government bodies and lead to substantial expenditures involving support for businesses and for the unemployed.

On the other hand, this does not involve reducing traditional taxation, which would leave us wondering whether the lower tax rate would be offset by an increase in the tax base to compensate for the shortfall.[11]

French production taxes are positioned upstream from other taxes. Reducing them will automatically boost the yield from other taxes downstream. In its presentation of the 2021 finance bill, the government seemed content to quantify only the increased yield from the corporate income tax following an improvement in earnings.[12] But lowering production taxes will have beneficial effects on public finances going well beyond this. It will generate significant gains and savings: growth in social security contributions, personal income tax and VAT together with decreases in unemployment-related expenditures. Hence the importance of quantifying the overall effects of this structure-creating investment.

Following a review of the economic literature (Part 3) and a quantitative assessment of French production taxes and their perverse effects (Part 4), this study offers an original calculation of the net financial effect of a €35-billion decrease in production taxes. The econometric model applied in this study is outlined in Part 5, and the business plan for a measure that would bring France in line with the European average is set out in Part 6.

3. TAXES TO BE REJECTED ACCORDING TO THE ECONOMIC LITERATURE

From an economic standpoint, it is common to divide taxes on market activity into three categories: the tax on profits, VAT-type value added taxes and taxes on production. These three categories of taxes have different direct impacts on the choices companies make and on the economy in general.

The tax on profits generates few distortions

The tax on profits is levied downstream, at the bottom of the balance sheet, once an operation is completed. Its base, related directly to wealth creation by a company, varies according to profits.

Economists regard this form of taxation as relatively neutral for companies. To begin with, it does not lead to any change in production costs and does not raise a company's profitability threshold.[13] In addition, the company does not have to pay up front, with the tax payable at the end of the process when the profits are booked. The tax on profits does not cause any direct distortion in production choices. It does not motivate businesses to alter their strategy to produce a given good or service.

However, economists say there are other effects. A high tax on profits is bound to create a backlash. It may reduce the incentive to engage in entrepreneurship and to apply resources to investment and innovation. It lessens the attractiveness of the national economy.[14]

VAT-type value added taxes generate few distortions

VAT-type value added taxes are levied on the sale of a final product to a household or business. Its base is related to the additional wealth created in the course of the operation.

Economists regard this form of taxation as relatively neutral for businesses. First, it is levied at each stage in keeping with the added value created by a business. Thus, it takes account of wealth that has been created and avoids the cascade effects of taxation.[15] Second, the producer does not have to pay the tax up front. The tax is payable once a product is sold and applies to the selling price of the final product. Regardless of production methods or strategies, the VAT avoids cost distortions in transactions between businesses involved in the same production chain[16] and is applied in the same way to the selling price of the final product. Like the tax on profits, this tax is relatively neutral.

However, economists say there are other effects. When the VAT is borne by the final buyer, an increase in the prices of final products in proportion to the tax can be observed. This may alter purchasing behaviour based on relative elasticities in demand for goods and services[17] and on any discrepancies in VAT rates between substitutable products. When the VAT is borne by the producer, it may reduce the incentive to offer goods or services. In all instances, an analysis is needed to determine who actually bears this tax.[18]

Production taxes generate significant distortions

Production taxes are levied upstream in the production process, well before sales or profits are made. They apply to factors of production, inputs (in other words, intermediate consumption), turnover or value added. Unlike the two previous types of taxation, they impose a burden on the producer, who has to make advance payments.

This type of taxation is particularly "distorting bearing in mind the great variability of sales according to the various sectors and the productive organisation of business units," as noted by a working group chaired by Yves Dubief and Jacques Le Pape.[19]

Since production taxes are levied high in the operating account, they tend to raise the threshold beyond which businesses are profitable, meaning that fewer companies can survive. Production taxes also create distortions in the choices made by businesspeople: changes in the choice of factors of production to make a given good, changes in the choice of whether to produce something internally or to turn to the market and, finally, changes in the choice of whether to buy an input inside the country or to import it. In the absence of distortion-creating taxes, these decisions depend on the quality of the good that is purchased and the resulting productivity. They therefore involve trade-offs between the relative economic efficiency of different strategies. Production taxes force businesspeople to make economically inefficient decisions, causing decreases in production, turnover and value creation.[20] Thus, imposing a production tax transforms choices to the detriment of quality and productivity, thereby reducing production efficiency.[21]

Finally, unlike other taxes, production taxes have effects that are extended and amplified throughout the production process. Production taxes are known to favour vertical integration by providing an incentive to focus on internal production in order to limit tax stacking, or else to encourage imports. In concrete terms, a production tax borne by a company high on the production chain will have impacts on all the companies along the chain in what is referred to as a "cascade effect". This tax cascade is especially clear with taxes on turnover levied each time a good is sold to a company for integration in its production process: the initial good is taxed and then retaxed each time it moves between companies until it becomes a final good. The more production stages there are, the more a product will be taxed.[22] The impact will be all the greater in areas with large numbers of production stages and as a result of the economy being intertwined.

In this situation, it becomes preferable to integrate an operation vertically and/or to turn to imports, even if these solutions are less productive than they would be without taking taxes into account.

Production taxes fail to take account of companies' financial position

Making things worse, production taxes do not reflect a company's performance or its ability to pay. The tax base to which they apply goes beyond wealth creation by the company. They present a real challenge for low-margin operations (Zoom 1 page 15) and remain just as high when performance is weaker, making these taxes "insensitive to companies' financial position."[23]

Zoom 1: Putting low-margin operations through the compressor

Unlike the corporate tax, based on profits, production taxes are levied on bases upstream from earnings. These bases may include capital, payroll or the turnover needed to conduct an operation. They fail to take account of companies' performance, posing a significant danger for low-margin operations.

The case below shows the effect of production taxes in two countries, one with moderate production taxes (representative of the EU average) and another with higher production taxes (representative of France), each with two operations, one with a 5% margin, the other with a 1% margin and each employing half of the labour force.

It can be seen that production taxes:

• fail to take account of the ability to pay of operations that, in each country, are subject to the same production taxes, regardless of differences in profitability;

• have a greater impact on profitability than the corporate tax;

• eliminate earnings from the less profitable activity in the country with average production taxes, causing stagnation;

• automatically makes this activity a money-loser in the country with high production taxes, at the risk of causing it to close, with a resulting increase in unemployment.

From the standpoint of public finances, the immediate gain generated by production taxes should be compared to its long-term cost:

• in dynamic terms, employment, economic performance and public revenues in the average-production-tax country exceed those in the high-production-tax country, which falls victim to a contraction in activity;

• if we include the contraction of all other public revenues due to the closing of the less profitable operation in the high-production-tax country (lower social security contributions, income tax, VAT, etc.) and the increases in public spending (related in particular to unemployment), the cost of production taxes is even higher.

Countries with production taxes	Moderate: 1% of turnover	High: 2% of turnover
Activities with 5% margin before production taxes		
Turnover	**100 €**	**100 €**
Production taxes as %	1%	2%
Production taxes in €	**1 €**	**2 €**
Margin after production taxes as %	4%	3%
Margin after production taxes in €	**4 €**	**3 €**
Corporate tax (25%) as %	25%	25%
Corporate tax (25%) in €	**1 €**	**0,75 €**
Earnings after corporate tax in €	**3 €**	**2,25 €**
Effects on business	**Growth**	**Growth**
Activities with 1% margein before production taxes		
Turnover	**100 €**	**100 €**
Production taxes as %	1%	2%
Production taxes in €	**1 €**	**2 €**
Margin after production taxes as %	**0%**	**-1%**
Margin after production taxes in €	**0 €**	**-1 €**
Corporate tax (25%) as %	25%	25%
Corporate tax (25%) in €	**0,0 €**	**0,0 €**
Earnings after corporate tax in €	**0,0 €**	**-1,0 €**
Effects on business	**Stagnation**	**Closure/layoffs**
Both activities		
Sustainable activities and jobs	**100%**	**50%**
Sustainable turnover	200 €	100 €
Sustainable margins	4 €	3 €
Sustainable earnings after corporate tax	3 €	2,25 €
Sustainable public revenues	**3 €**	**2,75 €**
Production taxes in €	2 €	2 €
Corporate tax in €	1 €	0,75 €

Source: Institut économique Molinari

This case is representative of the difficulties encountered by low-margin operations in France, as shown by the emblematic case of Bridgestone in Béthune, a direct victim of production taxes (see Zoom 3 page 24).

Production taxes are recognised as counterproductive, hence the VAT

As such, production taxes, even when they appear to be low, may have significant effects in economies with long production chains, especially when there is strong international competition. There are three direct negative impacts on companies: a decline in productivity,[24] a decline in competitiveness and a decrease in turnover.[25] In addition, there is a direct negative impact on consumers: production taxes lead to uneven price increases, depending on the number of stages in the production of a good and depending also on elasticity in demand, forcing consumers to alter their consumption choices and reducing their satisfaction.[26]

Considering the range and magnitude of their adverse effects, taxes on turnover would appear to be inefficient.[27] As noted recently by the Conseil d'analyse économique, a government advisory body, "it is better to tax final goods and income" to avoid distortions in production decisions.[28] Accordingly, economic studies, both empirical and theoretical, conclude that a VAT-type tax is superior to a production tax.[29]

One of the major French developments during the "Trente Glorieuses", the three-decade period of rapid economic growth following the end of the Second World War, consisted precisely of reducing the dependence on production taxes and implementing the VAT. As explained by French economist Jean-Marc Daniel, everyone was aware then of the drawbacks of production taxes: "It was acknowledged after 1954 by all tax specialists … that taxes on turnover had outlived their usefulness and it was time for them … to disappear."[30] Hence the introduction of the VAT, a French invention that would be imitated worldwide. By 1954, Maurice Lauré, a director of the tax authority, had theorised this new form of modern taxation. Unlike production taxes, it has the great advantage of being "neutral with regard to the methods of organising production; neutral regardless of the form and number of intermediaries in the distribution channels; also neutral regardless of consumers' choices among products of the same type."[31]

While this path has been followed extensively by our neighbours, who have put the triumph of the VAT to good use in reducing their production taxes, this has not been the case in France, which still relies heavily on outsized production taxes. This weighs down its competitiveness and contributes to the persistence of higher unemployment than in the EU as a whole.

A form of taxation that does not spare households

One of the reasons production taxes have not been eliminated in France, despite their perverse effects, probably lies in their supposedly painless nature as regards households. The impact of this taxation is harder to grasp, and many people believe, mistakenly, that it falls only on businesses.

In France, it is common to contrast taxes directed at companies or their shareholders (taxes on production or profits) with taxes aimed at consumers (VAT, personal income tax, etc.). In fact, economic reality is far more complex.

Analysis of tax incidence[32] shows that the tax burden falls on consumers, wage-earners and shareholders in proportions that depend on the respective power of the various players, regardless of what a tax is called or the statutory entity in charge of collecting it.

In 1776, Adam Smith noted that many taxes "are not finally paid from the fund, or source of revenue, upon which it was intended they should fall."[33] In many instances, taxes "are all finally paid

by the consumer."[34] In 1817, British economist David Ricardo stated: "A tax on raw produce would not be paid by the landlord; it would not by paid by the farmer; but it would be paid, in an increased price, by the consumer."[35] In the late 1820s, Jean-Baptiste Say, a French industrialist and economist, remarked: "Any tax is a burden that the taxpayer seeks to shift onto other members of society."[36] Say went on to state that "a tax that the producer is obliged to pay is part of his production costs…. [H]e must increase the price of his products, and in this way make his consumers bear at least a large part of the tax."[37]

From an economic standpoint, the more a factor of production is inelastic, the heavier the tax burden will be. Depending on elasticities of supply, taxation will lead to a fairly significant change in supply and/or demand, will decrease the quantities exchanged and will reduce the utility of the players, resulting in a dead loss for society.

The ability to shift the tax burden onto consumers depends on price elasticity.[38] Producers or distributors of an especially sought-after good such as petrol will be able to shift the economic burden of a tax increase onto their customers. In contrast, a producer of a good in less demand will be less able to shift the tax increase onto customers. In extreme cases, he will be forced to absorb the entire amount of the tax and to reduce his margins, at least in the short term. When companies are unable to pass the tax onto their customers, they tend to take aim at their employees or shareholders. They will tend to be less generous when it comes to raising wages or offering dividends to their shareholders.

Ultimately, the tax burden always ends us being borne by individuals who are "owners of capital, employees and/or consumers."[39] Arnold Harberger showed in the 1960s that taxes will have the greatest impact on the least mobile factors with the fewest alternatives.[40] If we are looking at a configuration in which consumers are more mobile than employees or shareholders, the latter will bear a significant portion of the corporate tax, as shown in many analyses.[41] Economists agree that taxes affect the structures and factors that are least reactive and that have the fewest alternatives, in keeping with the intuition of Maurice Lauré according to which "the repercussions go from the economically strong to the economically weak."[42] Simula and Trannoy note that "the flight from the mobile factor enables it to escape the tax in part and thus to divert the burden of the tax onto other factors,"[43] while the least mobile factor cannot escape the tax. Therefore, there is no reason to think that production taxes would spare households, unlike much less distorting taxes such as the VAT.

4. THE ABUSE OF PRODUCTION TAXES: A FRENCH CURSE

There exists a consensus that "the level of compulsory levies of production is something that is specific to France and that puts our companies at a disadvantage."[44] Despite their inefficiency, widely recognised and observed in the economic literature, production taxes are especially high in France, which may explain some of the weaknesses in the French economy as compared to European countries that are regarded as competitive.

Higher production taxes than among our neighbours

Production taxes amounted to €120 billion in 2019 if we go by the European D29 classification (Zoom 2), mainly covering capital (41%, seeTable 4), payroll (38%), value added (13%) and turnover (3%).

Zoom 2: Production taxes in the European system of accounts (ESA) and in the OECD classification

Other production taxes (D29) cover production facilities. In particular, they tax factors of production involving the use of land, buildings and other items used by the workforce.

They stand apart from taxes on products (D21) that include the VAT and import duties. These two categories of taxes are grouped in the production aggregate comprising taxes on production and imports of goods and services (D2).

They also differ from income and wealth taxes (D5) consisting of taxes (D51) on the income of individuals (D51A) or corporate entities (D51B) and, on the other hand, of so-called current taxes calculated on other bases (D59).

Like all taxes, these are "unrequited" payments. They stand apart from social contributions that include contributions from employers (D611 and D612) and from households (D613 and D614) and that give rise to compensation.

The D39 aggregate is a gross aggregate. Its corollary is other production subsidies (D39). To measure the actual or net economic cost of production taxes after subsidies are deducted, D29-D39 should be analysed.

In the OECD classification, taxes on production (D29) are included, along with other taxes, in the categories: Taxes on payroll and workforce (3000), Other Recurrent taxes on immovable property (4120), Value-added taxes (5111), Taxes on specific services (5126), Other taxes on international trade and transactions (5127), Motor vehicles taxes others (5212), Other recurrent taxes on use of goods and on permission to use goods or perform activities (5213)[45].

Table 4: French production taxes in 2019 by base (gross view)

| Production tax base	Amount	Share of total
Capital:	**€50 billion**	**41%**
Of which taxes on built property	€35 billion	
Of which the *Cotisation foncière des entreprises* (local tax)	€7 billion	
Other	€8 billion	
Payroll:	**€45 billion**	**38%**
Of which taxes on wages	€14 billion	
Of which the transport tax	€9 billion	
Of which continuing vocational training	€6 billion	
Of which the *Forfait social* (employers' contribution)	€5 billion	
Of which assistance for housing (FNAL) and for autonomy (CNSA)	€5 billion	
Other	€8 billion	
Value added (corporate value-added contribution, CVAE)	**€15 billion**	**13%**
Turnover (corporate social solidarity contribution, C3S)	**€4 billion**	**3%**
Other production taxes	**€6 billion**	**5%**
Total production taxes (D29, gross view)	**€120 billion**	**100%**

Source: Institut économique Molinari based on D29 Eurostat National Tax List.

Production taxes amounted to 5% of French GDP in 2019, compared to an average of 2.4% in the 28 countries comprising the EU at that time and to 0.8% in Germany (Figure 3).

Contrary to popular belief, this discrepancy is not offset by production subsidies (D39). When we calculate net production taxes with production subsidies deducted, we see that production taxes still amounted to 2.8% of French GDP in 2019 (Figure 4). France was far more heavily taxed than the EU 28 average (1.3%), let alone a country like Germany with negative net production taxes (-0.1 %).[46]

When we look at either gross or net production taxes, France ranks second worst in the EU, behind only Sweden. But when we consider production taxes without the payroll component, France does far worse than Sweden.[47] The outsized nature of Swedish production taxes results from a choice to use this form of taxation for a majority share of social security financing, offset by lower social contributions.[48] All told, France holds top spot in the EU in taxes on labour and production. These amount to 37% of GDP, compared to 32% in Sweden.

Figure 3: Gross production taxes (% of GDP, 2019)
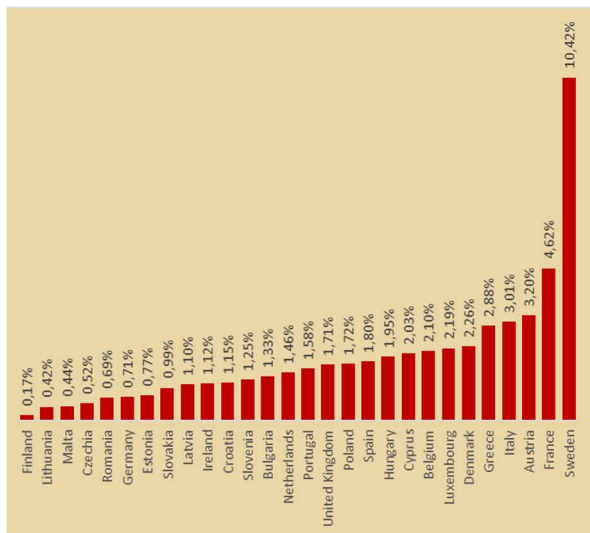
Note: Rates calculated taking the amount of production taxes (D29). Source: Institut économique Molinari based on Eurostat, GDP and main components [nama_10_gdp].

Figure 4: Net production taxes (% of GDP, 2019)
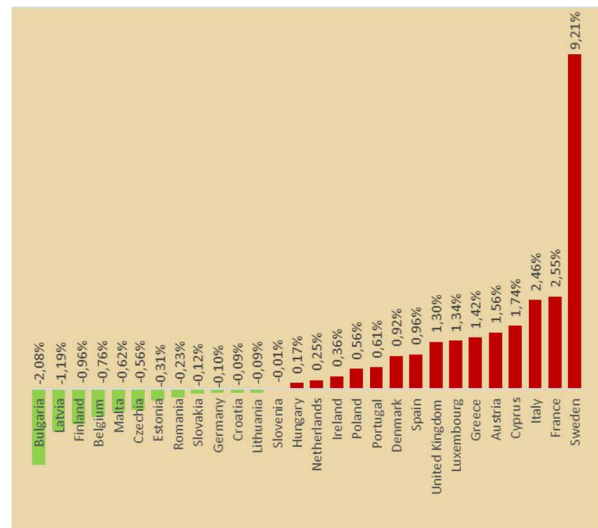
Note: Rates calculated by subtracting production subsidies (D39) from production taxes (D29) (D39). Source: Institut économique Molinari based on Eurostat, GDP and main components.

Production taxes out of line with French value added

Sectoral comparisons show that the French economy suffers from a net production tax level that is out of line with the creation of value added. In 2019, France accounts for 33% of net production taxes in the EU 28 but for only 15% of value added (Table 5).

The differential is even higher when we compare France to the rest of the European Union. To match the level of our European neighbours, 65% of production taxes would have to be eliminated (Table 6). In manufacturing, production taxes would have to be divided by five, cutting 83%, to reach the same level as our counterparts. In sectors including information and communications, transport and storage, and administrative services, they would have to be divided by four, cutting about 75%.

Table 5: France's sectoral share in value added
and net production taxes in the EU 28 (2019)

France's	In gross value added	In net production taxes
Specialised, scienitific and technical activities	18%	43%
Trade and repairs	14%	21%
Construction	15%	21%
Water, sewerage, waste and site cleanup	10%	16%
Electricity, gas, steam and air conditioning	15%	24%
Finance and insurance	12%	24%
Real estate	17%	34%
Manufacturing	11%	41%
Information and communications	15%	38%
Administrative and support services	18%	56%
Transport and storage	14%	30%
Total activities	15%	33%

Interpretation: France accounts for 15% of gross value added in total activities and 33% of production taxes.
Source: Institut économique Molinari based on Eurostat, National accounts aggregates by industry [nama_10_a64].

Table 6: Sectoral overtaxing in France resulting from production taxes (2019)

Net production taxes (minus production subsidies)	As % of gross value added		France vs. rest of EU	In billions of euros (and % of the total)		
	France	Rest of EU		France	Exceeds rest of EU	Matches rest of EU
Specialised, scienitific and technical activities	1.3%	0.4%	345%	2.4	1.7 (71%)	0.7 (29%)
Trade and repairs	3.0%	1.9%	164%	6.8	2.7 (39%)	4.2 (61%)
Construction	2.1%	1.4%	152%	2.6	0.9 (34%)	1.7 (66%)
Water, sewerage, waste and site cleanup	3.1%	1.9%	166%	0.5	0.2 (40%)	0.3 (60%)
Electricity, gas, steam and air conditioning	5.5%	3.1%	178%	2.2	1.0 (44%)	1.2 (56%)
Finance and insurance	11.0%	4.7%	234%	9.1	5.2 (57%)	3.9 (43%)
Real estate	10.1%	3.9%	260%	28.1	17.3 (62%)	10.8 (38%)
Manufacturing	3.9%	0.7%	574%	9.4	7.8 (83%)	1.6 (17%)
Information and communications	1.9%	0.5%	359%	2.3	1.6 (72%)	0.6 (28%)
Administrative and support services	2.0%	0.3%	588%	2.6	2.2 (83%)	0.4 (17%)
Transport and storage	2.8%	1.1%	265%	2.8	1.7 (62%)	1.0 (38%)
Total activites	3.1%	1.1%	285%	68.2	44.3 (65%)	24.0 (35%)

Interpretation: Net production taxes accounted for 3.1% of French total value added in 2019, compared to an average of 1.1% among our EU counterparts. If these taxes were at the same level as among our neighbours, they would amount to €24 billion as compared to €68 billion, with the difference (€44 billion) corresponding to over-taxation. Source: Institut économique Molinari based on Eurostat, National accounts aggregates by industry [nama_10_a64].

The dwindling of gross operating surpluses

Data show that these taxes impair economic development to a very significant extent, far more than other factors.

In 2018, France accounted for 15% of gross added value in Europe but for only 10% of operating surpluses (Table 7 page 21).

Gross wages were not at issue. They were in line with gross added value (15% overall). The discrepancy is due to employers' contributions that are higher than in the European Union as a whole (21% of the total compared to 15% of added value) and above all to production taxes. Since they are higher than elsewhere, they automatically squeeze gross operating surpluses.

Once their operating costs are paid, French businesses have earnings that are significantly lower than their economic weight, penalising their development as well as employment and public finances in the medium and long term.

The burden of production taxes is especially harmful to any sector open to European and international competition, such as industry. Eurostat data confirm that France does not suffer from a lack of competitiveness due to gross wages (Table 8 page 21). It is production taxes that are at fault (38% of EU vs. 10% of value added), and to a lesser extent, employers' contributions (16% of EU vs. 10% of value added).

Table 7: Weight and breakdown of French operating surpluses compared to the EU 28 (2018)

Weight of France in the EU 28 countries	Gross value added	Other taxes minus production subsidies	Employers' contributions	Gross wages	Net operating surpluses
Specialised, scientific and technical activities	18%	37%	27%	20%	3%
Trade and repairs	14%	16%	20%	15%	10%
Construction	15%	16%	21%	17%	12%
Water, sewerage, waste and site cleanup	11%	22%	15%	11%	4%
Electricity, gas, steam and air conditioning	14%	24%	34%	12%	8%
Finance and insurance	12%	23%	20%	14%	3%
Real estate	17%	34%	27%	20%	15%
Manufacturing	10%	38%	16%	10%	5%
Information and communications	15%	34%	23%	15%	7%
Administrative and support services	18%	45%	23%	20%	14%
Transport and storage	14%	35%	22%	14%	8%
Total activities	**15%**	**31%**	**21%**	**15%**	**10%**

Interpretation: France accounted in 2018 for 15% of total gross value added, 15% of gross wages, 21% of employers' contributions, 31% of production taxes and only 10% of net operating surpluses. Source: Institut économique Molinari based on Eurostat, National accounts aggregates by industry [nama_10_a64].

Table 8: Comparison of the main European industrial countries (2018)

Weight of France in industry in the EU 28 countries	Gross value added	Other taxes minus production subsidies	Employers' contributions	Grosss wages	Net operating surpluses
Germany	30%	1%	29%	35%	25%
Italy	12%	22%	17%	10%	10%
United Kingdom	10%	7%	8%	12%	9%
Spain	6%	1%	6%	5%	8%
Netherlands	4%	-2%	4%	3%	5%
Poland	4%	2%	3%	4%	5%
France	10%	38%	16%	10%	5%

Source: Institut économique Molinari, based on Eurostat, National accounts aggregates by industry [nama_10_a64].

France was the only major industrial country to suffer from outsized production taxes, squeezing gross operating surpluses. Its situation is radically different from what is seen elsewhere, with surpluses, a sharing of value added more favourable to gross wages (Germany, United Kingdom) or with net surpluses (Netherlands, Poland). Only Italy comes close to the situation in France, but with lesser discrepancies.

Low net surpluses, far from encouraging shareholders to invest in France in order to modernise or develop production capacity, is likely to encourage them to favour countries with less severe tax systems.

A consensus on the negative impact of French production taxes

In terms of economic performance, France is clearly lagging behind the most competitive European countries, as shown both by qualitative[49] and quantitative studies. Though production taxes do not account for all the differences, their magnitude does play a significant role. This is one of the findings of a consultation document from the Ministry of the Economy and Finance, issued in April 2018, according to which "the level of compulsory production levies is something specific to France that puts our companies at a disadvantage."[50]

In a May 2018 study, COE Rexecode, a non-governmental research institute, showed the handicap imposed on the manufacturing industry by the concentration of production taxes. According to the authors, the compulsory levies on manufacturing companies amounted altogether to 27.9% of value added in the manufacturing industry in France compared to 17.2% in Germany.[51]

In an October 2018 analysis, the Observatoire français des conjonctures économiques (OFCE), a publicly funded economic research institute, confirmed that production taxes "affect more particularly the sectors exposed to international competition, such as industry, with a relatively high concentration of assets subject to this type of tax."[52]

A collective work published in March 2019 shows that replacing the business tax with the territorial economic contribution (corporate value-added contribution and corporate land contribution) had noticeable effects on some companies.[53] Companies that benefited from a substantial drop in taxation increased their investment, production and employment quite significantly. An exogenous tax cut of €1 may have led to an increase of €2.80 in these companies' value added after five years, with a €1 direct effect and a €1.80 indirect effect linked to company expansion.

More generally, the Conseil d'analyse économique stated in a June 2019 note that "production taxes are among the taxes that are most harmful to productivity and competitiveness."[54] Leaving aside production taxes on payroll, the analysis found that the corporate social solidarity contribution (C3S) was "the most damaging tax for companies". Despite its relatively low amount (€4 billion), this tax on turnover generates a particularly negative cascade effect. Though its effective rate is 0.11% of revenues in the manufacturing industry, it pushes prices up by about 0.19%, or nearly double.

The note also shows that the sectors with the lowest price effects are also those that do the most importing, reminding us that applying a tax on turnover is similar to "a tax on exports and a subsidy on imports", achieving the rare feat of serving as "a negative customs duty".[55] Beyond the impact on

the balance of trade, the authors also observe that the C3S has increased the likelihood of companies disappearing due to its impact on their break-even point and has reduced national productivity by an amount equivalent to €360 million to €720 million in GDP. Despite its relatively low effective rate and receipts, the C3S generates significant losses for the entire economy, perfectly illustrating the notion of a "wasteful tax" dear to Maurice Lauré.[56] The Conseil d'analyse économique also suggests dismantling the corporate value-added contribution (CVAE), offsetting the loss of revenue for local authorities by allocating more VAT revenue to them, another proposal in line with Lauré's work.[57]

The harmful nature of production taxes for the economy, and for industry in particular, is confirmed by the authors of an October 2019 study written by Asterès, an economic think tank, for the Institut Montaigne and the Mouvement des Entreprises de Taille Intermédiaire (METI).[58] Based on an econometric analysis comparing three types of taxes (on profits, on value added and on production) and their impact on the turnover of mid-sized industrial companies in eight European countries over a nine-year period, they note that the higher the share of production taxes in corporate taxation, the greater the decrease in the turnover of mid-sized companies. They observe that a one-point increase in the ratio of production taxes to corporate income tax leads to a 0.2% decline in the turnover of mid-sized companies. Similarly, a one-point increase in the ratio of production taxes to taxes on products (mainly VAT) leads to a 2.5% decline in their turnover.

Finally, in a November 2020 working paper, France Stratégie, a government advisory body, finds that "French industry has suffered from a deterioration in its cost competitiveness linked to particularly high taxes on the factors of production." According to the authors, if France had the same production tax level as its partners, its share of production site creation by non-European multinationals would rise by 18%.[59]

Production taxes backfire against working people

As we have seen, economic analysis shows that the impact of production taxes ultimately falls on households (page 16). Depending on the case, these taxes end up being paid by consumers, wage-earners and shareholders. With the highly globalised nature of capital markets and product markets, production taxes often fall on the working population, whether employed or unemployed. This is especially true of sectors exposed to international competition.

The closing of the Bridgestone tyre plant in Béthune illustrates the danger posed by production taxes. The Japanese firm, a world leader in its field, chose to focus on other European production sites benefiting from substantial subsidies,[60] to the detriment of the Béthune site. That site was crippled by production taxes far out of proportion to its low profitability, with the French tax system automatically pushing it into the red.[61] French taxes clearly worked against production, as an analysis of the accounts shows (Zoom 3**Erreur ! Source du renvoi introuvable.** page 24).

In addition to Bridgestone in Béthune, many other industrial sites are closing (Alcatel-Lucent, Jacob-Delafon, Michelin, Schneider Electric, Verallia, etc.). Maintaining this anti-production taxation, which was supposed to end with the advent of the VAT in the 1950s, is nonsensical.

Zoom 3: Bridgestone Béthune, an example of anti-production taxation

Late in 2020, public opinion was startled by the announcement of the closing of a Bridgestone tyre plant in Béthune, a town in northern France. This case is typical of the difficulties encountered by low-margin businesses in France, a direct victim of production taxes.

In the three preceding fiscal years, from 2016 to 2018, production taxes amounted to 69% of pre-tax profits at the Béthune plant. Production taxes amounted to three times as much as taxes on profits (24%). Altogether, taxes amounted to 93% of pre-tax profits.

In the 2018 fiscal year, the Béthune plant bore €7 million in production taxes, amounting to 534% of pre-tax profits. Even with substantial tax credits (€0.9 million), the plant could not run at a profit and generated €5 million in losses.[62]

Bridgestone Béthune's accounts	2018 fiscal year	Total 2017-18 fiscal years	Total 2016-18 fiscal years
In euros			
Turnover	513 millions	1012 millions	1473 millions
Pre-tax earnings	1.3 millions	5 millions	32 millions
Production taxes	7.1 millions	14 millions	22 millions
Taxes on profits	-0.9 millions	-1 millions	8 millions
Profit (+) or loss (-)	-4.9 millions	-9 millions	2 millions
As % of turnover			
Pre-tax earnings	0.3%	0.5%	2.2%
Production taxes	-1.4%	-1.4%	-1.5%
Taxes on profits	0.2%	0.1%	-0.5%
Profit (+) or loss (-)	-1.0%	-0.9%	0.2%
As % of pre-tax earnings			
Production taxes	534%	310%	69%
Taxes on profits	-68%	-14%	24%
Taxation (production + corporate)	466%	296%	93%

Source: Institut économique Molinari based on figures from société.com

One of the results of this lack of competitiveness is the difficulty France has had in reducing unemployment that remains stubbornly high despite periods of economic recovery. A comparative analysis of French and European unemployment rates shows that France benefits less from recovery phases than its neighbours and that the gap widened during the latest upturn (Figure 5 page 25).

In 2019, even before the Covid-19 pandemic, the unemployment rate was still 8.4% in France compared to 6.7% in the European Union as a whole, 5.4% in the OECD countries, 4.3% in the G7 countries and 3.2% in Germany (Table 9 page 25). France had excess unemployment of between 500,000 and 1,500,000 people, depending on whether it is compared to the European average or to Germany.

In september 2021, the unemployment rate was still 7.7% in France compared to 6.7% in the European Union as a whole, 5.8% in the OECD countries, 4.9% in the G7 countries and 3.4% in Germany. France had excess unemployment of between 300,000 and 1,300,000 people, depending on whether it is compared to the European average or to Germany.

Whether we are looking at the academic work on corporate taxation, the available statistical data or French production tax figures, the same conclusion can be drawn: this particular form of taxation is harmful to economic activity and is not the best way to finance public services.

Hence the interest in simulating the impact that a reduction in production taxes would have on economic activity, wages and employment as well as on French public finances. With their dependency on production taxes in the short term, the public finances also fall victim to their long-term effects.

Figure 5: French unemployment rate compared to the EU, the OECD, the G7 and Germany (% of the active population)
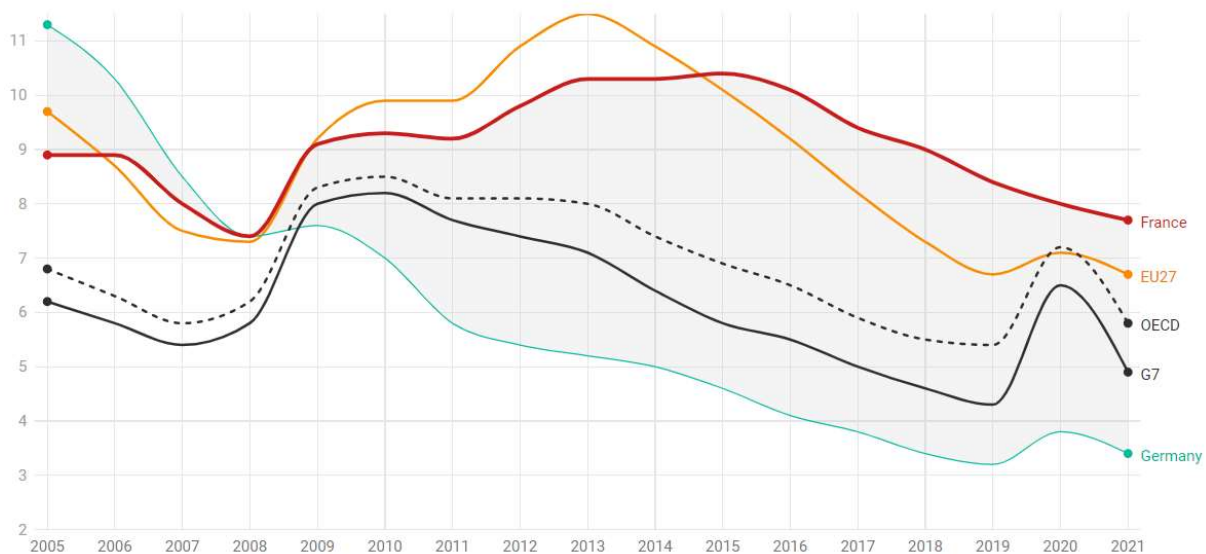
Source: Institut économique Molinari based on OECD, Seasonally Adjusted Unemployment Rates as a percentage of the labor force, annual averages and, for 2021, published figure for September.

Table 9: Excess unemployment in France in 2019, 2020 and in september 2021 (in % and thousands)

	2019	2020	août-21
% more unemployed in France			
vs European Union (27)	20%	11%	13%
vs OECD	36%	10%	24%
vs G7	49%	19%	37%
vs Germany	62%	53%	56%
Thousands more unemployed			
vs European Union (27)	500	300	300
vs OECD	900	200	600
vs G7	1200	400	800
vs Germany	1600	1300	1300

Source: Institut économique Molinari based on OECD data.

Interpretation: In 2019 France had 20% or 500,000 more unemployed than the EU27 average.

5. ECONOMETRIC ANALYSIS OF THE EFFECTS OF LOWER PRODUCTION TAXES

Choosing corporate turnover as a variable

To estimate the impact of a reduction in production taxes on French economic activity, it is first necessary to define the variable that would be directly influenced by this type of reform. The economic literature, along with the reports outlined above, have shown that the harmful influence of production taxes emerges in several ways: they reduce competitiveness, impair business productivity and weigh more heavily on mid-sized companies and on certain sectors, industry in particular. For all these reasons, production taxes may also be affecting growth.

However, analysing the impact of a decrease in production taxes directly on growth does not provide an understanding of how companies would react to this decrease. This would be too general an analysis for companies' behaviours to be deduced. Indeed, such an analysis would enable us to observe the impact of a production tax decrease on value added in France without providing any information on how value added may have been affected.

Similarly, examining the impact of a production tax decrease on each variable potentially affected by these taxes would require being able to isolate each of these variables, whereas they are necessarily correlated in reality: competitiveness and productivity, for example, are mutually reinforcing.

An analysis taking a direct overall approach to companies was preferred. For this purpose, the variable selected was corporate turnover. This choice is relevant because production taxes have a direct impact on companies and their cascade effect should be observed on the total revenues of companies across France.

Choice of model and explanatory variables

France differs from most other European countries in the scope of taxes in relation to economic activity. It was therefore decided to compare the impact of the production tax level on corporate revenues in all European countries over the 2010-2018 period, with full data for 2019 still not available.

This strategy of panel data analysis is commonly used in studies intended to observe the impact of taxes on economic activity. It will enable us to describe the impact of production taxes during a recovery period, with the aim of this work being to determine the extent to which a massive decrease in French production taxes would be favourable to society.

For each year and each country (Table 10 page 27), the variables selected are those used in the economic literature on the impact of taxation on activity, whether measured by growth in GDP or in income. In all the studies consulted,[63] the impact of a particular tax is assessed in light of a set of other taxes that may affect activity.

Table 10: Countries observed, EU 28

Austria	Belgium	Bulgaria	Croatia	Czechia	Cyprus	Denmark
Estonia	Finland	France	Germany	Greece	Hungary	Ireland
Italy	Latvia	Lithuania	Luxembourg	Malta *	Netherlands	Poland
Portugal	Romania	Slovakia	Slovenia	Spain	Sweden	United Kingdomùù

* Due to a high volume of missing data, especially regarding tax rates and implicit business taxes, Malta could not be included in the econometric analysis.

Since the aim here is to assess the impact of production taxes on turnover, two other tax measures have been added: the implicit tax rate on businesses and the total tax burden in the country. The net production tax rate was estimated with production subsidies taken into account.[64]

Also, most studies make use of variables related to investment, household consumption and, more rarely, government expenditures and unemployment. In these studies, the determining variables cover investment and household consumption.[65] Consequently, these two variables are included in all estimates.

Since public expenditures remain particularly high in France, they are included in three specifications of the model (2, 3 and 4). Demography is included in two specifications (3 and 4), and unemployment is included only in the full model (4).

Table 11: Description of the variables used

Variable	Name	Format	Source (Eurostat)
Corporate turnover	CA	Annual growth rate	https://ec.europa.eu/eurostat/databrowser/view/TIN00149/default/table *All sectors aggregated.*
Production taxes net of subsidies	PROD	% GDP	https://ec.europa.eu/eurostat/databrowser/view/nama_10_gdp/default/table *D29-D39 calculated as (D2-D21)-(D3-D31)*
Implicit business tax	IMP	% GDP	https://ec.europa.eu/taxation_customs/business/economic-analysis-taxation/data-taxation_en
Tax burden	FISC	% GDP	https://ec.europa.eu/taxation_customs/business/economic-analysis-taxation/data-taxation_en.
Household consumption	CONS	Annual growth rate	https://ec.europa.eu/eurostat/databrowser/view/TEC00009/default/table
Investment	INV	Annual growth rate	https://ec.europa.eu/eurostat/databrowser/view/TEC00011/default/table
Public consumption	PUB	Annual growth rate	https://ec.europa.eu/eurostat/databrowser/view/TEC00010/default/table
Demography	POP	Annual growth rate	https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=demo_pjan&lang=en
Unemployment	CHO	% of workforce	https://ec.europa.eu/eurostat/databrowser/view/tps00203/default/table

Thus, the full model is as follows:[66]

$$CA_{it} = \alpha_0 + \beta_1 PROD_{it} + \beta_2\, IMP_{it} + \beta_3 FISC_{it} + \beta_4 CONSO_{it} + \beta_5 INV_{it} + \beta_6 PUB_{it} + \beta_7 POP_{it} + \beta_7 CHO_{it} + c_i + u_{it}$$

Empirical results: €1 in production taxes destroys €3 in turnover

The results of the econometric study indicate that production taxes have a substantial negative impact on growth in companies' turnover. Regardless of the specification of the model, the coefficient is significant and varies only slightly from one specification to another.

In all four specifications, the coefficient indicates that a decrease of one point in the net production tax rate leads to an increase of nearly three points in companies' turnover growth (Table 12).

Table 12: Econometric results, impact of net production taxes on turnover growth

	(1)	**(2)**	**(3)**	**(4)**
Net production tax	-3.043***	-3.024***	-3.139***	-3.080***
	(1.080)	(1.101)	(1.107)	(1.106)
Implicit rate	-0.228	-0.228	-0.182	-0.156
	(0.166)	(0.166)	(0.172)	(0.173)
Tax burden rate	-0.560***	-0.559***	-0.552***	-0.571***
	(0.143)	(0.144)	(0.144)	(0.145)
Final consumption	0.717***	0.730***	0.740***	0.720***
	(0.137)	(0.190)	(0.190)	(0.190)
Investment	0.130***	0.131***	0.132***	0.122***
	(0.0437)	(0.0440)	(0.0440)	(0.0446)
Public consumption		-0.0137	0.0213	0.0347
		(0.145)	(0.149)	(0.149)
Demography				-1.322
				(1.044)
Unemployment			0.180	0.0972
			(0.176)	(0.187)
Constant	0.0702***	0.0700***	0.0454	0.0520
	(0.0255)	(0.0257)	(0.0352)	(0.0355)
Observations	226	226	226	226
Groups	27	27	27	27
R2	0.364	0.364	0.368	0.373
Country fixed effects	Yes	Yes	Yes	Yes
Hausman	11.64	11.06	11.89	14.16
	0.0400	0.0866	0.1000	0.0778

Notes: *** $p<0.01$, ** $p<0.05$, * $p<0.1$

6. IMPACT ON THE FRENCH ECONOMY OF A €35-BILLION DECREASE IN PRODUCTION TAXES

The impact of a decrease in production taxes can be broken down into two sub-effects. The first one occurs automatically and stems from the increase in earnings and thus in corporate tax. The second one is indirect and is linked to the easing of constraints on companies, resulting in additional tax and social security revenues. Taking all these effects into account makes it possible to calculate the numbers associated with this measure.

Automatic impact: a 17% jump in corporate income tax receipts

A decrease in production taxes generates an increase in corporate income tax. Without companies even having to alter their activities, this measure boosts their operating surpluses and their earnings. In turn, this increases the size of the tax base, leading to higher corporate tax receipts.

As part of this study, we estimated the average corporate tax surplus resulting from the decrease in production taxes at 17%, based on a recent analysis from the Observatoire français des conjonctures économiques (OFCE).[67] A €35-billion decrease in production taxes would produce a €6-billion corporate tax surplus, leaving a €29-billion annual shortfall (Table 13).

Note that this estimate is defensive. In 2013, the French Treasury estimated that the increase in corporate taxes resulting mechanically from the abolition of production taxes would be much more significant.[68]

Table 13: Automatic impact of a decrease in production taxes on corporate tax receipts

		Impact after one year (€ billion)	Impact after two years (€ billion)
D29-D39	Decrease in production taxes	-35	-35
	Increase in taxable earnings	35	35
D51B	Additional corporate tax (based on an average rate of 17%)	6	6
	Immediate net impact on public finances (€ billion)	-29	-29

Source: Institut économique Molinari

Huge knock-on effects

In 2018, the net production tax rate was 2.55% of GDP for a €60-billion gain. The output of non-financial businesses was €3,039 billion.

A €35-billion decrease in production taxes (lowering the rate to 1.06% of GDP) would have amounted to a reduction of 1.49 points in the production tax rate. The econometric analysis presented above suggests that this decrease would have led to a 4.46-point rise in turnover growth, or an increase of €135.6 billion in Year 1.

In reality, the economic knock-on effect is somewhat less. The €35-billion decrease in production taxes leads to a €6-billion increase in corporate income tax. In this study, we have chosen to take this adverse effect into account, bearing in mind the effect of a €29-billion net decline in taxes. This approach probably leads to an underestimate of the knock-on effects, since production taxes are more harmful than the tax on profits for the reasons outlined above (see Part 3, starting on page 13). The econometric analysis referred to above suggests that this net decrease in taxation would lead to a 3.70-point increase in turnover growth, or a €112.6-billion net increase in turnover in Year 1.

Companies would produce more, which would create additional demand for labour, capital and intermediate consumption by French companies. The €112.6 billion would be injected into the economy and would have a multiplier effect: the increase in turnover would lead to greater demand for intermediate goods, producing a further increase in turnover for certain companies. The resulting increase in activity would lead to more hiring and to greater consumption of intermediate goods. This would therefore have two effects: investment should increase to meet the growth in activity, and final consumption should also increase in Year 2.

Quantification of indirect impacts with the input-output table

To calibrate this multiplier effect, we turned to the input-output table provided by INSEE, France's national statistics agency. This summary table provides breakdowns by economic sector of turnover in terms of production, imports and taxes as well as of intermediate consumption and final jobs.

INSEE also provides accounts by industry with details of spending on intermediate consumption, added value, the number of employees and their pay, investment expenditure and consumption of fixed capital.[69]

By cross-checking the input-output table and the accounts by industry, it is possible to observe how an initial expenditure spreads across the national economy: once the sector that initially receives this expenditure is known, the way it is used and its impact on employment can be observed.

As regards spending by businesses and households, it was assumed that it would be similar to the current breakdown, as shown in the input-output table. Finally, it was assumed that the €112.6 billion in turnover would be allocated at each company similarly to the current average allocation of turnover in France as presented by INSEE in the aggregate accounts of non-financial companies.[70]

Assuming that companies' production revenues are distributed as they were in 2018, intermediate consumption demand should grow by €63.9 billion one year after the tax cut. At the same time, gross value added would rise by €48.7 billion and consumption of fixed capital by €9.3 billion (Table 14).

Employee compensation would rise by €30.2 billion at the end of the first year due to increased demand for labour or higher wages. This amount would be split between €22.8 billion in increases in wages and salaries and €7.4 billion in increases in employers' social contributions.

This stimulus in intermediate consumption demand and household demand – driven by higher wages and salaries – would result in an additional increase in production. Assuming that companies take another year to adjust their output and their demand for labour, the demand multiplier effect should

result in a €156.3-billion overall increase in output after two years, with a €31.7-billion increase in wages and salaries and a €10.2-billion increase in employers' social contributions.

Table 14: Impact of decreased taxation on production and operating accounts
(-€35 billion gross and -€29 billion net after increased corporate tax revenues)

		Distribution of resources (%) *	Impact after one year (€ billion)	Impact after two years (€ billion)
Production account				
Resources				
P1	Production	100.0%	112.6	156.3
P11	Market production	97.7%	110.0	152.7
P12	Production for own final use	2.3%	2.6	3.6
Employment				
P2	Intermediate consumption	56.7%	63.9	88.7
B1g	Gross value added	43.3%	48.7	67.6
P51c	Consommation of fixed capital	8.3%	9.3	12.9
B1n	Net value added (*)	35.0%	39.4	54.7
Operating account				
Resources				
B1g	Gross value added	43.3%	48.7	67.6
Employment				
D1	Employee compensation	26.8%	30.2	41.9
D11	Gross wages and benefits	20.3%	22.8	31.7
D12	Employers' social security contributions	6.5%	7.4	10.2
D29-D39'	Additional production taxes due to additional activity	0.4%	0.5	0.7
B2g+B3g	Gross operating surplus and gross mixed income	16.0%	18.0	25.0
B2n+B3n	Net operating surplus and net mixed income	7.7%	8.7	12.0

Source: Institut économique Molinari

Quantification of other indirect impacts

Reducing taxes would create additional effects stemming from the increase in employees' social security contributions, savings in public spending due to lower unemployment, and the increase in income tax, VAT and corporate tax revenues (Table 15).

The increase in employees' social security contributions, with an estimated contribution rate of 22% of gross wages,[71] would bring in €5 billion in Year 1 and €7 billion in Year 2.

The rise in economic activity would result in the creation of 357,000 jobs in Year 1 and a total of 753,000 jobs in Year 2, providing for a reduction in benefits for the unemployed of €5.2 billion in Year 1 and €10.9 billion in Year 2.[72]

The increase in income tax revenues, estimated at 6% of net wages,[73], would amount to €1.1 billion in Year 1 and €1.5 billion in Year 2.

The rise in VAT revenues, with calculations based on an average of 8.5%[74] of disposable household income,[75] would amount to €1.1 billion in Year 1 and €1.2 billion in Year 2.

Finally, the increase in economic activity would generate additional corporate income tax revenue amounting to €0.6 billion in Year 1 and €0.8 billion in Year 2.[76]

Table 15: Other impacts on government revenues and expenditures

		Impact after one year (€ billion)	Impact after two years (€ billion)
Employee social security contrib.	Grosss wage and benefit surplus	22.8	31.7
	Additional employee social security contributions (based on 22% of gross)	5.0	7.0
Unemployment savings	Number of jobs induced	357,206	752,771
	Savings in public expenditure due to decreased unemployment	5.2	10.9
Income tax	Additional net wages (gross minus employees' social security contributions)	17.8	24.7
	Additional income tax (based on 6% of net wages)	1.1	1.5
	Additional wages net of income tax	16.7	23.2
	Neutralisation from decline in unemployment benefits	-4.3	-9.1
	Additional disposable income (wages net of income tax minus benefits)	12.4	14.2
VAT	Additional VAT (based on 8.5% of dispoable household income)	1.1	1.2
D51B	Additional corporate tax	0.6	0.8

Source: Institut économique Molinari

An overall business plan with the cut in production taxes balanced after two years

The overall effect has been calculated by adding up the effects outline above. At the end of the first year, the public deficit due to the €35-billion cut in production taxes would be about €8 billion. At the end of the second year, we would see a gain of about €3 billion (Table 16).

Table 16: Overall net impact of lower production taxes on public finances

		Impact after one year (€ billion)	Impact after two years (€ billion)
D29	Decrease in production taxes (€35 billion minus additional activity)	-34.5	-34.3
D51B	Additional corporate tax (automatic effect plus additional activity)	6.6	6.8
Unemployment savings	Savings in public expenditure due to lower unemployment	5.2	10.9
D12+Employee soc sec	Additional employer and employee social security contributions	12.4	17.2
Income tax	additional income tax	1.1	1.5
VAT	Additional VAT	1.1	1.2
	Overall net impact on public finances (€ billion)	**-8.1**	**3.3**

Source: Institut économique Molinari

In other words, with production taxes reduced by €35 billion, it would be possible to boost production in France by €156 billion, increase total wages by €31.7 billion and create 753,000 jobs. This would all occur at zero cost to the public finances after two years, with increased economic activity generating revenues that would offset the initial cost of the measure.

An enormous effect for territories, health care, industry and support activities

Statistics provided by Eurostat provide a geographic breakdown of jobs in the main sectors of the French economy.[77] Based on these data, jobs created by a decrease in production tax have been broken down by region. It appears that 56% of the jobs would be created outside the Ile de France region (encompassing Paris and surrounding areas), primarily in the Auvergne-Rhône-Alpes, Nord-Pas-de-Calais and Provence-Alpes-Côte d'Azur regions.

The gains would be especially noteworthy in sectors such as human health or industry (Table 17). Production taxes are far out of proportion to value added creation, hindering their development and weakening the economic fabric. These sectors would benefit in two ways from a cut in production taxes. First, this would ease the constraints that burden them directly. Second, this would lighten the constraints on their commercial partners in the same sector or in sectors that contribute to performance (administrative services, commodities, logistics, etc.). This would help reduce the cascade effects inherent to production taxes by limiting the attrition of their low-margin activities and creating more leeway for investing, hiring, lowering prices and/or raising wages in other areas.

*Table 17: Main sectors that would benefit from
a normalisation of French production taxes*

Main economic sectors that would benefit from a decrease in production taxes, eliminating European sectoral discrepancies	Billions of euros (and % oftotal)	
	Taxes exceeding rest of EU	Taxes matching rest of EU
1 Manufacturing	7.8 (83%)	1.6 (17%)
2 Administrative and support services	2.2 (83%)	0.4 (17%)
3 Information and communications	1.6 (72%)	0.6 (28%)
4 Specialised, scientific and technical activities	1.7 (71%)	0.7 (29%)
5 Real estate	17.3 (62%)	10.8 (38%)
6 Transport and storage	1.7 (62%)	1.0 (38%)
7 Finance and insurance	5.2 (57%)	3.9 (43%)
8 Water, sewerage, waste and site cleanup	1.0 (44%)	1.2 (56%)
All sectors	**44.3 (65%)**	**24.0 (35%)**

*Interpretation: France has 83% in excess production taxes in industry in relation to value added.
Source: Institut économique Molinari based on Eurostat, [nama_10_a64]. Year 2019.*

It should be noted that this study does not take account of the impact that a reduction of this sort would have on the balance of trade. The use of the input-output table to come up with estimates assumes that companies import a stable portion of their intermediate goods, that consumers allocate a stable portion of their spending to imported goods and that companies do not gain new market share at the international level. However, lowering production taxes should strengthen companies' competitiveness and alter their production strategy.

In this regard, the Conseil d'analyse économique estimates that eliminating the corporate social solidarity contribution for certain manufacturing companies – those with a turnover of less than €19 million – had led to a 1% increase in their exports as compared to companies that remain subject to this tax.[78] The Council says that eliminating the tax could increase exports by €4.2 billion and reduce imports by €500 million, thereby reducing the trade deficit by 14%.

The scenario outlined in this study, with a €35-billion cut in production taxes, goes far beyond the €4-billion corporate social solidarity contribution (2018 figure) and would produce far more significant effects. It would have an even greater effect on economic activity, further reducing the transitory negative impact of this measure on the public finances.

7. CONCLUSION

As in any prospective study, this quantification serves an indicative purpose. It shows nevertheless that a dynamic approach to revenues and expenditures, combining interactions between tax rates and tax bases, drastically alters the business plan that involves lowering production taxes.

It is highly probable that this does not amount to choosing between fiscal rigour, with production taxes providing additional revenues, and employment, with a cut in production taxes at the risk of deeper deficits.

The extensive use of production taxes, going back decades in France, provides visible revenues but at a very high indirect cost. It suppresses economic activity, thereby reducing wealth creation and overall tax revenues while boosting unemployment-related expenditures.

This study shows that cutting production taxes by half does not pose a risk to our overall public finances. It would not create a deficit in proportion to the tax cut since "downstream" taxes would capture additional wealth resulting from this "upstream" revenue-reducing measure.

This approach would lower production taxes to competitive levels, compatible with substantial economic development. Its cost would be transitory and well contained, with a far more limited shortfall than what static accounting approaches suggest.

As is often the case in economic and tax matters, the issue is one of finding the means to favour tax bases over tax rates, rejecting value-destroying taxes in favour of others that are less damaging. A strategy aimed at financing collective spending through reliance on a wealth-creating dynamic is more effective in the long term than one that imposes exaggerated tax rates, inevitably obstructing growth in the tax base.

Various recent experiences show the drawbacks of static accounting approaches and the value of dynamic reasoning. Whereas in 2013 the government was expecting a €400-million gain by applying the progressive income tax scale to dividend and interest income, it ended up losing €900 million in income tax and social security contributions due to a contraction in the tax base.[79] In contrast, the introduction of the single flat-rate levy (*prélèvement forfaitaire unique*) in 2018 cost €500 million less than expected, with the lower rates offset by the dynamism of the tax base. As regards the tax credit for competitiveness and employment (CICE), a recent study from the Observatoire français des conjonctures économiques (OFCE) shows that this measure may have generated 400,000 gross jobs, or 160,000 net jobs once the disincentive effects from the financing of this measure are taken into account. Though we may be pleased that these 160,000 jobs were created at no cost to the public treasury, the desire for this measure to be self-financing unfortunately cut its effectiveness by half.[80]

Even so, experience shows that this type of change is by no means easy to manage, despite the advantages it would provide. One reason is the natural reluctance of local authorities, for whom a cut in production taxes is a risky operation. They receive the bulk of this tax (66%). They would therefore see their revenues decline significantly (production taxes account for 28% of their financing), while their dependence on central government transfers would increase. As things stand, they are not in a position to recover the gains arising from the normalisation of production taxes. Our

analysis shows that these gains will go mostly to the central administrations (corporate tax, personal income tax, etc.) and to the social security administrations (more revenue from contributions and lower unemployment-related spending). It is vital to establish win-win revenue sharing, enabling local authorities to internalise a significant portion of the gains.

One of the most promising avenues is undoubtedly the sharing of traditional "downstream" taxation, as is done in many countries.

In the Nordic countries – Denmark, Finland, Iceland, Norway and Sweden – income tax is the main source of financing for sub-national governments.[81]. Among OECD member states, some countries share VAT revenues between central and local administrations, with figures as high as 57% at the sub-national level in Canada and 74% in Spain.[82] In the United States, all retail sales taxes are levied by state and local governments.[83] In Germany, the Länder collect portions of corporate tax (50%), VAT (47%) and personal income tax (42.5%).[84]

Allocating portions of the corporate or personal income tax to local authorities in France can create a powerful link with wealth creation in their territories. Given the usual fluctuations in corporate tax revenues and, to a lesser extent, in personal income tax revenues, it would also be wise to allocate a fraction of the VAT or even of the generalised social contribution (CSG)[85] to local authorities. A report on local finances issued on May 9th, 2018, found that "the breadth of the tax base and the high correlation with overall economic activity make these resources the most secure for the authorities receiving them."[86]

Beyond the mix that is eventually chosen, one of the issues involves knowing whether the best solution is to transfer a fraction of the proceeds from national taxation or to localise the tax base, as noted in the report of a committee co-chaired by Alain Richard and Dominique Bur.[87] The latter solution would even provide for a supplementary local rate in addition to the rate defined by law, enabling local authorities to customise the tax. On the other hand, while income tax is by its nature easy to localise and would lend itself to the application of an additional local rate, this is not the case for the VAT, with a base that is harder to localise.

This reform is essential for the development of employment and purchasing power, the preservation of low value-added activities in the territories, but also the development of the most innovative. It is naturally a central issue in the context of the upcoming presidential campaign.

8. APPENDIX: SPECIFICATIONS OF THE MODEL

In econometrics, panel data analysis is used widely because it allows for the inclusion of many similar observations at different periods for various individual groups. However, the relevance of the analysis and of the results depends on the model's ability to meet certain key assumptions.

Stationarity. First of all, panel data analysis focuses on observations that change over time. From a statistical standpoint, this analysis is relevant only if these observations are stationary, meaning that their distribution does not vary over time. Otherwise, observations may be correlated simply because they all increase or decrease over time. This applies if the panel observations contain a unit root.

Fixed effects. A second essential condition has to do with the suitability of the way the observations are compared between countries. If the observations change systematically in a different way depending on the country, this national influence should be taken into account in the model by including a "country fixed effect".

Multicollinearity. A third condition for the model's relevance requires that the explanatory variables not be collinear, meaning that they may not explain the same phenomenon. If they do, the value of the coefficients is biased, and the model fails to explain correctly the relationships between the explained and explanatory variables.

Stationarity

The following stationarity tests have as their null hypothesis that there exists a unit root. In other words, if the p-value of a test is significant, the null hypothesis of a unit root is rejected and the alternative hypothesis of stationarity is accepted.

Most of the variables that are used necessarily contain a unit root, because they grow over time. This applies to revenues, population, consumption, investment and, potentially, public expenditures. A commonly used strategy is to observe not the variable directly but its annual growth rate.

The following tests analyse the stationarity of the explained variable – corporate turnover – once it has been converted to annual growth rate. They all reject the null hypothesis of a unit root of less than 5%.

Figure 6: Changes in the variables used for each country in the panel
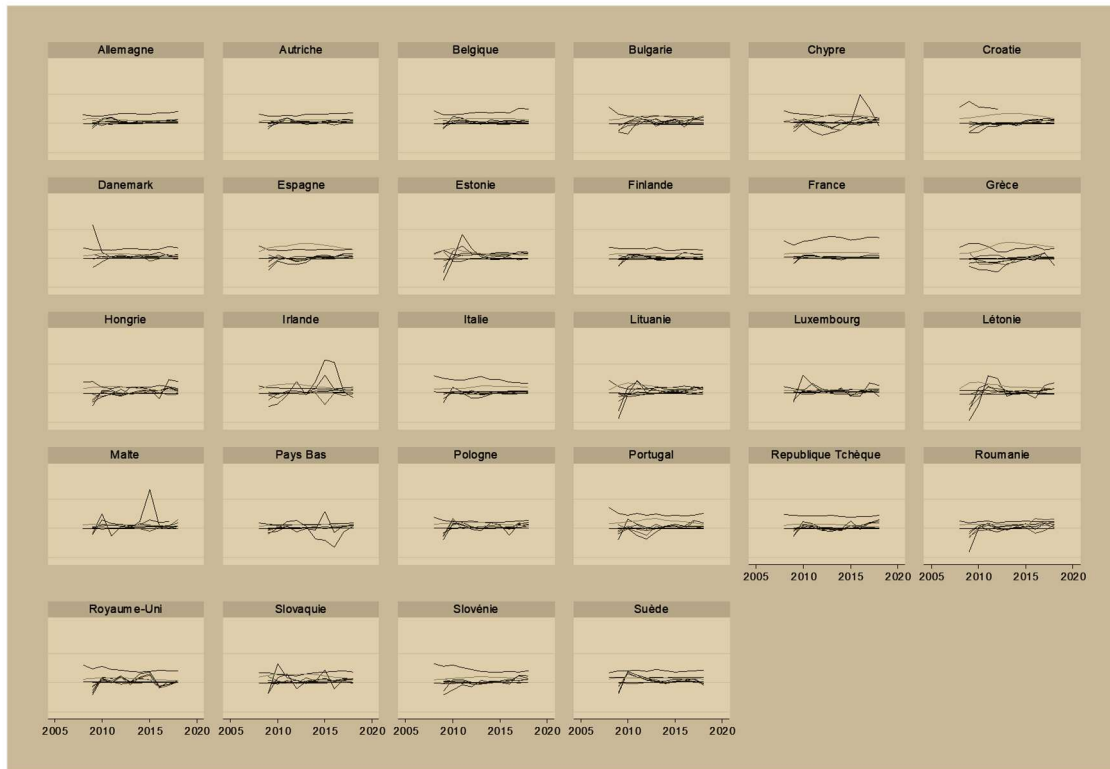

Table 18: Stationarity tests

	Adjusted t		*p-value*
Levin-Lin-Chu	-20.0073		0.0000
	ρ	z	*p-value*
Harris-Tzavalis	0.0720	-11.9306	0.0000
	L		*p-value*
Breitung	-1.8362		0.0332
	$z_{\tilde{t}-bar}$		*p-value*
Im-Pesaran-Shin	-6.4856		0.0000
	z		*p-value*
Hadri LM	1.0551		0.1457

Fixed effects versus random effects

As regards statistics, the choice of effect depends on whether each country influences the changes in observations. If the effect is nil or identical for all countries, then they do not influence the changes in observations and a "random effect" should be applied to the model. To examine countries' influence, a Hausman test must be conducted. This consists of determining whether the coefficients of the fixed-effect and random-effect estimates are statistically different. The null hypothesis is that both models are unbiased and provide coefficients that are not significantly different. If the test is not significant, the null hypothesis should be rejected and the existence of a country effect should be accepted. In this case, the choice of model should turn to "country fixed effects".

In the specifications that are used, the null hypothesis may never be rejected at 10% and cannot be rejected at 5% in the initial specification, confirming the need to turn to country fixed effects.

Multicollinearity

In statistical terms, collinearity implies that two explanatory variables are linear combinations of each other. In such instances, estimation of the coefficients becomes unstable, varying according to the sample observed, and measurement of their deviation is biased. To test the absence of multicollinearity, the inflation factor in the variance of each variable is examined. If it exceeds 10, the variable in question is regarded as a linear combination of other explanatory variables.

None of the variables used suffers from multicollinearity. Moreover, the inflation factor of the average variance is below 10, meaning that use of all the variables does not create problems of multicollinearity.

Table 19: Multicollinearity test on the variables in the model

	VIF	$\sqrt{VIF}$	$1/VIF$	R^2
Net production tax	1.28	1.13	0.7791	0.2209
Implicit rate	1.16	1.08	0.8637	0.1363
Tax burden rate	1.09	1.04	0.9185	0.0815
Final consumption	3.53	1.88	0.2836	0.7164
Investment	2.02	1.42	0.4959	0.5041
Public consumption	2.53	1.59	0.3949	0.6051
Demographics	1.35	1.16	0.7402	0.2598
Unemployment	1.39	1.18	0.7195	0.2805
Average VIF	**1.79**			

9. APPENDIX: ROBUSTNESS TESTS WITH TIME VARIABLE OR ALTERNATIVE SAMPLE

Introduction of a time variable over the 2008-2018 period

The preceding regressions cover the period from 2010 to 2018. Although the data are available for the period from 2008 to 2018, it was decided not to include the first two years because they cover a time of economic crisis and this would have the effect of creating two trends in the evolution of corporate revenues, statistically biasing the correlations observed.

However, it is possible to avoid excluding these two years by adding a variable representing the fact that these were crisis years, unlike the rest of the period, which was a time of recovery or of relatively stable growth. For this purpose, a binary variable was created, marked 1 for crisis years and 0 for the rest. As expected, the variable is significant and negative, showing that, during those two years, revenues tended to decline overall in European countries. The production tax coefficient remains significant and is even slightly higher than in the main model.

Table 20: Econometric results (variant with time variable)

	(1)	(2)	(3)	(4)
Net production tax	-3.095**	-3.181**	-3.260**	-3.235**
	(1.303)	(1.313)	(1.321)	(1.319)
Implicit tax	-0.397**	-0.410**	-0.377**	-0.343*
	(0.176)	(0.178)	(0.187)	(0.188)
Tax burden rate	-0.427***	-0.428***	-0.436***	-0.463***
	(0.159)	(0.159)	(0.160)	(0.161)
Final consumption	0.601***	0.506**	0.511**	0.482**
	(0.147)	(0.219)	(0.219)	(0.220)
Investment	0.146***	0.143***	0.144***	0.129**
	(0.0546)	(0.0549)	(0.0550)	(0.0560)
Public consumption		0.0937	0.119	0.150
		(0.160)	(0.165)	(0.167)
Unemployment			0.127	0.0229
			(0.216)	(0.229)
Demographics				-1.761
				(1.300)
Crisis years	-0.0887***	-0.0956***	-0.0945***	-0.0979***
	(0.0196)	(0.0229)	(0.0230)	(0.0231)
Constant	0.0984***	0.102***	0.0843**	0.0928**
	(0.0285)	(0.0291)	(0.0416)	(0.0420)
Observations	252	252	252	252
Groups	27	27	27	27
R2	0.479	0.480	0.481	0.485
Country fixed effects	Yes	Yes	Yes	Yes

Notes: *** $p<0.01$, ** $p<0.05$, * $p<0.1$

On the basis of a coefficient of 3.2, it appears that a €35-billion decrease in production taxes would lead to a €120-billion increase in revenues. If this were to occur, applying the previous logic, 800,000 jobs could be created at the end of the second year, with a €5-billion gain for public finances.

Table 21: Impact of the tax cut on production and operating accounts (variant with time variable)

		Distribution of resources (%) *	Impact after one year (€ billion)	Impact after two years (€ billion)
	Production account			
	Resources			
P1	Production	100.0%	120.1	166.7
P11	Market production	97.7%	117.4	162.9
P12	Production for own final use	2.3%	2.7	3.8
	Employment			
P2	Intermediate consumption	56.7%	68.1	94.6
B1g	Gross value added	43.3%	52.0	72.1
P51c	Consumption of fixed capital	8.3%	9.9	13.8
B1n	Net value added (*)	35.0%	42.1	58.4
	Operating account			
	Resources			
B1g	Gross value added	43.3%	52.0	72.1
	Employment			
D1	Employee compensation	26.8%	32.2	44.7
D11	Gross wages and benefits	20.3%	24.4	33.8
D12	Employers' social security contributions	6.5%	7.8	10.9
D29-D39'	Additional production tax due to increased activity	0.4%	0.5	0.7
B2g+B3g	Gross operating surplus and gross mixed income	16.0%	19.2	26.7
B2n+B3n	Net operating surplus and net mixed income	7.7%	9.2	12.8

*Source: Institut économique Molinari based on INSEE, 2018 annual national account. * Net production taxes (D29-D39') externalised by INSEE have been adjusted by the authors to take account of the decrease in production taxes (0.4% instead of 0.9%). Also, other employment has been rebased so that it continues to amount to 43.3%, in accordance with the INSEE total.*

Table 22: Other impacts on the government revenues and expenditures (variant with time variable)

		Impact after one year (€ billion)	Impact after two years (€ billion)
Social security contributions	Additional gross wages and benefits	24.4	33.8
	Additional employee social security contributions (based on 22% of gross)	5.4	7.4
Unemployment savings	Jobs induced (in numbers)	379,452	799,605
	Savings in public expenditures related to lower unemployment	5.5	11.7
	Additional net wages (gross minus employees' social security contributions)	19.0	26.3
Income tax	Additional income tax (based on 6% of net wages)	1.1	1.6
	Additional wages net of income tax	17.9	24.8
	Neutralisation of decrease in unemployment benefits	-4.6	-9.7
	Additional disposable income (wages net of income tax minus benefits)	13.3	15.1
VAT	Additional VAT (based on 8.5% of dispoable household income)	1.1	1.3
D51B	Additional corporate tax	0.6	0.8

Source: Institut économique Molinari

Production Taxes Hold Back Wages, Jobs and Growth

Table 23: Overall net impact of the production tax cut on public finances

(variant with time variable)

		Impact after one year (€ billion)	Impact after two years (€ billion)
D29	Decrease in production taxes (€35 billion minus additional activity)	-34.5	-34.3
D51B	Additional corporate tax surplus (automatic effect plus increased activity)	6.6	6.8
Unemployment savings	Savings in public expenditures due to lower unemployment	5.5	11.7
D12+Employee soc sec contrib	Additional employer and employee social security contributions	13.2	18.3
Income tax	Additional income tax	1.1	1.6
VAT	Additional VAT	1.1	1.3
	Overall net impact on public finances (€ billion)	**-7.0**	**5.4**

Source : Institut économique Molinari

Fifteen-country analysis of non-payroll-based production taxes

Eurostat has data on production taxes that are not linked to payroll for 14 EU countries and Norway. These data enable us to estimate the impact of gross production taxes (D29) minus production taxes on payroll (D29C). These 15 countries were selected for the observation period examined in this work (2010-2018).

Figure 7: Non-payroll-based production taxes in 15 countries (as % of 2017 GDP)
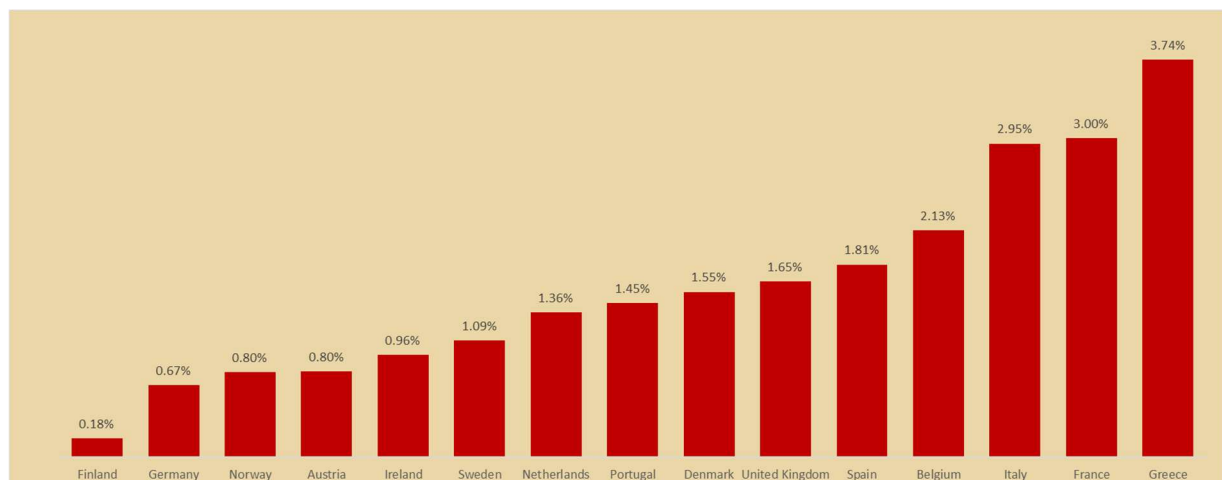
Note: The rate is calculated by taking the overall amount of production taxes (D29) minus payroll-based production taxes (D29C). Source: Eurostat, National Tax Lists, https://ec.europa.eu/taxation_customs/business/economic-analysis-taxation/data-taxation_en

Table 24: Countries observed in the non-payroll-based production tax variant (15 country variant)

Austria	Belgium	Denmark	Finland	France
Germany	Greece	Ireland	Italy	Netherlands
Norway	Portugal	Spain	Sweden	United Kingdom

The coefficients are lower than in the previous regressions but remain significant and confirm that a decrease in production taxes would have a positive effect on the economy.

Based on a coefficient of 2.4, it appears that a €35-billion decrease in production taxes would lead to a €90-billion increase in revenues. If this were to occur, applying the previous logic, 600, 000 jobs could be created at the end of the second year, with a cost to public finances of nearly €3 billion.

Table 25: Econometric results (15-country variant)

	(1)	(2)	(3)	(4)
Net production tax	-2.170**	-2.307**	-2.407**	-2.022*
	(1.059)	(1.093)	(1.102)	(1.111)
Implicit tax	-0.422***	-0.434***	-0.452***	-0.449***
	(0.148)	(0.150)	(0.152)	(0.150)
Tax burden rate	0.161	0.151	0.172	0.165
	(0.126)	(0.128)	(0.131)	(0.129)
Final consumption	0.742***	0.615**	0.585**	0.601**
	(0.156)	(0.279)	(0.282)	(0.279)
Investment	0.191***	0.192***	0.192***	0.168***
	(0.0546)	(0.0548)	(0.0550)	(0.0560)
Public consumption		0.121	0.147	0.115
		(0.221)	(0.224)	(0.222)
Demographics			-0.782	-1.285
			(0.969)	(1.001)
Unemployment				-0.811*
				(0.470)
Constant	-0.0145	-0.0101	-0.0105	0.0297
	(0.0286)	(0.0298)	(0.0299)	(0.0376)
Observations	105	105	105	105
Groups	15	15	15	15
R2	0.589	0.590	0.594	0.608
Country fixed effects	Oui	Oui	Oui	Oui
F u_i=0	1.40	1.41	1.19	1.41
	0.1704	0.1661	0.2998	0.1658
Hausman chi2	15.53	15.72	13.38	16.09
	0.0083	0.0153	0.0633	0.0411

Notes: *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 26: Impact of the tax decrease on production and operating accounts (15-country variant)

		Distribution of resources (%) *	Impact after one year (€ billion)	Impact after two years (€ billion)
	Production account			
	Resources			
P1	Production	100.0%	90.1	125.0
P11	Market production	97.7%	88.0	122.2
P12	Production for own final use	2.3%	2.1	2.9
	Employment			
P2	Intermediate consumption	56.7%	51.1	70.9
B1g	Gross value added	43.3%	39.0	54.1
P51c	Consumption of fixed capital	8.3%	7.4	10.3
B1n	Net value added (*)	35.0%	31.5	43.8
	Operating account			
	Resources			
B1g	Gross value added	43.3%	39.0	54.1
	Employment			
D1	Employee compensation	26.8%	24.1	33.5
D11	Gross wages and benefits	20.3%	18.3	25.4
D12	Employers' social security contributions	6.5%	5.9	8.2
D29-D39'	Additional production tax due to increased activity	0.4%	0.4	0.6
B2g+B3g	Gross operating surplus and gross mixed income	16.0%	14.4	20.0
B2n+B3n	Net operating surplus and net mixed income	7.7%	6.9	9.6

Source: Institut économique Molinari based on INSEE, 2018 annual national account. * Net production taxes (D29-D39') externalised by INSEE have been adjusted by the authors to take account of the decrease in production taxes (0.4% instead of 0.9%). Also, other employment has been rebased so that it continues to amount to 43.3%, in accordance with the INSEE total.

Table 27: Other impacts on government revenues and expenditures (15-country variant)

		Impact after one year (€ billion)	Impact after two years (€ billion)
Social security	Additional gross wages and benefits	18.3	25.4
contributions	Additional employee social security contributions (based on 22% of gross)	4.0	5.6
Unemploymen	Jobs induced in numbers)	284,772	600,124
savings	Savings in public expenditures due to lower unemployment	4.2	8.7
	Additional net wages (gross minus employees' social security contributions)	14.2	19.8
Income tax	Additional income tax (based on 6% of net wages)	0.9	1.2
	Additional wages net of income tax	13.4	18.6
	Neutralisation of decrease in unemployment benefits	-3.4	-7.3
	Additional disposable income (wages net of income tax minus benefits)	9.9	11.3
VAT	Additional VAT (based on 8.5% of dispoable household income)	0.8	1.0
D51B	Additional corporate tax	0.4	0.6

Source: Institut économique Molinari

Table 28: Overall net impact of the production tax cut on public finances (15-country variant)

		Impact after one year (€ billion)	Impact after two years (€ billion)
D29	Decrease in production taxes (€35 billion minus additional activity)	-34.6	-34.4
D51B	Additional corporate tax (automatic effect plus increased activity)	6.4	6.6
Unemployment savings	Savings in public expenditures due to lower unemployment	4.2	8.7
D12+Employee soc sec contrib	Additional employer and employee social security contributions	9.9	13.8
Income tax	Additional corporate tax	0.9	1.2
VAT	Additional VAT	0.8	1.0
	Overall net impact on public finances (€ billion)	**-12.4**	**-3.1**

Source: Institut économique Molinari

10. LIST OF FIGURES, TABLES AND ZOOMS

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[1] https://www.gouvernement.fr/sites/default/files/document/document/2020/09/discours_de_m._jean_caste x_premier_ministre_-_conference_de_presse_france_relance_-_03.09.2020.pdf

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[3] See for example WORLD BANK (2020), "Doing Business", 149 pages, available at https://www.doingbusiness.org/en/doingbusiness. According to the authors, France ranks 32nd out of 190 countries in simplicity of administrative processes. Within the EU, its ranking is average (12th out of 28).

[4] These constraints should be put in perspective, with experience showing that they have not prevented the recurrence of French government deficits going back decades.

[5] From HEIDSIECK L (2020), "Baisse des impôts de production : pourquoi le projet de Bruno Le Maire effraie les regions", *Le Figaro*, July 10.

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[10] See for example MARQUES N and PHILIPPE C (2020), *Le jour où les Etats de l'Union européenne ont dépensé toutes leurs recettes annuelles*, Institut économique Molinari, 6th edition, November, 36 pages.

[11] Back in 1826, Jean-Baptiste Say noted: "An exaggerated tax destroys the base on which it is levied. For the opposite reason, a tax reduction, by increasing public enjoyment, increases tax revenues and shows governments what they gain by being moderate." In the case of production taxes, the effect goes even further, since this type of taxation reduces the yield of other taxes (corporate tax, social security contributions, income tax, VAT, etc.). SAY JB (1826), *Traité d'économie politique*, Chapter IX.

[12] See République française (2020), "Projet de loi de finances pour 2021" (2021 finance bill), registered at the National Assembly presidency on September 28. No. 3360, page 12. A €10-billion decrease in production taxes was expected to generate a gain of €1.4 billion in corporate tax, or an automatic return of 14%.

[13] In principle, the taxation of profits is not reflected in prices: profits are not a factor in cost price but rather the difference between market price and cost price. See for example LAURE M, BABEAU A and LOUIT C (2001), *Les impôts gaspilleurs*, PUF Quadrige, pages 17 and 20.

[14] For Sauveplane and Simula, the theory of optimal taxation "emphasises that it would be preferable to do away with all corporate taxes and tax individuals directly. However, when policymakers lack the information needed for optimal taxation of individuals, taxation of corporate entities becomes necessary. Corporate tax then appears to be a default tax." SAUVEPLANE P and SIMULA L for the Conseil des prélèvements obligatoires (2017), *Où va l'impôt sur les sociétés ?*, Special Report No. 6, Working Paper. page 5.

[15] Everything leaving a company is taxed, but in return the company is reimbursed for the tax incurred by its suppliers.

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[18] See for example BENZARTI Y and CARLONI D (2018), *Qui a bénéficié de la baisse de la TVA dans la restauration en 2009 ?*, Institut des Politiques Publiques, IPP Note No. 32, May, 5 pages.

[19] Working group chaired by DUBIEF Y and LE PAPE J (2018), "La fiscalité de production, Document de consultation", French ministry of the economy and finance, April 2018, page 15.

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[29] BLUNDELL R and PRESTON I (2019), "Principles of Tax Design, Public Policy and Beyond: The Ideas of James Mirrlees, 1936-2018", *Fiscal Studies* 40(1), 5-18.

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[31] DELORME G (2000). *De Rivoli à Bercy : Souvenirs d'un inspecteur des finances 1952-1998,* Institut de la gestion publique et du développement économique.

[32] "The statutory effect is that the tax is borne by the person who pays it. However, economists note that in a market economy where product and factor prices are flexible, moving in accordance with the law of supply and demand, prices may adjust to changes in taxes. Price variations caused by tax variations lead to changes in the distribution of income, profits and well-being, which is the ultimate object of tax incidence." SIMULA L and TRANNOY A (2009), "Incidence de l'impôt sur les sociétés", *Revue française d'économie* 2009/3 (Volume XXIV), pages 3-4.

[33] SMITH Adam (1776), *The Wealth of Nations*, Book V, Chapter II.

[34] SMITH Adam (1776), *op. cit*.

[35] RICARDO David (1817), *On the Principles of Political Economy and Taxation*, Chapter IX.

[36] SAY Jean-Baptiste (1840), *Cours complet d'économie politique pratique*, Société Belge de librairie, for example page 497.

[37] SAY Jean-Baptiste (1840), *op. cit*., page 507. Full excerpt (translation): "The tax that a producer is obliged to pay is part of his production costs; it is a difficulty that he encounters along his way, which he can overcome only by paying a certain sum. And since he can continue to produce only as long as all his production costs (including his sorrow) are paid, he must increase the price of his products and thus pass on at least a large part of the tax to his consumers."

[38] When elasticity is nil, demand does not move up or down when a price changes. Demand remains unchanged regardless of price. This applies in particular to basic necessities: although the price may rise, consumption remains unchanged because there are few substitute products. When elasticity is negative, an upward change in price is likely to cause a downward change in the volume of demand (and vice versa).

[39] SAUVEPLANE Paul and SIMULA Laurent for the Conseil des prélèvements obligatoires (2017), *Où va l'impôt sur les sociétés ?*, Special Report No. 6, Working Document, page 5.

[40] See for example SIMULA L and TRANNOY A (2009), "Incidence de l'impôt sur les sociétés", *Revue française d'économie* 2009/3 (Volume XXIV), page 18: "A factor that is not mobile … cannot escape the tax. By definition, it bears the full burden of the tax. On the other hand, movements away by a mobile factor enable it to escape the tax in part and thereby divert the tax burden to other factors."

[41] See for example SIMULA L and TRANNOY A (2009), "Incidence de l'impôt sur les sociétés », *Revue française d'économie* 2009/3 (Volume XXIV), pages 36-37, for a review of the literature. They note that Arulampalan et al. [2008] estimate that $1 more in tax on profits reduces wages by 92 cents in the long term; Felix [2006] estimates that a 10% rise in corporate tax reduces gross annual wages by 7%; Hasset and Mathur [2006] find that a 1% rise in the corporate tax rate is associated with 1% decline in wage rates; Aus dem Moore and Kasten [2009] show that a corporate tax rise of $1 per employee results in a wage decrease of between $0.80 and $1.17; Desai et al. [2007] find that 45% to 75% of corporate tax is paid by labour and the rest by capital.

For a recent application, we can refer to the latest study by the Observatoire français des conjonctures économiques on the effects of the tax credit for competitiveness and employment (CICE). It shows that "the services [less exposed to international competition] do not seem to pass on the CICE in their prices, probably

due to a more favourable split towards the wage bill, whereas industrial sectors in a broad sense (agriculture, industry, construction) [more exposed to competition] would pass on the CICE in the form of lower value-added prices." Observatoire français des conjonctures économiques (2020), *Évaluation de l'impact du CICE par une méthode hybride et utilisation de l'information macro-sectorielle*, Report for France Stratégie, Version of September 7, page 3.

[42] See for example LAURE Maurice (1956), *Traité de politique fiscale*, page 59.

[43] SIMULA Laurent and TRANNOY Alain (2009), *op. cit*., page 18.

[44] See for example the paper by the working group chaired by DUBIEF Y and LE PAPE J (2018), "La fiscalité de production, Document de consultation", French ministry of the economy and finance, April, page 13.

[45] See OECD (2018), Revenue Statistics 1695-2017 interpretative guide, pages 25-26.

[46] See Part 4 for details of the data used and the calculations performed.

[47] An alternative calculation with production taxes excluding the wage bill net of subsidies is provided in an appendix starting on page 22.

[48] In Sweden, social protection is 53% financed by taxes, with work-based contributions accounting for only 47%. The EU 28 and France are in the reverse position, with 55% and 60% respectively of social protection financed by social security contributions and the remainder, 45% and 40% respectively, financed by taxes. Source: Eurostat, Receipts by type [spr_rec_sumt], calculations based on 2017 figures.

[49] According to the World Economic Forum's latest *Global Competitiveness Index*, France ranks 15th out of 141 countries. It is behind the Netherlands (4th), Switzerland (5th), Germany (7th), Sweden (8th), the United Kingdom (9th), Denmark (10th) and Finland (11th). Within the EU, France is only 11th out of 27. See SCHWAB K editor (2019), *The Global Competitiveness Report 2019*, World Economic Forum.

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[55] MARTIN P and TRANNOY A (2019), "Les impôts sur (ou contre) la production"*, Les notes du Conseil d'analyse économique*, No. 53, June, p. 8.

[56] See for example LAURE M, BABEAU A and LOUIT C (2001), *Les impôts gaspilleurs*, PUF Quadrige, 172 pages.

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[61] See MARQUES N (2020), "Fermeture de Bridgestone : 'La fiscalité française rigide a mis l'usine dans le rouge'", *L'Express*, September 20, available at https://www.lexpress.fr/actualite/idees-et-debats/fermeture-de-bridgestone-la-fiscalite-francaise-rigide-a-mis-l-usine-dans-le-rouge_2134922.html

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[63] LEE Y and GORDON R (2005), "Tax Structure and Economic Growth", *Journal of Public Economics*, 89(5), 1027-1043.

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[64] The net production tax rate is therefore the result of production taxes (D29) minus production subsidies (D39). These two variables are taken from the Eurostat database: https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=namq_10_gdp&lang=en.

[65] LEVINE R and RENELT D (1992), "A Sensitivity Analysis of Cross-Country Growth Regressions", *American Economic Review*, 82(4), 942-963.

[66] Specification of the model is provided in an appendix, page 21.

[67] The Observatoire français des conjonctures économiques (OFCE) considers the implicit corporate tax rate observed for small and mid-sized companies to be 17% cf. GUERINI M, GUILLOU S, NESTA L, RAGOT X and SALIES E (2018), "Impôt sur les sociétés : état des lieux et effets différenciés de la réforme"*, OFCE Policy Brief 38*, October 16, page 5.

It should be noted that the government estimates in its projections the automatic return from the decrease in production taxes at 14% in additional corporate tax. We regard this figure as an underestimate. It matches the average implicit rate calculated by the OFCE when we include micro-businesses. However, these businesses distort the perspective in two ways. First, they have an especially low implicit tax rate (7%). Second, they are not the target of the production tax cut.

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[68] DESMETTRE S (2020), La situation des prélèvements obligatoires sur les entreprises en France et chez ses principaux partenaires économiques, rapport particulier n°1 pour le Conseil de prélèvements obligatoires, July, pages 73-74 or CONSEIL DES PRELEVEMENTS OBLIGATOIRES (2021), Quel taux pour l'impôt des sociétés en France ?, Les notes du CPO, juillet, page 9 ou CONSEIL DES PRELEVEMENTS OBLIGATOIRES (2020), Adapter la fiscalité des entreprises à une économie numérisée, September, pages 29 and 30.

[69] INSEE, *Les comptes de la nation en 2018*, Activities by branch, https://www.insee.fr/fr/statistiques/4131357?sommaire=4131436

[70] INSEE, Statement: 7.103 Non-financial corporations account (S11 and S14AA), https://www.insee.fr/fr/statistiques/4131393?sommaire=4131436

[71] Employees' social security contributions amount to 22% of net wages, according to the Union de recouvrement des cotisations de Sécurité sociale et des allocations familiales (URSSAF), cf. https://www.urssaf.fr/portail/home/taux-et-baremes/taux-de-cotisations/les-employeurs/les-taux-de-cotisations-de-droit.html

[72] Based on public unemployment spending of €14,526 per unemployed person receiving benefits in 2018, calculated from data from Unédic, the body that manages France's unemployment insurance system.

Public unemployment spending is defined by the OECD as expenditure on cash benefits for people to compensate for unemployment. This includes redundancy payments from public funds as well as the payment of pensions to beneficiaries before they reach the standard pensionable age if these payments are made because the beneficiaries are out of work or for other labour market policy reasons.

The figure was calculated from Unédic's accounts for 2018. In that year, Unédic recorded €40.1 billion in technical charges (including €33.3 billion in benefits, €3.4 billion in contributions to *Pole emploi* and €2 billion in validation of retirement points) for 2,761,000 jobseekers receiving benefits. Source: Unédic (2020), Rapport financier 2019, page 6.

[73] According to INSEE, income tax amounted to 6% of personal income before redistribution in 2016. See for example https://www.insee.fr/fr/statistiques/4238443?sommaire=4238781#tableau-figure7

[74] According to INSEE, the 10% of people with the lowest incomes devote 12% of their disposable income to VAT, compared to 5% for the wealthiest 10%. An average rate of 8.5% was chosen for this calculation. See for example https://www.insee.fr/fr/statistiques/3713290

[75] The disposable income surplus was calculated by subtracting wages (net of income tax) from the unemployment benefits saved following the decrease in unemployment (€12,048 per unemployed person, based on Unédic data, cf. note 72).

[76] With respect to the increase in activity, the gain in corporate tax was estimated on the basis of the gain in production tax (€0.9 billion in Year 1) and of €1.11 in corporate tax per €1 in production tax once the latter has been reduced.

Shift from production tax to corporate tax	Production taxes	Corporate tax	Corporate tax per €1 in production taxes
Historic net 2018	60	28	€0.47
Additional corporate tax due to decrease in production taxes	-29	6	
What would have been observed if the decrease had occurred	31	34	€1.11

[77] Eurostat, structural business statistics by NUTS 2 regions and NACE Rev. 2, https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=sbs_r_nuts06_r2&lang=en.

[78] MARTIN P and TRANNOY A (2019), "Les impôts sur (ou contre) la production"*, Les notes du Conseil d'analyse économique*, No. 53, June, page 9.

[79] https://www.lesechos.fr/economie-france/budget-fiscalite/impots-ce-que-la-flat-tax-a-vraiment-coute-aux-finances-publiques-1138694

[80] According to a recent study by the OFCE, the CICE helped create or save 400,000 jobs in 2017. If we take account of the negative effects related to its financing (indirectly destroying 240,000 jobs), "loopback and financing included, the CICE may have helped create between 150,000 and 200,000 jobs approximately." It would thus have cost nothing and helped reduce unemployment. *Observatoire français des conjonctures*

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[81] Local finance mission co-chaired by Alain Richard and Dominique Bur (2018), Report on the overhaul of local taxation, May, page 21.

[82] FOUILLERON A (2015), "La Taxe sur la valeur ajoutée et les finances publiques", *Conseil des prélèvements obligatoires*, July, 172 pages, page 19.

[83] OECD (2018), *Consumption Tax Trends 2018: VAT/GST and Excise Rates, Trends and Policy Issues*, OECD Publishing, Paris, https://doi.org/10.1787/ctt-2018-en, pages 25-26.

[84] Distribution between the Länder is generally linked to their weight in income tax revenue (based on taxpayers' place of residence rather than their place of work) and corporate tax revenue (based on corporate head office location). Meanwhile, nearly one-quarter of VAT is used for equalisation, with the rest being proportional to population. ECALLE F and TURBAN S (2019), *Autonomie des collectivités territoriales : une comparaison européenne*, France Stratégie, analytical note, July, page 11.

[85] The CSG falls under "taxes of any kind" within the meaning of Section 34 of the Constitution. Part of its proceeds may be allocated to purposes other than the financial of social security, as noted by jurisprudence from the Conseil constitutionnel (cf. ruling No. 2001-447 DC of July 18, 2001), provided that thus alternative use remains limited. See for example the local finance mission co-chaired by Alain Richard and Dominique Bur (2018), Report on the overhaul of local taxation, May, pages 47-48.

[86] Local finance mission co-chaired by Alain Richard and Dominique Bur (2018), Report on the overhaul of local taxation, May, page 8.

[87] Local finance mission co-chaired by Alain Richard and Dominique Bur (2018), Report on the overhaul of local taxation, May, pages 48-49.

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