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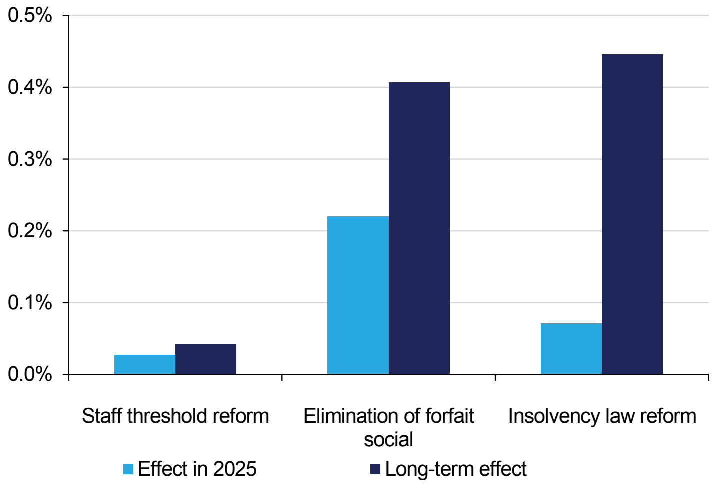
A tentative evaluation of some macroeconomic effects of the PACTE bill

- The Business Growth and Transformation Bill, known by its French acronym PACTE, was presented at a Cabinet meeting on 18 June 2018. This bill includes provisions targeting business creations and growth, corporate financing and insolvency procedures, innovation, and profit-sharing. An *ex ante* evaluation of measures whose effects have already been covered in the economic literature, based on economic models or on the results of similar reforms conducted in France or neighbouring countries, provides some clues about how much can be expected from the bill.
- This note assesses: 1) the reduction in labour costs resulting from the changes to certain staff thresholds, 2) the elimination of the *forfait social* (a social security contribution on employee profit-sharing) for companies with fewer than 250 employees, and 3) the implementation of a cross-class cram-down mechanism in cases of corporate restructuring, whereby greater powers are given to the creditors that wish to maximise the value of the company undergoing restructuring.
- These provisions, which are only one part of the PACTE, may raise GDP by nearly 1% in the long term, including a 0.3% boost in 2025. This positive effect would derive from productivity gains – with profit-sharing giving employees a stronger incentive in their companies' performance, and more efficient corporate restructuring resulting in a better allocation of production factors – and from lower labour costs due to the higher staff thresholds and elimination of the *forfait social*.
- Just like any *ex ante* evaluation, this initial approach bears considerable uncertainty due to the chosen model and its calibration, the robustness of the assumptions taken from the economic literature, and the extent to which economic agents take ownership of these reforms.
- Not all PACTE measures lend themselves to a straightforward *ex ante* evaluation. Taken as a whole, the measures whose effects have not yet been estimated could also have a significant positive effect on the economic environment.

***Ex ante* evaluation of the GDP effects of three PACTE measures**



Source: DG Trésor estimates.

NB: Not including the cost of financing these measures.

1. PACTE aims to remove roadblocks to company growth

1.1 International comparisons point to significant untapped growth potential for French companies

Small and medium-sized enterprises (SMEs[1]) make a sizeable contribution to both economic activity and employment, representing 47% of all workers and 43% of value added. However, German SMEs are larger on average than their French peers, with a similar contribution to employment.[2] Moreover, France has 5,800 mid-tier firms, whereas Germany has more than twice as many,[3] and they employ one-quarter of all employees and generate one-quarter of value added of the French economy. French SMEs are also less focused on export markets; there are only 118,000 exporting SMEs in France, compared to 220,000 in Italy and 310,000 in Germany. And although the rate of business creations is high in France, at 10%, vs. 7% in Germany, the French rate is lower if one excludes the "micro-entrepreneur" scheme for sole traders.[4]

1.2 PACTE aims to remove roadblocks to company growth

The company growth trend depends on multiple structural factors such as the administrative burden, the presence of regulatory thresholds, access to financing, or the efficiency of the bankruptcy system and entrepreneurs' capacity to bounce back from failure. French non-financial corporations obtain their financing more through debt (54%) than equity (46%), and for this debt financing, three-quarters resort to bank loans rather than the credit market.[5] The ties between the corporate sector and public research are distant. Since 2000, only 231 researchers working for the civil service have received permission to create their own business under the provisions of the Allègre Act, whereas there were 112,000 researchers working for the public sector in 2015.[6] Employees of companies with fewer than 250 staff have proportionately lower access to profit-sharing/saving schemes, with only 32% of such employees being covered by such schemes (and only 16% in companies with fewer than 50 staff), vs. 55% overall (see Chart 1 below). Lastly, while France has a smaller proportion of "poorly used" production factors than its neighbours (slightly lower than the United Kingdom, for example, and substantially lower than in Italy), a better allocation would nevertheless be beneficial. The proportion of "zombie" firms[7] is around 2% in France, accounting for around 5% of all jobs and 6% of capital.

PACTE was drafted as a co-construction effort with public- and private-sector stakeholders. After an initial consultation phase (23 October to 10 December 2017), six working groups delivered their findings on 21 December 2017. Each working group included an MP and a company executive. Then, a public consultation was held from 15 January to 5 February 2018. Following these two phases, the PACTE bill was presented at the Cabinet Meeting on 18 June 2018. Chapter I, "Freeing Up Enterprise", is aimed at encouraging business creation and growth and helping give entrepreneurs a second chance. Chapter II, "Innovative Businesses", is aimed at boosting equity financing for companies, providing stronger protection for their innovations, and modifying the capital structure and governance of state-owned enterprises to finance breakthrough innovations. Chapter III, "Fairer Businesses", is aimed at encouraging companies to share the value created more evenly and to rethink their role in society. Lastly, Chapter IV, "Other Measures", amends certain provisions of national law to adapt them to EU law.

The PACTE provisions therefore have a very broad scope and may produce effects through different channels: higher productivity, a better allocation of production factors, lower labour costs or lower cost of capital.

(1) Including sole traders with "microenterprise" status. SMEs are defined as companies that have fewer than 250 employees and either turnover of less than €50m or balance sheet assets of less than €43m.
(2) See the Economic, Social and Financial Report appended to the 2018 Budget Bill. Comparisons are difficult insofar as they are based on the concept of "legal unit", whereas figures for France are given in terms of "economic groups".
(3) Category of businesses between SMEs and large firms (large firms have either more than 5,000 employees, or turnover of more than €1.5bn and balance sheet assets of more than €2bn). Source: INSEE, in terms of economic groups. Eurostat for the comparison with Germany.
(4) Source: Eurostat. This data should be interpreted cautiously, as the scopes are not strictly identical.
(5) Source: BACH database. By way of comparison, in the United States, equity financing covers nearly two-thirds of companies' needs (source: Federal Reserve Bank of St Louis).
(6) See Beylat J.L and P. Tambourin (2017), "Propositions de modernisation de la loi Allègre et de simplication de l'intéressement", Report, February, and A. Demenet (2018), "The efficiency of the French public research system", *Trésor-Economics* no. 219, April.
(7) The OECD defines "zombie firms" as firms aged ten years or older with an interest coverage ratio of less than 1 for three consecutive years. See McGowan M.A., D. Andrews and V. Millot (2017), "Insolvency Regimes, Technology Diffusion and Productivity Growth: Evidence from Firms in OECD Countries", *OECD Economics Department Working Papers* no. 1425, November.

2. *Ex ante* evaluation of three PACTE provisions

The PACTE articles whose effects have been evaluated *ex ante* are the ones regarding staff thresholds (Article 6), the elimination of the *forfait social* (Article 57) and the introduction of a cross-class cram-down[8] in French law (Article 64). The model used by the DG Trésor for this evaluation is the Mésange macroeconomic model,[9] while assumptions are based on the economic literature. The combined effects of the three evaluated measures could boost GDP by one point in the long term and by 0.3 points in 2025 (see Table 1).

Table 1: GDP effects of three PACTE measures (excluding cost of financing)

% deviation from baseline	2025	LT
Staff threshold measures	0.05	0.05
Elimination of *forfait social*	0.2	0.4
Reform of insolvency procedure	0.05	0.45
Sum of the three measures evaluated	**0.3**	**0.9**

Source: DG Trésor estimates.

How to read this table: The lifting of, and freeze on, staff thresholds, the elimination of the *forfait social* for companies with fewer than 250 employees, and the introduction of a cross-class cram-down mechanism would have a combined positive effect of 0.9% of GDP in the long term, not including the cost of financing these measures.

2.1 The reform of staff thresholds could boost activity by nearly 0.05 points and create nearly 10,000 jobs in the long term

Currently, when a company's headcount reaches 20, it is liable for an additional contribution equivalent to 0.45% of total payroll for the employer social housing levy (PEEC), as well as an additional 0.40% of total payroll for the national housing assistance fund (FNAL), and the tax base for calculating the FNAL is no longer capped once this staff threshold is reached. Moreover, for a company located within the catchment area of a "mobility organisation authority" (*autorité organisatrice de la mobilité*, AOM), reaching a headcount of 11 brings with it an obligation to pay a transport contribution of up to 2.95% of total payroll.

The PACTE bill adjusts the obligations related to staff thresholds. Under Article 6, the thresholds for the PEEC and the FNAL will be lifted from 20 to 50 employees, and certain obligations will be frozen for a five-year period for certain staff thresholds: 50 (FNAL and PEEC) or 11 employees (transport contribution). In addition, the rules laid out in the Social Security Code for calculating a company's headcount will be mainstreamed, and the changes to staff thresholds will affect aspects other than social contributions.

These measures are modelled as a reduction in labour costs only. Nevertheless, higher staff thresholds could have a more positive effect on the economy by enabling a better allocation of production factors and by making it easier for companies to grow. However, the economic literature is not conclusive on this point.[10]

According to the DG Trésor's estimations, the staff threshold provisions would lower labour costs by around €470m in 2019, and the freezing of thresholds would have a gradual effect culminating at €120m in the long term. These reductions in labour costs would boost employment – as businesses' demand for labour is cost-sensitive – and would lower production costs, gradually making the French economy more competitive. Therefore, not including the cost of financing, this measure could increase GDP by 0.05 points in the long term (see Table 1) and create nearly 10,000 jobs.

2.2 The reform of the *forfait social* could increase GDP by 0.4 points in the long term

The *forfait social* (a special social security contribution paid by the employer and levied on pay or other compensation that is subject to the General Social Security Contribution (CSG) but not subject to other social charges and contributions) is currently assessed at a rate of 20%. The PACTE bill will eliminate the *forfait social* on employee incentive plans (known as *intéressement* plans) for companies with fewer than 250 employees, and on profit-sharing schemes (known as *participation* plans) for companies with fewer than 50 employees (for the sake of

(8) In a cross-class cram-down, a restructuring plan can be approved and enforced by a judicial or administrative authority even if it is not approved by all classes of affected parties.

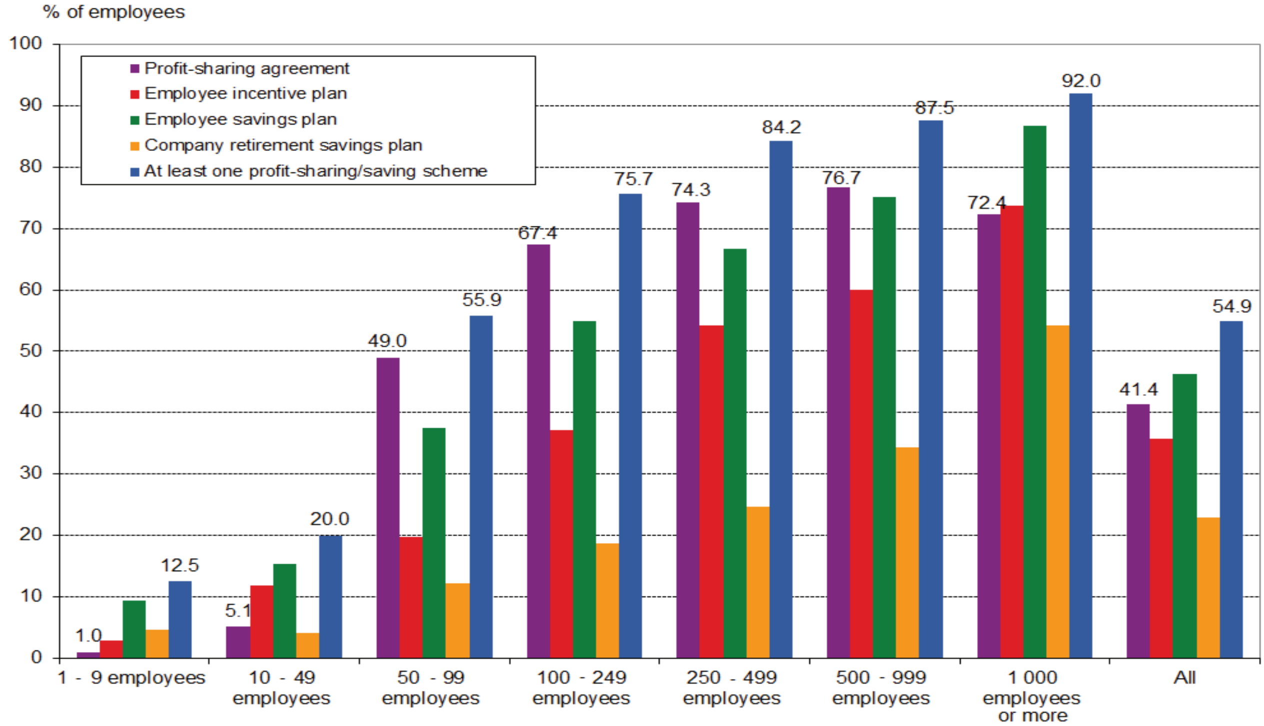
(9) The Mésange macroeconometric model was co-developed by INSEE and DG Trésor. See J. Bardaji *et al.* (2017), "Le Modèle macroéconométrique Mésange: réestimation et nouveautés", *DG Trésor Working Document* no. 2017/04, May.

(10) Garicano *et al.* (2016) note an accumulation point at 50 workers in the distribution by firm size, and suggest that the 50-worker threshold has a welfare cost of around 1%, assuming flexible wages (see Garicano *et al.* (2016), "Firm Size Distortions and the Productivity Distribution: Evidence from France", *American Economic Review* no. 106(11), pp. 3439-3479). However, this analysis is partially contradicted by the findings of Ceci-Renaud N. and P.-A. Chevalier (2010), which indicate that the *ex post* effects depend on the data source used, and that a smoothing of regulatory thresholds would have only a slight positive effect on the number of companies with more than 50 employees (see Ceci-Renaud N. and P.-A. Chevalier (2010), "Les seuils de 10, 20 et 50 salariés: impact sur la taille des entreprises françaises", Insee, *Documents de Travail* no. G 2010/05, April).

simplicity, these will be referred to as "profit-sharing schemes in SMEs" in the rest of this paper), with the primary aim of creating an additional tax incentive for companies to set up profit-sharing schemes as soon as 2019.[11]

Prior to this reform, for companies with fewer than 50 employees, the proportion of employees covered by at least one employee savings scheme stands at 16%. As such schemes depend on a company's profitability and thus its capacity to share profits in a given year, the proportion of these employees actually benefiting from profit-sharing is 11%. For companies with 50 to 249 employees, incentive plans cover 29% of employees, with 23% of employees actually benefiting from them.

Chart 1: Proportion of employees with access to a profit-sharing, employee incentive or employee savings scheme in 2015, by company size



Source: Dares résultats no. 55, August 2017. Acemo-Pipa and Acemo-TPE surveys, 2016.
How to read this chart: At the end of 2015, for companies with one to nine employees, 1.0% of employees were covered by a profit-sharing agreement, 2.9% by an employee incentive plan, 9.4% by an employee savings plan (PEE) and 4.7% by a company retirement savings plan (PERCO). In all, 12.5% of the employees of these companies had at least one kind of profit-sharing or savings scheme.
Scope: Non-farm market sector, excluding temporary staffing and domestic employment, for mainland France.

This measure is expected to lower the labour cost on amounts already paid out in profit-sharing before the reform. It is also expected to increase the amounts paid out in profit-sharing, leading to productivity gains and higher employee compensation. In detail, in the short term, the elimination of the 20% *forfait social* on amounts paid out before the reform would lower companies' labour costs by €500m. Furthermore, it is very difficult to predict exactly how companies will react to this measure. It is assumed that the profit-sharing coverage rate for companies with fewer than 250 employees will converge towards that of companies with more than 250 employees,[12] with the average amount paid out in profit-sharing similar to the current level.[13] Under these assumptions, the measure would result in a short-term increase in employee compensation, then in demand, of €2.5bn (the estimated additional amount of profit-sharing).[14] Lastly, the increase in the proportion of employees covered by profit-sharing schemes would enhance productivity by 7% on average for all companies that set up a new profit-sharing scheme, as estimated by Fakhfakh and Pérotin (2000). This increase should be viewed in light of the efficiency wage theory, and the effects on individual productivity are especially strong when the additional compensation is variable and performance-based. Relative to the economy as a whole, this productivity gain would be 0.3% in the long term. The

(11) This evaluation does not take into consideration the reduction in the *forfait social* rate from 20% to 10% for companies with more than 50 employees on employers' matching contributions to employee share ownership plans (PEEs invested in company stock), as the impact of this measure is slighter.
(12) Within two years, the coverage rate is expected to rise to 50% of employees of companies turning a profit, i.e. around one-third of employees of this size of firm would receive a profit-sharing payout. This rate would still be lower than in companies with more than 250 employees.
(13) I.e. 5% of gross wages, or €1,500, which is the average amount currently observed in firms with 50-249 employees.

effects of this gain would be felt gradually as new companies set up profit-sharing, and higher productivity would enhance the French economy's competitiveness.

Assuming this relatively high increase in the number of profit-sharing schemes in SMEs,[15] the expected GDP effect would be 0.4 points in the long term (see Table 1), with around 20,000 jobs created. Conversely, for the sake of argument, if no companies set up new profit-sharing schemes after this reform, the main economic growth channel – productivity gains – would be inoperative, and economic activity would only be boosted by the reduction in labour costs, which would lead to a 0.05 point increase in GDP in the long term.

2.3 The reform of insolvency procedure could raise GDP by 0.4 points in the long term

Currently, French insolvency law has a limited cram-down mechanism: when a firm is struggling and is considering a restructuring plan, the plan must be approved by the committees representing each class of creditors.[16] If any of the creditors' committees rejects the plan, it cannot be implemented. In practical terms, the most senior creditors are often the ones opposed to such a plan, as it may be in their interest to block restructuring in order to recover their funds immediately through corporate liquidation. Article 64 of the PACTE bill gives the government the authority to enact into French law the provisions of EU Directive 2016/0359 (the "Insolvency Directive"), including more specifically the implementation of a cross-class cram-down. This process involves making the pivotal creditors[17] the ones who will decide on the restructuring plan, under the purview of a judge who is responsible for making sure that the interests of the dissenting creditors are respected.[18]

The theoretical literature underscores the positive economic benefits of efficient bankruptcy regimes thanks to better allocation of resources.[19] However, there is little empirical research to quantify these benefits. The OECD has developed an indicator to evaluate and quantify insolvency regimes in terms of quality. Based on a questionnaire, this indicator evaluates 13 key features of insolvency regimes, grouped into three main sub-indicators: personal costs to failed entrepreneurs (A), lack of prevention and streamlining (B), and barriers to restructuring (C). France already posts a fairly good score for the third sub-indicator, which includes five features scored on a scale from 0 (the best score) to 1, including "the possibility to cram-down dissenting creditors". In 2016, France had a score of 0.5 on this feature due to the limited nature of its existing cram-down mechanism. A score of 1 would correspond to a complete lack of a cram-down mechanism, and a score of 0 to a cross-class cram-down that safeguards the interests of dissenting creditors. The PACTE bill would bring France's score to 0 on this feature, thus lowering its overall score for the "barriers to restructuring" sub-indicator from 1 to 0.5 (see Chart 2).

(14) €2.0bn in firms with fewer than 50 employees (in addition to €1.5bn at present) and €500m in firms with 50 to 249 employees (in addition to €1.0bn at present). These amounts are subject to the general social security contribution (CSG) and the social security debt repayment contribution (CRDS), but not to employer or employee social contributions. Employees do not pay social contributions on amounts received under employee incentive plans, and do not pay income tax on the portion invested in an employee savings plan (65% of the total, according to Dares). In line with the economic literature, profit-sharing is assumed to be used in partial substitution to wage hikes over five years (see S. Mabile (1998), "Intéressement et salaires: complémentarité ou substitution?" *Économie et Statistique*, nos 316-317, pp. 45-61, October). This substitution effect is only assumed for firms with fewer than 50 employees. Empirical evidence is less conclusive for firms with 50-249 employees.

(15) This evaluation does not include other possible transmission channels such as the saving rate or labour market participation as these are hard to calibrate.

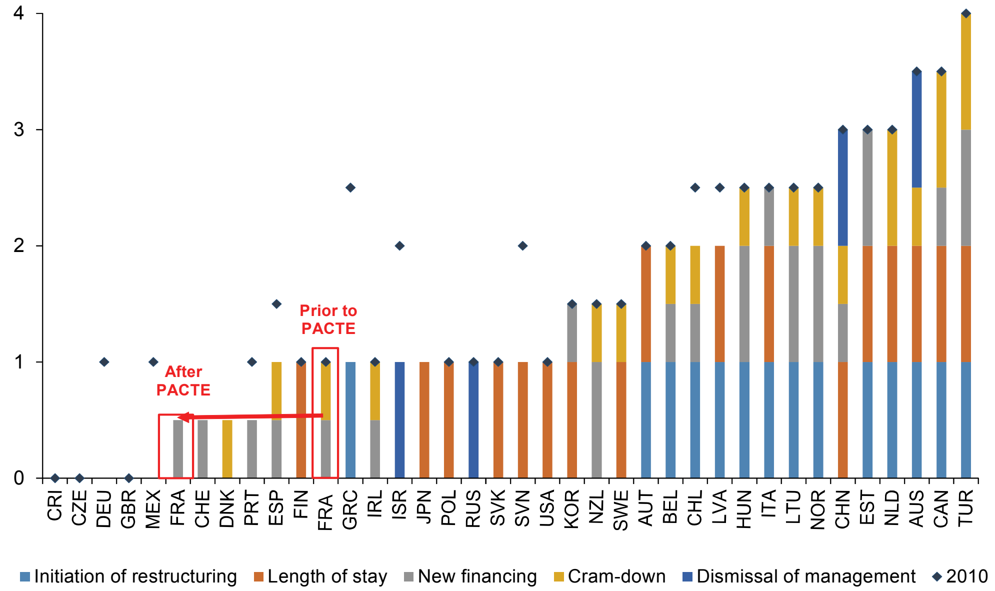
(16) Including a committee of lending institutions and a committee of main suppliers of goods and services, in addition to the general assembly of bond holders. Each committee must approve the plan with a two-thirds majority (measured in value of the claims held).

(17) To determine which creditors are pivotal, the various classes of creditors must be ranked, then the class of creditors must be identified whose claims would be partially – but not entirely – covered by available assets. The underlying rationale is that the interests of these pivotal creditors are the most closely aligned with maximising enterprise value.

(18) In other words, ensuring that these creditors would receive as much compensation under the restructuring plan as under liquidation.

(19) See, for example, M.J. White (1989), "The Corporate Bankruptcy Decision", *Journal of Economic Perspectives*, volume 3, no 2 – Spring 1989, pp. 129-151.

Chart 2: Ranking of countries by OECD's "barriers to restructuring" sub-indicator in 2016



Source: M.A. McGowan, D. Andrews and V. Millot (2017), "Insolvency Regimes, Technology Diffusion and Productivity Growth: Evidence from Firms in OECD Countries", OECD Economics Department Working Papers no. 1425, November.

The OECD has highlighted a direct correlation between the "barriers to restructuring" sub-indicator and productivity in the long term. Thus, Article 64 of PACTE would lead to a productivity gain of nearly 0.5%, according to the average elasticities estimated by McGowan *et al.* (2017) using individual data from firms in 34 countries.[20] This reform would make the insolvency procedure more efficient by accelerating the adoption of a restructuring plan and by identifying more effectively which companies can be turned around and which ones should be liquidated, thus allowing for a better allocation of production factors.

This PACTE measure could boost GDP by 0.4 points in the long term, according to the findings of this OECD research, whereas in 2025, GDP would be around 0.05 points higher (see Table 1). The productivity-enhancing effects could ultimately be high but might take a long time to materialise. Firstly, the business sector's underlying productivity would rise gradually as the process of creative destruction unfolds.[21] Secondly, for a given increase in underlying productivity, the increase in actual activity also occurs gradually as productivity gains feed into higher demand (especially external demand).

2.4 Factoring in the financing cost of PACTE provisions

Certain PACTE provisions will incur costs for the public purse: the higher staff thresholds and the freeze on related social contributions, as well as the elimination of the *forfait social* on profit-sharing in companies with fewer than 250 employees. The evaluations presented here do not include the costs of financing these measures. However, taking these costs into account would only slightly reduce the positive effects presented above. The cost of these measures, at around 0.1 points of GDP, is modest compared to the anticipated macroeconomic effects. This is because these effects derive mainly from productivity gains rather than a reduction in production factor costs. Thus, assuming these measures are financed with a reduction in public spending, which has a short-run multiplier of around 1, the macroeconomic effects of these measures would be slightly less favourable in the short term, but generally unchanged in the long term: over time, the reduction in public spending leads to lower prices, driving competitiveness gains in the economy and ultimately offsetting the full negative demand shock.

(20) If the "barriers to restructuring" sub-indicator was reduced by 1 point to the lowest possible score of zero (which corresponds to the UK score on this sub-indicator), estimated productivity gains for France would be 1%. Article 64 will reduce the score by one-half, with the score for the cram-down feature going from 0.5 to 0, but the score for potential new financing (and priority to new financing) unchanged at 0.5.

(21) All underlying productivity gains are assumed to be achieved in 16 years. This period is calibrated for a firm destruction rate of 6% on average.

3. Limitations to the evaluation of a set of measures as broad as PACTE

3.1 The available literature is limited, with a high degree of uncertainty

The available economic literature often refers to econometric research on individual datasets, and the elasticities thus calculated show a degree of uncertainty. This is especially true when a single study is used instead of a series of studies that would indicate the robustness of the results.[22] Sometimes, the available results refer to other countries and cannot be directly extrapolated to France. This is the case, for example, for panel data on several countries, as in the single study used to evaluate the effects of Article 64. It could be debatable whether or not elasticity estimated from a panel can be applied to France.

In addition, sometimes no quantitative studies are available for certain parameters that are necessary for the evaluation. In such cases, one has to postulate a credible value that is nevertheless an assumption. This is the case, for example, for the number of companies with fewer than 250 employees that will decide to set up a profit-sharing scheme following elimination of the *forfait social*. While it seems likely that this measure will encourage new profit-sharing schemes, it is hard to quantify its effects *ex ante*. In 2012, the *forfait social* was raised from 8% to 20%, and between 2012 and 2013, the number of profit-sharing schemes in companies with fewer than 250 employees declined by 16%.[23] Similarly, the Growth, Economic Activity and Equal Economic Opportunities Act of 6 August 2015, which implemented a lower *forfait social* rate at 8% for companies with fewer than 50 employees setting up a profit-sharing scheme (or employee incentive plan) for the first time, did indeed result in new profit-sharing schemes, but the incentive effect cannot be measured precisely.[24] In this respect, as *ex post* data on profit-sharing agreements becomes available, the evaluation can be perfected; the same also holds true for the other aspects of the PACTE bill.

Lastly, in estimating the effects of lower labour costs or the scaling up of productivity gains, the use of the Mésange model implies the same uncertainties as any other macroeconometric model based on estimates of past economic behaviour.

3.2 Other PACTE provisions may have a significant economic impact

Of the 73 articles in the PACTE bill, only a few lend themselves to a quantitative *ex ante* evaluation. To evaluate the economic impact of a reform, its anticipated effects on quantitative indicators must be known. The change in these indicators is specified directly in the law, calculated based on existing statistics, or determined by referring to the economic literature. Therefore, not all provisions can be evaluated *ex ante*. This limitation does not mean that the unevaluated provisions will not have a significant impact on the economic environment; it simply means that a quantitative evaluation cannot be made until the reform begins to produce its economic effects. The following paragraphs give examples of the anticipated economic effects of other PACTE provisions.

Another PACTE measure reduces the *forfait social* rate from 20% to 10% for companies with more than 50 employees on employers' matching contributions to employee share ownership plans. This reform could have the same productivity effect as the other profit-sharing reforms, by ensuring a better alignment between the interests of employees and their companies.

Chapter II of PACTE contains measures on retirement savings and life insurance. These provisions are expected to enable better management of long-term savings by households, resulting notably in a reallocation of savings more in line with the timeframe for managing these savings (with a higher proportion of higher-risk assets generating higher returns over the timeframe). The effect of these changes on the household savings rate or on companies' cost of financing is uncertain. However, strengthening the supply of equity financing is likely to have a beneficial effect on young tech firms' access to financing and thus on their R&D spending.[25]

(22) For example, regarding new employee incentive plans, applying the findings of Cahuc P. and B. Dormont (1992), "Les effets d'incitation de l'intéressement: la productivité plutôt que l'emploi", *Économie et statistique*, no. 257, September, pp. 45-56, would lead to a productivity effect about three times stronger than estimates by Fakhfakh F. and V. Pérotin (2000), "The effects of profit-sharing schemes on enterprise performance in France", *Labour Market Papers* no. 16.

(23) Over the same period, the number of schemes rose by 4% in firms with more than 250 employees (DG Trésor calculations; *Dares résultats* no. 55, August 2017; Acemo-Pipa and Acemo-TPE surveys, 2016).

(24) See the impact study for the PACTE bill.

(25) Each dollar of equity investment in these firms is estimated to result in a 15-cent increase in R&D spending (see Brown J.R., Fazzari S.M. and B.C. Petersen (2009), "Financing Innovation and Growth: Cash Flow, External Equity, and the 1990s R&D Boom", *The Journal of Finance*, vol. 64, no. 1, pp. 151-185, February).

Article 9 will raise the audit exemption thresholds to the EU level. It will lead to savings for companies within the new threshold. These favourable short- and long-term effects could be offset in the short run by a drop in business for statutory auditors, but this effect is hard to forecast.

Article 41 targets researchers and aims to strengthen the ties between public research and the private sector by amending provisions of the Research Code to foster mobility among researchers. As indicated in the *DG Trésor's Working Document* no. 2017/05,[26] the findings of public research are inadequately exploited by the private sector due to insufficient performance in transferring these findings. This PACTE provision will help strengthen ties between the research sector and the business sector, and will help remove obstacles preventing public researchers from becoming entrepreneurs. Positive economic effects are expected to derive from higher productivity, but this could take some time to materialise.

Cyril de Williencourt, Alejandro Faci, Simon Ray

(26) M.-A. Lavergne (2017), "Quelle intervention publique pour favoriser le transfert des résultats de la recherche publique vers les entreprises?" *DG Trésor Working Document* no. 2017/05, May (in French).

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