conseil d'analyse
économique
French Council of Economic Analysis

Clemens Fuest[a], Mathieu Parenti[b] and Farid Toubal[c]

International Corporate Taxation: What Reforms? What Impact?

Les notes du conseil d'analyse économique, no 54, November 2019

Today's international corporate tax system, inherited from the beginning of the 20th century, is outdated. It allows multinational enterprises to exploit complexity, loopholes and mismatches in the international tax rules to avoid taxes and shift profits to low or no-tax jurisdictions. At the same time firms complain that uncoordinated national anti-tax avoidance policies give rise to double taxation and tax uncertainty.

This *Note* examines the current and emerging challenges of international corporate tax reform and details various forms of aggressive tax planning strategies followed by multinational firms (MNEs). Our conservative evaluation of annual tax revenue losses due to tax avoidance in tax havens by multinational firms located in France amounts to around €5 billion.

Reforms of international corporate taxation are now high on the agenda, with negotiations taking place at the OECD. They should aim at avoiding double and non-taxation of profits and at proposing simple rules that prevent income shifting. To achieve these goals, there is an increasing need for detailed and harmonized cross-country cooperation. It is important to assess how firms react to each proposal in terms of the locations of sales, production and profits and regarding profit-shifting strategies. This *Note* builds on the quantitative general equilibrium model developed by Laffitte, Parenti, Souillard and Toubal (2019a), which aims at estimating the impact of different reform proposals on tax revenues and other economic variables. The model is used to predict the change in the relative attractiveness of countries, and the variation of tax revenues induced by the implementation of a broad range of different reforms currently discussed at the OECD.

The simulations show that the reforms that aim at designing a profit splitting rule to partially reallocate profits to destination markets (so called pillar 1 at the OECD) have a negligible impact on tax revenues and a modest positive impact on the attractiveness as a business location of most non-tax haven countries. The implementation of a minimum effective tax rate (so called pillar 2) would reduce profit shifting and generate substantial gains in tax revenues, and would not change much the attractiveness of all countries.

We recommend implementing a worldwide minimum effective corporate tax rate and redesigning the current proposals under pillar 1. The latter increase the complexity of the determination of taxing rights without significantly changing their allocation. Instead we propose to allocate a fraction of overall global profits to the market countries and to use effective anti-abuse measures. The reform of taxation also requires rigorous and harmonized information from firms' country by country reporting.

This Note is published under the sole responsibility of its authors

[a] Institut für Wirtschaftsforschung (IFO); [b] ECARES, Université libre de Bruxelles (ULB) and Centre for Economic Policy Reseach (CEPR); [c] École normale supérieure (ENS) Paris-Saclay and CEPOO, Member of the CAE.

Taxation of multinational companies

The current tax systems treat MNEs as if they were a loose collection of legal entities across different host countries using separate accounting. Since foreign affiliates and branches are treated as separate from their parent firm, their profits are determined on a country-by-country basis. Intra-group transactions can however affect where the MNE's group profits are declared and taxes paid. The MNE group can adjust the transfer prices between her affiliates to shift profit from high-tax to low-tax countries.[1]

The arm's-length principle (ALP) is supposed to prevent MNEs from engaging in income shifting to low tax jurisdictions through mispricing of intra-group transactions. In essence, the ALP states that intra-group transactions should have similar prices to comparable transactions between unrelated (arm's-length) parties.[2] While widely accepted across nations, there are serious concerns related to the ALP.[3] It is difficult to implement because of the lack of similar unrelated parties, transactions and situations, especially in case of intangible assets transactions. The methods used to determine arm's-length prices for intra-group transactions suffer from numerous drawbacks that are mostly due to the lack of observationally equivalent arm's-length transactions, the quality of data and the reliability of the methods' underlying assumptions.[4] As a result, the current system whose basic features were devised a century ago is prone to tax avoidance and tax base erosion and has led to a race to the bottom of statutory corporate tax rate over the past decades.

Main objectives of the tax reforms

When examining options for international corporate tax reform, two key functions of corporate taxes should be borne in mind. First, the corporate income tax is a backstop for the personal income tax.[5] Its absence undermines personal income taxation and tax progressivity, which is the backbone of fair taxation. Second, the corporate tax can be seen as a contribution of companies to the financing of publicly and locally provided goods, which serve as inputs to production or create the basic conditions required for a successful corporate activity. These goods include the provision of a functioning legal system, the protection of property rights, the provision of infrastructure and public spending on education and research and development. Tax avoidance and tax base erosion are threats to both of these functions. The tax systems vary however from one economy to another. They are increasingly complex and give the opportunity for firms to exploit the gaps in international tax rules. A reform of the international tax system should take into account the following considerations:

- It should ensure that corporate income and capital income in general is taxed once –double taxation as well as non-taxation should be avoided, both for efficiency reasons and for equity reasons;
- Taxation should avoid distortions of the allocation of investment;
- It should aim at reducing income shifting. While a certain degree of tax competition which prevents excessive taxation may be beneficial, an erosion of the corporate income tax is clearly undesirable;
- It should aim at reducing complexity and uncertainty. In recent decades and partly as a result of unilateral tax avoidance measure the international tax system has become excessively complex and risky. Increasing this complexity and uncertainty further is costly for both the taxpayers and the administration;

Currently multinational companies are taxed where they reside and where they have their production facilities or other forms of physical presence. There is a growing international political consensus that countries where companies sell their goods and services, even without a physical presence, should have the right to tax part of the company's profits. This requires a shift of taxing rights towards the market countries. In exchange the headquarter countries hope to gain from more tax certainty.

From the perspective of European member states, a key objective of European integration is to maintain and increase the mobility of capital and people across borders and to avoid discriminations between domestic and border crossing economic activities. Certain anti-tax avoidance measures (like exit taxes) can be in conflict with these objectives. However, EU legislation itself, in particular the interest and royalty directive, should be aligned with the objective of crowding back tax avoidance.

Tax avoidance by multinational firms

As multinational firms are exposed to a large number of different taxation schemes and double tax treaty rules, they have the potential to take advantage of the best rules to minimize their tax liabilities. They can exploit gaps and mismatches in the

This *Note* has substantially benefited from the work of Clément Carbonnier, Samuel Delpeuch, Sébastien Laffitte, Julien Martin and Baptiste Souillard. We are also thankful to Joachim Englisch, Julien Pellefigue, the IFO institute, the European Commission, French and German Tax Authorities, Banque de France and the OECD for fruitful discussions.

[1] For instance, the MNE's parent company may decide to under-invoice the export out of its affiliates located in high tax countries to shift profits in affiliates located in low tax jurisdictions. She can also decide to over-invoice the imports of affiliates located in low tax countries. The most powerful of such techniques involve the transfer of intangible assets which market prices are not observable.

[2] OECD (2017): *OECD Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations 2017*, OECD Paris.

[3] Pellefigue J. (2012): *Théorie économique de la réglementation des prix de transfert*, Thèse Université de Panthéon-Assas.

[4] See Eden L. (2016): "The Arm's Length Standard: Making It Work in a 21st Century World of Multinationals and Nation States" in *Global Tax Justice*, Pogge and Mehta (eds), Oxford University Press.

[5] In the absence of corporate income tax, profits accuring to firm owners, who typically have hight icome, can be shifted from the personnal sphere to the corporate sphere.

international tax rules to shift profits to low or no-tax jurisdictions and avoid paying taxes. Many decisions of multinational firms affect the distribution of tax bases across countries. For instance, a company may decide to create a loan by an affiliate in country A to another affiliate located in country B, where the tax rate is higher, to take advantage of the deductibility of interest payments and artificially shift profits from country B to country A. The decision to locate an intangible asset in an offshore financial center rather than in a country where the final products are sold may be motivated by better property rights protection in the offshore center. As will be explained further below, there is considerable empirical evidence that the objective to avoid taxes is indeed an important driver of many decisions multinational companies make, regarding both their legal and financial structures and in transfer pricing.[6]

Tax avoidance by multinational companies is criticized for several reasons. From an economic perspective, it contravenes the two key functions of corporate taxation mentioned above: backstop to personal income tax and local public good financing. In addition, if companies differ in their ability to avoid taxes, tax avoidance leads to a distortion of competition and the emergence of concentrated industries with a few firms that exhibit considerable market power.

The most important methods for multinational firms to avoid taxes are as follows:

- Manipulation of intra-firm prices for standard transactions between foreign subsidiaries of the same firm called "transfer pricing";
- Other forms of intra-group transfer through cost-sharing agreements, contract manufacturing or more complex strategies aimed at recording sales in low-tax jurisdiction ("sales shifting");[7]
- Profit shifting via loans between domestic and foreign subsidiaries or via external debt;[8]
- The location of intangible assets in low-tax countries.[9]

These techniques may be combined with the use of legal loopholes such as:

- The access to "conduits" to channel profits by minimizing taxes (treaty shopping);[10]
- The inadequacy between the definition of the Permanent Establishment (legal basis for establishing a nexus for taxation to a jurisdiction) and the increasingly intangible economic presence of companies;[11]
- The bargaining power of firms which are able to influence their taxation rates in certain countries (tax rulings);[12]
- The strategic relocation of headquarters to circumvent CFC rules and repatriation taxes (corporate inversion).[13]

In response to growing international concerns about tax avoidance, the OECD was asked by the G20 finance ministers to develop an Action plan on Base Erosion and Profit Shifting (BEPS). The OECD/G20 BEPS package endorsed in 2015 entails a number of measures to fight against tax base erosion. Some of them are innovative, especially the creation of a global mechanism for CbCR reporting, stricter and harmonized rules to limit the deductibility of interest payments, and provisions to prevent tax treaties abuse (treaty shopping). It is expected that its implementation will address a number of avoidance techniques used by multinationals. However, although there has been some strengthening of transfer pricing rules, they remain reliant on subjective judgments, and agreement has been lacking on a clear criteria for determining how MNEs' profits should be allocated according to "where economic activity occurs and value is created".

How much is lost due to profit shifting? Macroeconomic evidence from the literature

Many figures on profit shifting are mentioned in the public debate. Not all of them have a solid empirical basis. The first source of potential misunderstanding is the distinction between shifted profits and corporate tax revenues losses. When 1 USD of profit is shifted, the equivalent loss in tax revenue is equal to the tax rate that would have been paid on these profits. The second source of uncertainty comes from the fact that estimating the amount of profit shifted by multinational companies is intrinsically complex. The largest part of shifted profits is located in offshore financial centers that typically exhibit very low levels of transparency. Availability and access to data is therefore a crucial challenge for quantifying profit shifting, implementing reforms and ultimately levying tax on multinational corporations.

In spite of these challenges, there is a growing economic literature trying to estimate revenue losses from profit shifting.

[6] For a recent survey on the economics of profit shifting see Beer S., R. de Mooij and L. Liu (2018): "International Corporate Tax Avoidance: A Review of the Channels, Magnitudes, and Blind Spots", *IMF Working Paper*, no 18/168.

[7] Laffitte and Toubal (2019) show that the bulk of profit shifting by US multinational firms is achieved by recording sales in low-tax jurisdictions. This trend towards sales shifting is growing and visible in both services and manufacturing sectors. This strategy does not only concern US multinationals as shown by the case of Kering who uses a sales platform in Switzerland, *cf.* Laffitte S. and F. Toubal (2019): "For a Fistful of Dollars? Foreign Sales Platforms and Profit Shifting in Tax Havens", CEPII Working Paper,no 2019-02, January.

[8] Huizinga H., L. Laeven and G. Nicodeme (2008): "Capital Structure and International Debt Shifting", *Journal of Financial Economics*, vol. 88, no 1, pp. 80-118, April.

[9] Dischinger M. and N. Riedel (2011): "Corporate Taxes and the Location of Intangible Assets Within Multinational Firms", *Journal of Public Economics*, vol. 95, no 7, pp. 691-707.

[10] Sunghoon Hong (2018): "Tax Treaties and Foreign Direct Investment: A Network Approach" *International Tax and Public Finance*, vol. 25, no 5, pp. 1277-1320, October.

[11] See for instance, Cour administrative de Paris (2019): *Ministre de l'Action des comptes publics contre société Google Ireland Limited*, Décision no 17PA03065.

[12] See for instance, Huesecken B. and M. Overesch (2019): "Tax Avoidance Through Advance Tax Rulings. Evidence from the LuxLeaks Firms », *FinanzArchiv*, forthcoming.

[13] Congressional Budget Office (CBO) (2017): *An Analysis of Corporate Inversions*, Congressional Budget Office Report, Washington, DC.

By comparing the profitability of enterprises to the amount of wages paid, it is possible to identify 'excess profits' that might be caused by profit shifting. Using this methodology, Tørsløv, Wier and Zucman (2018) find that 36% of multinational foreign profits were artificially shifted to tax havens in 2015, for a corresponding tax revenue loss of USD 182 billion. However, as pointed by Bradbury *et al*. (2018), the quantification of profit shifting differs widely across studies.[14] Janský and Palanský (2018) use bilateral FDI data and find a tax revenue loss due to profit shifting of 80 billion USD. Crivelli *et al*. (2016) exploit cross-countries variations in corporate tax revenues and corporate tax rates and find 123 billion USD of tax revenue losses due to profit shifting on the short-run and 647 billion USD on the long-run. The variance of these estimates is therefore large but all these studies have contributed to creating a consensus that the global fiscal impact of profit shifting is sizeable. In addition, some patterns appear on who the winners and losers are. Developing countries experience bigger losses in terms of tax revenues in percentage of GDP than developed countries.[15] Expectedly, winners of the current situation are tax havens, characterized by low tax rates and low standards of transparency.

According to two recent studies, profit shifting from France amounts to 30 to 32 billion euros for the year 2015, corresponding to a yearly loss of tax revenue of about 10 billion euros.[16] Macroeconomic data provided by national statistical offices or international organizations have the advantage to cover many countries but have the drawbacks of containing limited information and not being directly comparable. The move toward microeconomic datasets has significantly improved the ability to analyze the different channels of profit shifting accounting for the selection of firms into multinational status. These datasets are however only available for a few countries (Germany, and to some extent France, Sweden and the US) and are mostly bilateral, limited to information on direct ownership without covering the entire set of activities of a multinational across countries.

Missing tax revenues in France: evidence from French firm-level data

We conducted our own estimation by comparing the corporate tax of multinational companies residing in France according to whether they have a legal entity in a tax haven or not. Profit shifting strategies often involve the location of affiliates in tax havens which are identified by their low tax rates and the degree of opacity with regard to French tax legislation.[17] These groups represent 39% of total employment and 30.2% of income tax in 2016. For foreign firms in France, these figures are 9% and 16% respectively. The number of companies with a presence in a tax haven is relatively low for French groups (1.36%) whereas more than half of the foreign groups on French territory have a presence in a tax haven (1.97%).

To make this comparison, we carry out an econometric analysis at the group level for the period 2009-2016.[18] The balance sheets of firms located in France are aggregated at the group level. The group is the ultimate beneficial owner of the firms located in France and may be of French or foreign nationality. We estimate the effect of the presence of the group in a tax haven on the Effective Average Tax Rates (EATR) controlling for several characteristics: the share of intangible assets, the size, the productivity of labor, the capital intensity, and the sector of activity (the financial sector is excluded) as well as unobserved and persistent tax environment differentials between France and the group's home countries when it is foreign.

The estimates show that the EATR of a French multinational with a presence in a tax haven is 26% lower than the one of observationally equivalent multinational firms (see Table).[19] The differential is equal to 21% when using the ratio of corporate tax to employment.[20] For foreign companies, these differences are 17% and 9% respectively. Given their average share in French employment, foreign firms represent a large proportion of the taxable base loss.

From these estimates, we compute the income tax that the group would have paid if it had no presence in a tax haven (column 3 of Table).[21] The amount varies between €3.4 billion and €4.6 billion. These are conservative estimates of loss from profit shifting that are significantly lower than previous estimates found in the literature for three main reasons. First, our empirical strategy does not take into account the tax avoidance strategies that do not use the presence in a tax haven to identify the amounts of income that are not

[14] See Bradbury D., T. Hanappi and A. Moore (2018): "Estimating the Fiscal Effects of Base Erosion and Profit Shifting: Data Availability and Analytical Issues", *Investment and International Taxation, Transnational Corporations*, Special Issue, vol. 25, no 2.

[15] This result is found both in Crivelli E., R. de Mooij and M. Keen (2016): "Base Erosion, Profit Shifting and Developing Countries", *FinanzArchiv: Public Finance Analysis*, vol. 72, no 3, pp. 268-301; Janský P. and M. Palanský (2018): "Estimating the Scale of Profit Shifting and Tax Revenue Losses Related to Foreign Direct Investment", *World Institute for Development Economics Research (UNU-WIDER) Working Paper Series*, no 021.

[16] Tørsløv T., L. Wier and G. Zucman (2018): "The Missing Profits of Nations", *NBER Working Paper*, no 24701, and Vicard V. (2019): "The Exorbitant Privilege of High Tax Countries", *CEPII Working Paper*, no 2019-06, March.

[17] The list of tax havens is larger than the one retained by the European Commission as we also consider Hong Kong and Singapore and other European countries such as Ireland, Luxembourg, the Netherlands and Switzerland.

[18] The econometric analysis is restricted to the set of firms that have more than 10 employees.

[19] This result suggests that French multinational companies with a presence in a tax haven have abnormally high returns, see Vicard (2019) *op. cit*.

[20] See Laffitte S., M. Parenti, B. Souillard and F. Toubal (2019b): "Missing Tax Revenues in France: Evidence from French Firm-Level Data", forthcoming; Laffitte S., M. Parenti, B. Souillard and F. Toubal (2019c): "Profit Shifting in France: Evidence from Firm-Level Administrative Databases", *Focus du Conseil d'analyse économique*, no 036-2019.

[21] One should interpret these results with caution; our estimation is based on a simple conditional correlation exercise. Since tax haven presence is endogenous, our results cannot be interpreted strictly as evidence of a causal effect of tax haven presence.

reported in France. Second, the dataset might underestimate the presence in tax haven countries, as it relies on a survey of multinational firms which might not cover all direct and indirect foreign branches. Third, we do not observe the information of firms that have already shifted their income abroad or have no permanent establishments in France. We therefore consider these numbers as lower bounds.

Estimates of the impact of presence in tax havens on corporate income tax

	Share of total employment (in %)	Effective average tax (in %)	Estimation of annual tax revenue losses (in billions)
French groups	79	– 26	3.3
Foreign groups	21	– 17	1.3
Total	100	–	**4.6**

Note: This estimation is conducted on firms with more than 10 employees between 2009 and 2016.

Sources: Fare, Lifi and authors' calculations.

Finding 1. Multinational firms in France have significantly reduced their corporate tax burden by locating entities in tax havens. The corresponding tax revenue loss amounts to 4.6 billion euros per year and is a lower bound estimate of profit shifting.

These estimations are useful in order to grasp the magnitude of profit shifting. Unfortunately, the available data do not enable pursuing a detailed econometric analysis of each of the various channels through which firms reallocate income to low-tax countries as mentioned earlier. In earlier studies, Davies *et al*. (2018) show that tax avoidance through transfer mispricing of goods is economically sizable in France. Hebous and Johannensen (2019) show that trade of services with affiliates in tax havens is heavily skewed towards imports and the internal service providers in tax havens earn significant excess profits.[22]

Are digital firms a specific issue?

Current international tax rules allow the source country to tax the nonresident's business profits only if its local presence constitutes a permanent establishment, whether it is a substantial physical presence or a dependent agent. However, in a digitalizing world, business can be conducted through a website in the market jurisdiction without any physical presence; even the website servers need not be set locally. Typical examples are online advertising and social network platforms. The current nexus rules only capture physical presence, with the "digital presence" out of reach, even when it is significant: in absence of a physical presence, companies can avoid paying corporate income tax in the country.

The tax challenges arising from the digitalization of the economy were identified as a key issue leading to the 2015 BEPS Action 1 Report, as yet inconclusive. According to the OECD, there are three relevant characteristics of digital business models:

- Cross-jurisdictional scale without mass: companies can use the internet and online platforms to create long-distance cross-border relationships with numerous customers and do business abroad without running a permanent establishment in other countries;
- Considerable reliance on intangible assets, including intellectual property (IP);
- Participation of (end) customers or users in value creation and high value of data.

While these features may characterize digital business models, they are obviously not limited to such businesses.[23] Digitalization affects the whole economy and facilitates profit shifting by two different channels. First, the high reliance on intangible assets generates profits that can be shifted to tax havens at a lower cost than profits generated with tangible assets. Second, the importance of scale and networks in the business model of highly digitalized firms leads to the emergence of highly concentrated markets, which are hard to enter because of barriers like intellectual property rights. Bigger incentives and lower costs to shift profits might explain why highly digitalized firms are more prone to avoid tax. Yet, although there are individual cases of digital firms engaged in aggressive tax planning, the claim that there is a large general tax gap between firms with digital business models and other firms are disputed by empirical evidence.

Looking at the 100 largest companies on the basis of their market value and the five largest e-commerce companies, the European Commission calculated the tax gap between digital business models and traditional firms and found that digital firms face an effective average tax rate of just 8.5%, *versus* 20.9% for companies with traditional business models.[24] However, this estimation is based on the Devereux

[22] For an analysis of transfer mispricing of goods, see Davies R., J. Martin, M. Parenti and F. Toubal (2018): "Knocking on Tax Haven's Door: Multinational", *The Review of Economics and Statistics*, vol. 100, no 1, March and for a careful analysis of the role of tax havens in explaining trade in services, Hebous S. and N. Johannsen (2019): "At your Service! The Role of Tax Havens in International Trade with Services", *CESifo Working Paper*, no 5414, March.

[23] See Koethenbuerger M. (2019): *Taxation of Digital Platforms*, ETH Zürick Mimeo. He focuses on two-sided digital platforms such as Google and Facebook. He shows that they are similar to traditional businesses with respect to their tax avoidance preference, but are different in important other dimensions. Most notably, they capitalize on user contributions due to indirect network effects, which results in significant amounts of advertising income.

[24] European Commission (2017): "A Fair and Efficient Tax System in the European Union for the Digital Single Market", *Communication to the European Parliament and the Council* Communication, COM(2017) 547 Final, Brussels, p. 6, 21 September .

and Griffith (2003) methodology[25] and not on observed tax payments by digital firms. In its calculation deriving from tax payments and profits reported in financial data from digital and non-digital companies in the Orbis database, the German IFO Institute[26] has identified a tax gap, but much smaller than the numbers mentioned above: in their calculations, digital companies pay 20.9% taxes in total, while traditional ones pay 26.7%.

Finding 2. Tax optimization is more important for highly digitalized firms than for the rest of the economy but is not limited to these firms. In addition, digitalization is spreading to the whole economy.

Therefore, efforts to ring-fence such models or activities to establish a separate base for taxation could be problematic. G20 countries with the OECD continue to discuss a global solution which would include a new nexus not dependent on physical presence (the so-called pillar 1 and pillar 2, see below), with the objective to conclude in 2020.

Political pressures to introduce some form of digital service tax in the meantime are however strong in many countries. As a result, some countries have recently taken unilateral measures to adopt a new tax on the sales of services related to digital platforms and related business models. The European Commission proposed in 2018 to introduce a digital services tax (DST) with a tax rate of 3% in the EU, as an interim measure, which would be repealed once the rules for permanent establishment have been reformed. While the European proposal failed to reach consensus, several Member States (the UK, France, Spain, Italy, and Belgium) have adopted a digital tax service on their own. Beyond the EU, some countries have either implemented (Turkey and India for instance) or are considering similar measures. The DST in France enacted in July 2019 is close to the original EU proposal, including a 3% tax on the turnover of certain activities (digital services, transmission of data, marketplace).[27]

The DST raises various issues. To begin with, it is difficult to draw a line between the 'digital economy' and the rest of the economy because the digital transformation affects almost all sectors and firms in the economy. This also questions the idea of introducing the concept of a digital permanent establishment.[28] Furthermore, while it is correct that some of the large and well-known US digital giants seem to successfully use tax planning to reduce the profit taxes they pay, these problems are by no means limited to digital companies: they are mostly facilitated by the growing role of immaterial assets which is at play in various economic sectors. Finally, such a tax risks generating several distortions since it applies irrespective of the level of the profit. It can lead to international double taxation and may ultimately be shifted onto local consumers or SME.

Recommendation 1. The extension of the concept of permanent establishment with the introduction of the criterion of "digital presence" should be a key feature of future taxation rules.

What reforms of the international tax system?

Proposed reforms: reduction of profit shifting and reallocation of taxing rights

While the BEPS initiative has tagged profit shifting and base erosion as a major issue of globalization, progress remains to be made, in particular given the increasing importance of intangible capital for multinational firms. This has led governments to carry out a second round of negotiations in order to design and adopt a new set of international taxation rules by 2020 within the OECD/G20 Inclusive Framework.

The current proposal partitions the reforms into two pillars. It represents a significant departure from the separate entity approach to taxation.[29] It requires the consolidation of results across jurisdictions, at the level of the group, with all the problems of definition that it entails regarding the residence (headquarter, ultimate beneficial owner, etc.) and activity (multi-sector groups, etc.) as well as the limited comparability of accounting rules to consolidate the results. The OECD explicitly acknowledges that the "new profit allocation rule goes beyond the arm's-length principle" (OECD, 2019b, p. 5).[30] However, this new rule operates as an overlay on the existing arm's-length transfer pricing system. The deviation from the ALP is therefore relatively narrowly circumscribed.

[25] This method considers a hypothetical investment project with a given pre-tax profit and structure of capital goods and calculates the tax burden that would arise if existing tax rules were applied, *cf*. Devereux M.P. and R. Griffith (2003): "Evaluating Tax Policy for Location Decisions", *International Tax and Public Finance*, vol. 10, pp. 107-126.

[26] Fuest C., V. Meier, F. Neumeier and D. Stöhlker (2018): "Die Besteuerung der Digitalwirtschaft. Zu den ökonomischen und fiskalischen Auswirkungen der EU-Digitalsteuer", IFO Institut.

[27] The French tax would generate revenue of 400 million Euros in 2019 according to the Minister of finance. Implemented at the EU level such a tax could bring around 5bn Euros per year.

[28] See Ministre de l'Action et des comptes publics contre Google (2019), *op. cit*.

[29] OECD (2019a): *Programme of Work to Develop a Consensus Solution to the Tax Challenges Arising from the Digitalisation of the Economy*, OECD/G20 Inclusive Framework on BEPS, OECD Paris.

[30] OECD (2019b): *Secretariat Proposal for a Unified Approach under Pillar One*, 9 October.

Pillar 1 of OECD/G20 negotiations: revision of profit allocation rule

Pillar 1 of the OECD/G20 proposal aims at reallocating part of the profits to the market jurisdictions. A large part of the negotiations should therefore be devoted to the following choice: how much of the profit should be taxed where firms produce and how much where firms sell? The methodologies proposed by the OECD are called the Modified Residual Profit Split method (MRPS) and are inspired by the work of Avi-Yonah, Clausing and Durst (2009).[31] As described in the work program issued in May 2019, this method proceeds in four steps:[32]

- Determine the multinational group's global (consolidated) profit;
- Approximate the remuneration of routine activities based on transfer pricing-like approaches or according to a threshold of normal return calculated in comparison with the operational margin (gross operating income on turnover).[33] The consolidated profit is split into a routine and non-routine part (also called "residual profits");
- Determine a share of residual profit that is to be allocated to market jurisdictions;
- Allocate the share of residual profit to eligible market jurisdictions, i.e. markets jurisdictions for which a nexus can be established.

This system preserves the transfer pricing methods for the taxation of routine profits while it departs from them for the taxation of residual profits.

Such a system is expected to provide fewer incentives for tax avoidance, especially because the taxation of a share of the profits would not depend any more on its location (see Devereux *et al.,* 2019). However, as discussed in Delpeuch and Laffitte (2019), incentives for tax avoidance remain in such a setting.[34] It is also expected to reduce distortions of economic decisions as it partly separates the tax rate paid from the location of production.

Residual profit allocation may however increase the administrative burden as the determination of residual profits requires a lot of data that would need to be reviewed and treated by the tax authorities. Besides, in some cases (multi-product, multi-sector firms for instance) the determination of routine profits may impose large administrative burdens on both the firm and the tax authority.

Pillar 2 of OECD/G20 negotiations: minimum effective corporate tax rate

The pillar 2, called Global anti-base erosion (Globe), aims at reducing profit shifting by determining a global minimum level of effective corporate tax rates. It recognizes that the incentives for profit shifting mostly arise from tax differentials across jurisdictions.

Pillar 2 is itself based on two legal instruments: the income inclusion rule (IIR) and the tax on base-eroding payments (TBEP). The first instrument, IIR, is implemented at the level of the parent company. It imposes a tax on the income of a corporation generated by affiliates located in jurisdictions with effective tax rates below the minimum effective tax rate that needs to be defined during the negotiations.[35] The IIR could be implemented under the form of a switch-over rule. Income generated in low-tax jurisdictions would be automatically taxed at the minimum rate when justified instead of exempted and taxed when the IIR is binding.

The IIR is not a catch-all rule. For example, in scenarios where the group resides in a low tax jurisdiction (such as Seychelles) and that country did not introduce these rules, an income inclusion rule may not be effective. A second instrument is the TBEP which would apply at the level of any entity of a multinational firm. The tax on base eroding payments is based on two rules. An *undertaxed payments* rule would deny a deduction or impose source-based (production-based) taxation (including withholding tax) for a payment to a related party if that payment was not subject to tax at a minimum rate. A *subject to tax rule* in tax treaties would only grant certain treaty benefits if the item of income was subject to tax at a minimum rate.

Both instruments are complementary. However, in case of double (minimum) taxation, there is a need to set up a priority rule (see Becker and Englisch, 2019). This choice will give more weight to either production or origin countries.

Alternative proposals

Alternative proposals coming from scholars or from civil society include formulary apportionment.[36] Under this option, without distinction between residual and routine profit, the MNEs' worldwide taxable profit would be allocated to its foreign entities based on pre-determined formulas and factors

[31] Avi-Yonah R.S., K.A. Clausing, K.A. and D.M. Durst (2009): "Allocating Business Profits for Tax Purposes: A Proposal to Adopt a Formulary Profit Split", *Univ. of Michigan Law & Economics, Olin Working Paper*, no 09-003.

[32] OECD (2019), *op. cit.*

[33] Typically, return could be considered as residual if they exceed a percentage of the operational margin to be agreed upon by delegates from all countries of the inclusive framework. The routine profit is thought of as "the profit a third party would expect to earn for performing a particular set of functions or activities essentially on an outsourcing basis", see Devereux M., A. Auerbach, P. Oosterhuis, W. Schön and J. Vella (2019): "Residual Profit Allocation by Income", *Oxford International Tax Group*, p. 21.

[34] Delpeuch S. and S. Laffitte (2019): "La taxation unitaire à la lumière des expériences nord-américaines", *Focus du Conseil d'analyse économique*, no 37-2019, November.

[35] Note that this corresponds to the country-by-country form of minimum taxation. It could also be applied on a global basis, but this would considerably reduce the impact of minimum taxation, or on a subsidiary-by-subsidiary basis. For a discussion of this issue, see Becker J. and J. Englisch (2019): "International Effective Minimum Taxation. The GLOBE Proposal", *World Tax Journal*, vol. 11, no 4, septembre.

[36] Avi-Yonah R.S. and K.A. Clausing (2007): *Reforming Corporate Taxation in a Global Economy: A Proposal to Adopt Formulary Apportionment*, Bookings Report, June; Zucman G. (2018): "Taxing Multinational Corporations in the 21st Century" , *Econfip, Resarch Brief*, September.; Independant Commission for the Reform of International Corporate Taxation (ICRICT) (2018): *A Roadmap to Improve Rules for Taxing Multinationals*, February.

(often sales, employment and assets –the so-called formulary apportionment). This system is actually used for state level taxation within the US or for local taxes within Germany, but is not used internationally. The US case shed lights on several issues that will need to be considered to ensure that formulary apportionment could be implemented worldwide.[37] First, the allocation of profit to each US State was initially based on a three-factor model encompassing sales, tangible property and payroll, all equally weighted. Over time, many states have unilaterally changed the formula. This has led to many different state apportionment methods of corporate income and to increasing competition to attract investments. Second, countries will need to agree on the formulas and factors that are required to compute the share of global profits that will be taxed at destination. Developed and developing countries may have conflicting interest when selecting the allocation factors. Typically, developed countries may put more weight on sales and activities intensive in the use of intangible assets while developing countries may want to base the allocation of profits on activities that are more labor intensive. This is the spirit of the proposal advocated by a group of 24 emerging and developing countries (G24) in the OECD framework. They propose the introduction of a formulay apportionment including a payroll factor. Third, the choice of a specific factor may change the investment and business decisions of the firm. For instance, a system with sales-based allocation would give an incentive to MNEs to avoid the tax on profits by selling their products to independent distributors in low-tax countries, who would then resell them throughout the world. The look-through rules may prevent the sales shifting behavior of MNEs as soon as they are enforced.

Destination-based cash flow taxation (DBCFT) is another proposal of reallocation of taxing rights to market jurisdictions.[38] The rule would deny deduction of imports from the tax base and make exports exempted from taxation. The DBCFT would therefore be equivalent to a VAT net of labor tax. With this proposal as well, consumption becomes the main determinant for the allocation of taxing rights. This limits the ability of multinational firms to manipulate the location of profits. Moreover, restriction of the scope of the taxation to cash-flow also limit firms' propensity to manipulate financial factors such as intra-firm debt and *de facto* removes routine returns from the scope of the taxing.[39] This last aspect of the DBCFT shares similar features with the residual profit allocation of pillar 1 that applies only above a given rate of return.

Quantitative assessment of the reforms

Presentation of the model and scenarios

Predicting the impact of a reform of the current international corporate taxation regimes requires counterfactual analysis that takes into account the level of corporate taxation and the set of factors influencing the location of sales, productions and profits of multinational firms. Laffitte, Parenti, Souillard, and Toubal (2019a) develop a quantitative general equilibrium model with trade and multinational activities, which takes into account the effect of international corporate taxation.[40]

The model is carefully calibrated using recent data on bilateral trade of goods and services, multinational sales and profits for 40 countries including 7 major tax havens.[41] The model predicts the change in relative attractiveness of countries, the variation of tax revenues and the world-level efficiency induced by the implementation of a broad range of different reforms currently discussed at the OECD. The model is sufficiently flexible to accommodate several scenarios that either reallocate taxing rights across countries and/or address profit shifting to entities subject to zero or very low taxation. The scenarios that are included in this *Note* are the followings:

- As a benchmark scenario, we consider a stricter enforcement of global anti-abuse rules resulting in a prohibitive cost for firms to record profits in tax havens;
- In the spirit of pillar 1, we consider a residual profit allocation (RPA). We assume a 12% mark-up threshold to define the proportion of residual profits. Given the calibration of the model, the share of residual profits corresponds to 29% of total profits. We then assume that 20% of residual profits are taxed by all destination market jurisdictions proportionally to sales. The rest is taxed where production takes place;
- We consider an alternative scenario in which 30% of *all* profits are taxed by the destination market;
- Turning to the implementation of pillar 2, we assume first that tax haven countries do not adjust their corporate tax to the implementation of a minimum effective tax rate. The production countries levy taxes on the profits shifted to tax haven at a rate which corresponds to the difference between a minimum effective tax rate assumed to be 15% and the tax haven effective tax rate.[42] This scenario is an interpretation of the implementation of an undertaxed payments rule in the model;

[37] See Delpeuch S. and S. Laffitte (2019) *op. cit*.

[38] Auerbach A., M. Devereux, M. Keen and J. Vella (2017): « Destination-Based Cash Flow Taxation », *Oxford University Center for Business Taxation Working Paper*, no 17/01.

[39] Since the tax applies on the cash entering the firms net of the cash leaving the business, abnormal return are associated with a bigger tax base than routine returns.

[40] The model predicts also other outcomes such as the adjustment of real wages of workers and entrepreneurs and the world-level efficiency that we discuss in Laffitte S., M. Parenti, B. Souillard and F. Toubal (2019a): *Quantifying the Effects of International Tax Reforms*, Mimeo.

[41] Ireland, Hong-Kong, Luxembourg, Netherlands, Singapore, Switzerland and a set of tax haven countries that we aggregate and term as offshore financial center.

[42] The results using alternative tax rates are found in Laffitte *et al*. (2019) *op. cit*.

- We then analyze the effect of an adjustment of effective taxes in tax haven countries to a minimum effective tax rate of 15%. In this case, both the income inclusion rule and the tax on base-eroding payments rule are implemented.

The model is particularly helpful in assessing the feasibility of each scenario as it assesses the distributional consequences of the international tax reforms.

What effects on attractiveness and tax revenues?

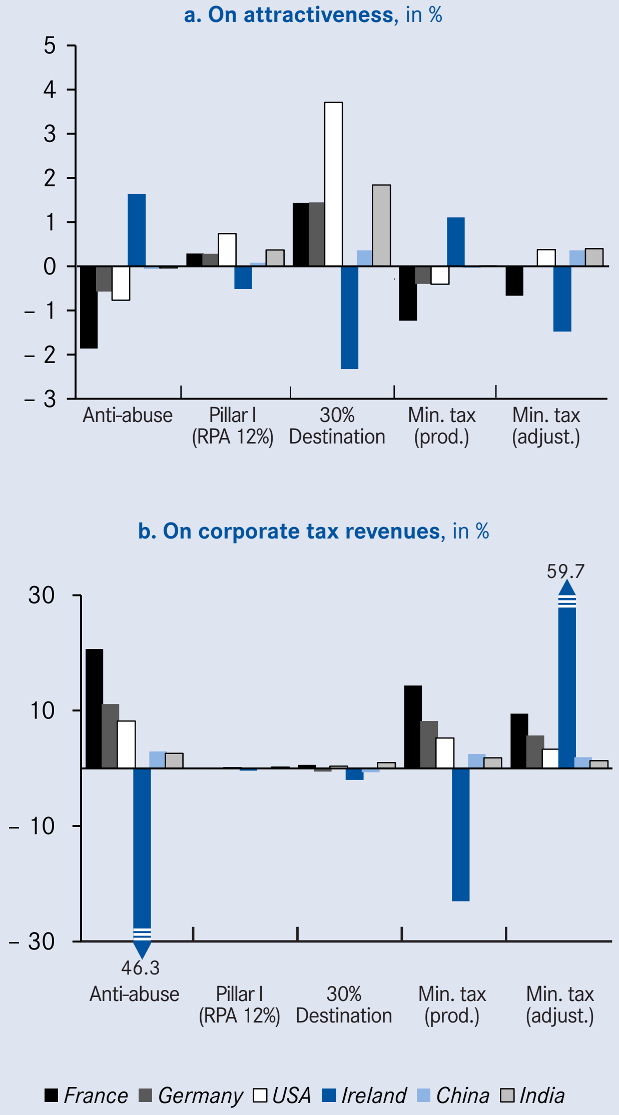
We present the results for only 5 countries and a tax haven in graphs 1a and b and focus on the effects for France and Germany. The full set of results that also include more countries, other outcomes and more scenarios are presented in Laffitte *et al*. (2019).

The tightened implementation of anti-abuse laws increases corporate tax revenues of France and Germany (+ 21% and + 11%, respectively) while it has a fairly small and negative impact on their relative attractiveness (– 1.9% and – 0.6%, respectively). Since all countries implement anti-abuse laws in this scenario, the effect on attractiveness is modest: country-specific geographical frictions and market access determinant remain the most determining criteria. The magnitude of these effects should be compared with unilateral decreases of corporate tax. For instance if France decreases its effective corporate tax rate by one percentage point, the model predicts an improvement in attractiveness of 0.39%.

Turning to the two scenarios where profits are allocated partially to destination markets (scenarios 2 and 3), the results suggest a modest positive impact on attractiveness in both countries: about + 0,3% for both France and Germany with pillar 1 and + 1,4% for both countries for a scenario where 30% of all profits are taxed in the destination country. Since only a fraction of profit is taxed in production countries, the location of multinational activities is less sensitive to the relatively high statutory tax rate in France and in Germany. As for tax revenues, the effect appears slightly positive with RPA in France (+ 0,1%) and slightly negative in Germany (– 0,1%). In France, losses in corporate tax revenues arising from firms producing in this country are more than compensated by the gains induced by the taxation of firms serving this country. Trade imbalances in the model reflect differences in between production and consumption and explain this discrepancy between France and Germany. Note that the effects on both attractiveness and tax revenues of these two reforms are very small compared to the other reforms.

Turning to pillar 2, we find a large and positive impact on tax revenues after the implementation of a minimum effective tax rate (+ 9,4% for France and + 5,7% for Germany in scenario 5). The increase in the effective corporate tax rate of firms in France and Germany lies behind this result. It is worth noticing that the incentive to engage in profit shifting reduces dramatically in scenario 5, when all tax haven adjust their effective tax rate to 15%. The effect on attractiveness is however more ambiguous. In Scenario 4, the effective tax rates increases in all countries except the tax havens. Accordingly, the relative attractiveness of Germany (– 0,4%) and France (– 1,2%) marginally decreases. The explanation is the same as the one regarding the implementation of anti-abuse laws. In Scenario 5, the effective tax rate increases in France and Germany but also in all other countries –and particularly more in tax havens. The effect on attractiveness depends on whether the change of effective tax rate in France or Germany is larger than in other countries. The result suggests a higher relative attractivity of Germany than for France.

1. Impact of different reform scenarios



a. On attractiveness, in %

b. On corporate tax revenues, in %

Note: RPA = Residual Profit Allocation.
Source: Authors' calculations.

The graphs 1a and b show the impact of each scenario on the changes in relative attractiveness and on the variations of tax revenues for six countries.

In terms of attractiveness, the scenarios that partially reallocate profit to market countries have a positive impact on attractiveness in all countries, especially in the US and a negative impact in Ireland. The implementation of a minimum taxation without adjustment has a negative impact on the attractiveness of most countries except in Ireland. Concerning the scenario in which tax havens adjust to the minimum tax rates, the effect on attractiveness depends on the relative change in effective tax rate for each country.

The scenarios that partially reallocate profits to market countries do not have significant effects on tax revenues. In the scenarios associated with pillar 2, the gains in tax revenues are substantial and are driven by the additional taxes raised on shifted profits (scenario 4), and on profits that are not shifted anymore due to the change in incentives to engage in profit shifting (scenario 5). Ireland loses corporate tax revenues when it does not adjust its effective tax rate to 15% while it gains corporate tax revenues when it adjusts. In this case, the negative impact on the taxable base is more than compensated by the additional income generated by the increased effective tax rate.

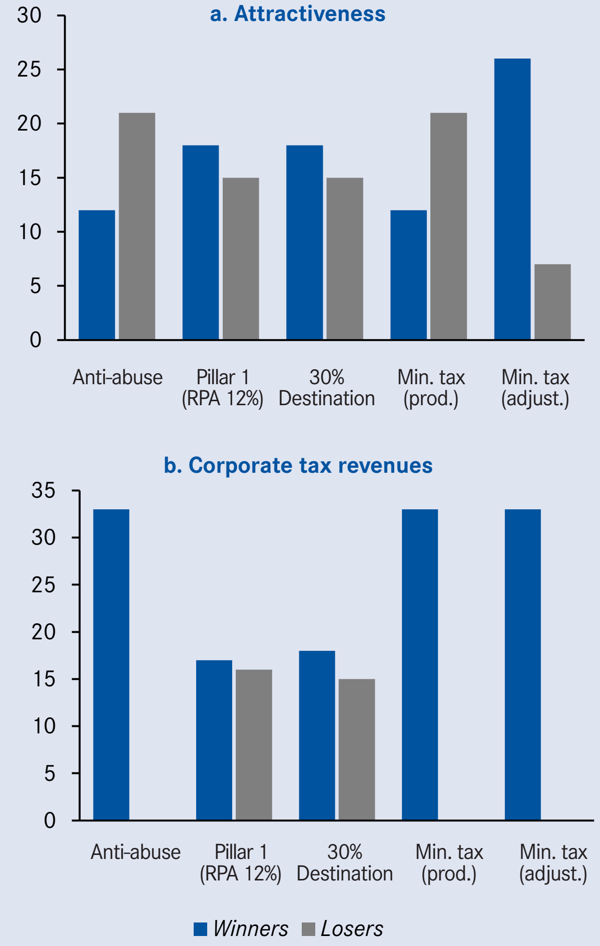
Since the model delivers policy outcomes for the 40 countries in our sample, we are able to identify winners and losers in terms of attractiveness and tax revenues for the implementation of each scenario. Destination-based taxation scenarios generate an equal number of winners and losers in terms of tax revenues –which reflects a redistribution of taxing rights– and more winners than losers in terms of attractiveness. Instead, a minimum tax generates tax revenue gains across countries without affecting significantly their attractiveness.

A key challenge in introducing the minimum effective corporate tax rate will be to set the level of the minimum rate. In addition, determining whether or not for a multinational company an entity receiving a payment satisfies the minimum taxation criterion implies considerable administrative effort, ideally based on a high degree of cooperation among tax authorities. Despite these challenges the reform appears politically feasible because it generates a large number of winners.

Recommendation 2. The introduction of a worldwide minimum effective corporate tax rate should be the main priority of international negotiations.

Shifting some taxing rights towards countries where multinational firms sell their products can be justified on political grounds. A risk exists that it takes place through unilateral actions that lead to double taxation and undermine international cooperation. It is preferable that such a shift be organized and monitored through an international agreement.

2. Number of winning and losing countries, excluding tax havens


a. Attractiveness

b. Corporate tax revenues

Note: RPA = Residual Profit Allocation.
Source: Authors' calculations.

Not all taxing rights should however be allocated to the market jurisdictions. First, as explained above, corporate taxation is justified as a way to finance public goods that are used in the production process. Thus, if all taxing rights were given to destination countries, a firm that would make all its profits through exports would not contribute to the financing of local infrastructures in the country of production. Second, from an international perspective, taxation rules should not deprive countries with specific economic models from taxing rights. For instance, developing countries that base their growth strategy on exports might suffer from a too heavy weight put on sales in international taxation. Third, the more extensive the shifting of taxing rights relative to the status quo, the smaller the chances that the reform may find enough political support.

Finally, as stated above, simplicity should be an important feature of international taxation rules. First, it reduces administrative costs both for firms and administration.

Second, simplicity means more fairness between states since not all administrations have the human and financial means to administer complex rules. It also levels the playing field between firms in reducing the propensity of the largest firms to engage in tax optimization by using legal loopholes. This the reason why the shift should be achieved without introducing the distinction between routine and residual profits that greatly complicates the tax system

Recommendation 3. The Residual Profit Split method should be redesigned. Instead we propose to allocate a fraction of overall global profits to the market countries.

The partial allocation of taxing rights to market jurisdictions should be complemented with effective anti-abuse measures. Contrary to a widespread belief that sales are not subject to manipulation, sales-based apportionment of profits leaves room for tax planning. Any introduction of taxation by apportionment should include rules enabling governments to reintegrate profits that would not be subject to tax (such as throwout and throwback rules) and by look through rules that define the consolidation principles and thus the calculation of firms' global profits.

Data availability and Ease of implementation

Beyond the quantitative exercise of simulation, issues of implementation need to be addressed. For defining and allocating global profits, the fiscal administrations will need appropriate data. The Country-by-Country (CbC) reporting put in place with the BEPS Action 13 can play an important role here. From now on, firms with an annual turnover greater or equal to 750 million euros are indeed compelled to report to their tax authority their results country by country and to specify the main activity of each of their foreign affiliates. Tax authorities then mutually agree to exchange these reports. Yet, except for the banking sector, access to CbC reports is restricted to tax administrations in spite of NGOs advocating a larger availability of CbC reports and the initial claim to have them available for statistical and economic analysis, which is not the case in practice. Furthermore, as described by Delpeuch, Laffitte, Parenti, Paris, Souillard, Toubal (2019)[43] if these datasets are to be used for the purposes of taxation, significant coordination between administrations is needed in order to agree on consolidation, the definition of core variables or the depth of the database.

Recommendation 4. Set a rigorous and unified protocol of country-by-country reporting with clearer definition of taxable profits, turnover, destination of sales as well as consolidation rules. Make these data sets available for statistical and economic analysis.

The implementation of reforms requires precise data on MNEs' activity. For instance lack of information regarding intra-group payments of dividends makes it difficult to determine country by country tax bases. In addition, for allocating taxable profits to market jurisdictions information on sales in the destination countries for each firms is required. ●

[43] Delpeuch S., S. Laffitte, M. Parenti, H. Paris, B. Souillard et F. Toubal (2019): "Quel *reporting* pays par pays pour les réformes futures ?", *Focus du Conseil d'analyse économique*, n° 038-2019, novembre.

conseil d'analyse économique
French Council of Economic Analysis

Yannick L'Horty[a], Philippe Martin[b] and Thierry Mayer[c]

The French Policy of Payroll Tax Reductions

Les notes du conseil d'a

conseil d'analyse économique
French Council of Economic Analysis

Dominique Bureau[a], Fanny Henriet[b] and Katheline Schubert[c]

A Proposal for the Climate: Taxing Carbon not People

Les notes du conseil d'a

conseil d'analyse économique
French Council of Economic Analysis

Sébastien Jean[a], Anne Perrot[b] and Thomas Philippon[c]

Competition and Trade: Which Policies for Europe?

Les notes du conseil d'

conseil d'analyse économique
French Council of Economic Analysis

Emmanuelle Auriol[a] and Pierre-Yves Geoffard[b]

Cannabis: How Can We Take Back Control?

Les notes du conseil d'a

conseil d'analyse économique
French Council of Economic Analysis

Philippe Martin[a] and Alain Trannoy[b]

Taxes on Production: The Good, the Bad and the Ugly

Les notes du conseil d'analyse économique, no 53, June 2019

France stands out for its high level of taxes on production, which affect the competitiveness of companies located in its territory. These taxes weigh heavily on companies' accounts, including taxes on commercial and industrial property, a contribution to value added (VA), a turnover tax (*Taxe sur le chiffre d'affaires*, CA) and a myriad of secondary taxes.

Economic analysis shows that taxes on production are the most harmful because of the distortions they cause throughout the production chain. Unlike corporate income tax or VAT, taxes on production directly affect companies' decisions in terms of choice of production modes and prices and can therefore penalise their productivity and competitiveness. Moreover, by taxing companies at the top of the operating account, taxes on production increase their breakeven point and can explain, with other factors, the relative atrophy of the French productive sector and, in particular, of small businesses. This situation is all the more worrying since our main competitors in Europe do not make use of this type of tax, or not as much as we do. They represent 0.5% of the value added of companies in Germany and 3.6% in France, the highest level in Europe excluding Greece.

In this Note, we examine three of the most important taxes on production: the *contribution sociale de solidarité des sociétés* (C3S, corporate social solidarity contribution) on turnover, the *cotisation sur la valeur ajoutée des entreprises* (CVAE, contribution on business value added) on business value added and the *cotisation foncière des entreprises* (CFE, business property contribution). A turnover tax such as C3S produces "cascading effects" that are transmitted and amplified throughout the production chain because at each stage of production the tax itself is taxed again. Ultimately, we show that it reduces productivity, acts as an export tax and import subsidy on intermediate goods and worsens our trade balance deficit. An empirical study based on company data conducted as part of this Note concludes that C3S reduces exports by about 1% and increases the fragility of companies in times of crisis by reducing their probability of survival. Our analysis and these new empirical results lead us to recommend as a matter of priority the elimination of C3S, whose harmfulness is unequalled in our tax system. With a view to simplifying and reducing distortions, we also recommend that the abolition of the CVAE be scheduled. Finally, we conclude that the CFE does not appear to cause major distortions. In total, the proposed tax cuts would represent 1.4 points of added value for companies and the French anomaly would be significantly reduced compared to our European competitors. This strategy of reforming and simplifying corporate taxation could be implemented in two stages: first, the abolition of the C3S, then the CVAE. We present several financing options in this Note, identifying less harmful alternative revenues.

This Note is published under the sole responsibility of its authors

[a] Sciences Po, Member of the CAE; [b] Aix-Marseille School of Economics and EHESS.

Download our publications on:
www.cae-eco.fr

conseil d'analyse économique

The French Conseil d'analyse économique (Council of Economic Analysis) is an independent, non partisan advisory body reporting to the French Prime Minister. This Council is meant to shed light upon economic policy issues, especially at an early stage, before government policy is defined.

Chairman Philippe Martin

Secretary General Hélène Paris

Scientific Advisors
Jean Beuve, Claudine Desrieux

Research Officer/Economist
Samuel Delpeuch, Étienne Fize,
Madeleine Péron

Members Yann Algan, Emmanuelle Auriol,
Stéphane Carcillo, Gabrielle Fack, Élise Huillery,
Sébastien Jean, Camille Landais, Philippe Martin,
Thierry Mayer, Anne Perrot, Thomas Philippon,
Corinne Prost, Xavier Ragot, Katheline Schubert,
Claudia Senik, Stefanie Stantcheva, Jean Tirole, Farid Toubal

Associated Member
Dominique Bureau

Publisher Philippe Martin
Editor Hélène Paris
Electronic Publishing Christine Carl

Contact Press Christine Carl
Ph: +33(0)1 42 75 77 47
christine.carl@cae-eco.fr

TSA 20727 75334 PARIS Cedex 07 (France) **Ph: +33(0)1 42 75 53 00** **Fax: +33(0)1 42 75 51 27** **@CAEinfo** **www.cae-eco.fr**