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MAJOR FUTURE ECONOMIC CHALLENGES

International Commission chaired by
Olivier Blanchard and Jean Tirole

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In memory of Emmanuel Farhi

JUNE 2021

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CHAPTER TWO

ECONOMIC INEQUALITY AND INSECURITY: POLICIES FOR AN INCLUSIVE ECONOMY

Dani Rodrik and Stefanie Stantcheva

with the assistance of

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EXECUTIVE SUMMARY

For economic opportunities to be widely and fairly distributed, France needs to take action in multiple ways and at several stages of people's economic lives. It must equalize access to quality education and revise the core pillars of the welfare state in terms of social protection and progressive taxation to take into account the changing realities of the labor market and the international landscape. It needs to ensure an adequate supply of good, productive jobs by focusing on labor market policies that partner with businesses and on industrial policies that target employment specifically. Finally, it must foster a better communication between different levels of governments and employers, as well as between the government and citizens.

Unlike the traditional approach which keeps the productive and distributional agendas of society distinct, with separate policy tools that address each respectively, our approach entails the joining of the two. Redistribution is important, and we show it can be carried out more effectively. But it must be adequately complemented with the creation of productive employment opportunities for those at the middle and the bottom of the income scale. Expanding the access to quality employment – what we call "good jobs" – in turn also directly contributes to higher productivity and economic growth for the economy as a whole.

French people's attitudes towards inequality, mobility, and good jobs

In a nationally representative survey carried out specifically for this report, we examine French citizens' attitudes towards inequality, insecurity, the labor market, and government policies. Overall, 73% of respondents believe that inequality in income is a serious or very serious problem; 62% believe the same about inequality in wealth. 70% of our sample believes that inequality in opportunity is a big issue. They also think that children from poorer backgrounds receive a lower quality of education than children from higher-income backgrounds, and that the latter have much better chances of getting a good job, even conditional on similar education levels.

We also ask people open-ended questions on what a “good job” means to them. The terms that come up most frequently are “good salary,” “well paid,” “a good environment/good feeling,” “good work conditions,” and terms related to “private life” and “family life” to indicate a desire for work-life balance. On the major causes of lack of good jobs in France, 57% of respondents believe it is due to outsourcing and globalization; 28% that it is due to technology. Close to 60% of respondents believe that a major factor in determining access to good jobs is the region of residence, and the same share believe that family background is. All groups except those who are geographically very mobile think it is increasingly hard to find employment, and more so if they feel more geographically constrained.

When it comes to what the government can do, around 60% of people believe the government should put priority on creating good jobs that meet sufficient quality criteria, even if that implies fewer jobs overall. Between 60% and 70% of respondents believe the government should intervene in the labor market, by subsidizing continuous training, improving labor market regulations, and incentivizing firms to create quality jobs. Respondents are also very favorable to fostering dual education programs, improving job search assistance, especially those in partnership with local employers. Respondents are quite favorable to government intervention to help workers from a company that either relocates abroad or replaces labor with robots.

With these survey results as background, we develop policy recommendations in a number of areas.

Inheritance and gift taxation

We propose a unified regime of inheritance and gift taxation to make it beneficiary-based and progressive in the cumulative amount received. Instead of taxing transfers at each death, the new system would tax the total transfers (gifts, inheritances, from all sources) received by the heir, so that those who receive more will be taxed at higher rates. It would still be possible to have preferential and reduced rates based on the relation between the donor and the heir. This tax needs to be very broad-based, covering all or most assets. It should also start at relatively high levels of transfers and be progressive.

Education policies

We address a number of policy issues in education, though few of them are new. Many have been part of the national debate for some time, and progress has been made in recent years. Our proposals center around providing better access to schooling for low socio-economic background children starting form early on, improving outcomes for children in lower-quality schools and difficult areas, rethinking the profession of teachers and making it more attractive, giving more responsibilities and autonomy to school administrations, boosting vocational and dual vocational-academic tracks, and improving the transition from school to the labor market.

Employer-focused active labor market policies

Taking a cue from successful sectoral training programs implemented elsewhere, we recommend some new (or enhanced) roles for the French public employment service (PES), Pôle emploi, requiring a more intensive engagement with employers. Pôle emploi can play a larger role in ascertaining employers' skill needs and ensuring that local training providers are offering the appropriate courses. They can be more proactive in assisting currently employed workers whose positions might be at risk due to company reorganizations. Their activities can move beyond providing better services to firms or cushioning the shocks of company restructuring to actually shaping the employment decisions of firms on an ongoing basis. In view of the uncertainty about what might work in the French context, we encourage decentralized experimentation by local PES offices, coupled with evaluation. This may require granting local offices a degree of autonomy that they may not presently possess.

Business incentives focused on good jobs

The main thrust of our proposals here is to create a structure for job-enhancing productivity assistance to firms that runs in parallel (and in cooperation) with the worker-oriented Pôle emploi. We propose the setting up of regional business promotion agencies that operate alongside the PES and cover the same territories. We call these "regional business bureaus" (RBB), though similar functions could perhaps be performed by existing agencies. The goal of RBBs (or their equivalent) would be to provide a portfolio of services to local firms or prospective investors with the overarching goal of assisting them to increase productivity while creating good jobs. Many of these services would normally be administered by other agencies, in which case the role of the RBBs would be mainly to coordinate those agencies and help firms navigate through them. For example, RBBs may cooperate with the Banque publique d'investissement (BPI) to help small and medium enterprises (SMEs) get access to financing or business advice. They may coordinate with the local PES to identify suitable workers and help recruit them. They may organize training providers to ensure the requisite skills are built up. They may also act as a go-between with the local bureaucracy as regards local regulations such as zoning. And they could be provided with additional resources to provide other services as well, as the needs reveal themselves. We provide some broad guidance for the appropriate governance of these incentive programs.

Labor-friendly innovation policies

We echo the late Tony Atkinson's call for making the direction of technological change an explicit concern of policymakers, so as to encourage innovation in a form that increases the employability of workers and is geared towards good jobs. There is little research on the possible effectiveness of policies of this type, but we suggest some broad areas for

policy attention. First, it would be useful to review the prevailing fiscal regime in France with a view to ascertaining whether there are excessive incentives for investment in automation. Second, it may be possible to incorporate employment considerations directly in the existing regime of tax incentives for R&D. Third, the government could apply a "prospective employment test" when determining public spending priorities for innovation. Fourth, the government can encourage the introduction and dissemination of learning organizations that empower workers (based on teamwork; development of cognitive, social, and soft skills; workers' autonomy and continuous learning) to replace Taylorist or lean organizational models. Finally, public policy can play a role in shaping public consciousness about the social and employment consequences of innovation.

Trade policies that address fairness

Policy must address the outsized concern the French public expresses with regard to job displacement due to trade and outsourcing. Certain kinds of imports, from countries with weak social standards and exploitative working conditions for labor, can undermine conceptions of fair competition and good jobs policies at home. We argue that trade policy must incorporate an explicit mechanism for addressing imports that pose such problems, while shielding from protectionism the bulk of trade that takes place under conditions of competition that differ little from domestic markets. We propose an anti-social dumping procedure designed to achieve that objective. An explicit safety valve for "problematic" imports may enhance the legitimacy of trade and outsourcing in general. While the policy can be implemented by France and other members of the European Union (EU), making it fully compatible with world trade rules would require the EU to negotiate a WTO agreement with trade partners. France and the EU can take the lead towards fairer global trade rules that take social concerns into account.

Rethinking tax systems

In many countries, tax burdens have shifted from capital to labor, a phenomenon that has been linked to aggravating inequalities, contributing to labor market rigidity and polarization, and exacerbating concerns about fairness. This is largely the result of globalization and increased mobility of capital and corporations. France has implemented recent reforms that pull in both directions. At the same time, fiscal burdens in France are very high, which has several detrimental consequences. We argue that several recent developments should prompt France to rethink its taxation of capital and labor. Our general proposal is to "tax better," not more. A push for policy change is underway and pressure is likely to increase post Covid-19. The biggest opportunity for improving capital taxation lies in the recent progress on the Automatic Exchange of Information (AEOI) implemented and pushed by the "Global Tax Forum." This new mechanism for exchange of information means that it is possible to tax capital in a more efficient way that was not feasible before and to limit loopholes and avoidance opportunities. We provide ideas for broadening tax

bases, improving compliance, and leveraging new tools to improve the efficiency of the tax and transfer system. With respect to taxation of high-skilled, high-earning professionals, who – like capital – are mobile, similar cooperation and coordination within the EU could be considered. On the efficiency of taxation and public spending, we discuss how to harness data and analytics tools, better information, and new methods to recover fiscal leakages and improve public sector productivity. On the taxation of multinational corporations, we endorse the OECD's and Global Tax Forum's Base Erosion and Profit Shifting (BEPS) initiative. We also argue against ring-fencing digital companies in a world where many companies have digital activities, use digital technologies, and present similar challenges for tax authorities.

Surveys as a key tool for understanding citizens and designing policies

Implementation of the policies proposed in this report and elsewhere will require data collection, experimentation, and policy evaluations. But we also need data that reveals what is otherwise invisible: namely, what people think. This type of data is not often systematically collected, and, yet, it is critical. "Surveys" are a way of getting into citizens' minds to elicit perceptions, knowledge, understanding, attitudes, and views. These may be context-dependent and require an on-going study. We argue that large-scale surveys should become a continuously used, well-designed, and interactive policy tool with which the government would communicate with citizens, as well as with employers and companies. They complement the direct dialogue that occurs between constituents and leverage mobile phone and internet technologies to reach a large and diverse set of people rapidly. They can be used to collect input and feedback from constituents, test reform ideas, detect implementation challenges, as well as study the impacts of policies in real time.

SECTION 1

RISING INEQUALITY, INSECURITY, HOLLOWING OUT OF THE MIDDLE CLASS

Many advanced economies are currently reeling under a structural problem of inequality and economic insecurity. Unlike many other countries, France has not experienced a large increase in overall inequality in recent decades. However, levels of economic insecurity remain large, socio-economic gaps across different strata have not closed, many regions lag behind in creating good jobs and economic opportunity, youth unemployment remains very high, and social mobility is low. Attitudinal surveys reveal a significant sense of unfairness regarding existing economic arrangements and a great deal of support for more active government policies to counter these trends.

Economic inequality manifests itself not only in differences in income and wealth, but also in gaps in health, education, opportunities, mobility, and access to quality work. In France as elsewhere, these gaps are rooted in two major divides. First, there is a labor market divide, also called labor market polarization, reflected in the reduction in the quantity and quality of jobs in the middle of the employment distribution. Second, there is a spatial divide, between successful metropolitan centers and outlying, less successful regions. These two divides are linked in that secular changes in technology and globalization have created a class of winners and a class of laggers. There is growing polarization between those who are benefitting from technology and globalization and those who are left behind. At the same time, the traditional “middle class” is hollowed out.

One of the visible and harmful consequences of these trends is a scarcity of what could be called “good jobs.” While the definition of what makes a “good job” varies across people, time, and space, many agree that what makes a good job entails to at least some extent a good pay, relative security, some career progression, access to adequate (re)training, safe working conditions, and the possibility of sustaining a normal “middle-class” life with a reasonable level of economic security and the scope for some savings.

A lack of good jobs and deeply unequal opportunities carry potentially large social, political, and economic costs. Social costs manifest themselves in the form of exclusion, broken families, drug and substance abuse, addiction, and crime. Political consequences emerge through declining trust in government, experts, and institutions, partisan polarization, the rise of populist nationalism, and backlashes against globalization and immigration. Furthermore, they are also accompanied by implications for economic performance. Lack of good jobs is a reflection of the fact that good technologies are bottled up in a few firms and among high-skilled workers only. Other workers remain unproductive, and growth suffers. Improving jobs and opportunities can be an efficiency and growth-enhancing endeavor as well as an inequality-reducing one. Hence, the growth and social agendas need to merge.

In this report, we will argue that for economic opportunities to be widely and fairly distributed, France needs to take action in multiple ways and at several stages of people's economic lives. It must equalize access to quality education and revise the core pillars of the welfare state in terms of social protection and progressive taxation to take into account the changing realities of the labor market and the international landscape. It needs to ensure an adequate supply of productive, high-quality jobs by focusing on labor market policies that partner with businesses and industrial policies that target employment specifically. Finally, it must foster communication and feedback between different levels of governments and employers, as well as between the government and citizens.

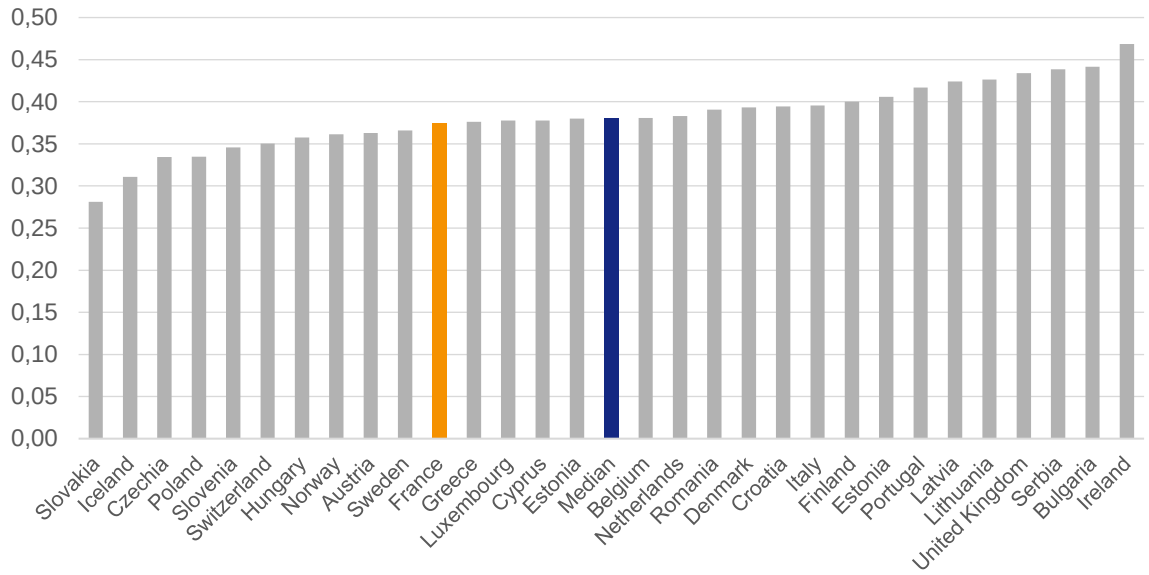
We start by providing some key facts about inequality, territorial disparities, social mobility, and labor markets in France, followed by some evidence on French citizens' attitudes towards inequality, insecurity, the labor market, and government policies.

1. Key Facts on Inequality and the Labor Market in France

1.1. Overall inequality in international comparison

Pre-tax income inequality in France as measured by the Gini coefficient is rather lower than in other developed countries (Figure 1). Moreover, the share of the top 10% earners is lower than in many OECD countries and comparable to those in Denmark and Italy (Figure 5). Post-tax inequality is moderate by international comparison (below the OECD and EU averages, see Figure 2). The poverty rate after taxes and redistribution is around 8% for the 18-65-year-olds, below OECD average (Figure 4). Pre- and post-tax inequalities have remained relatively constant over the last two decades, unlike Anglo-Saxon countries where inequality has increased sharply over that period. Furthermore, France is one of the few countries in Europe where income growth among the bottom 50% was higher than growth among the top 10% between 2007 and 2017 (Table 1). Wage inequality decreased slightly between 1995 and 2015 (Figure 6).

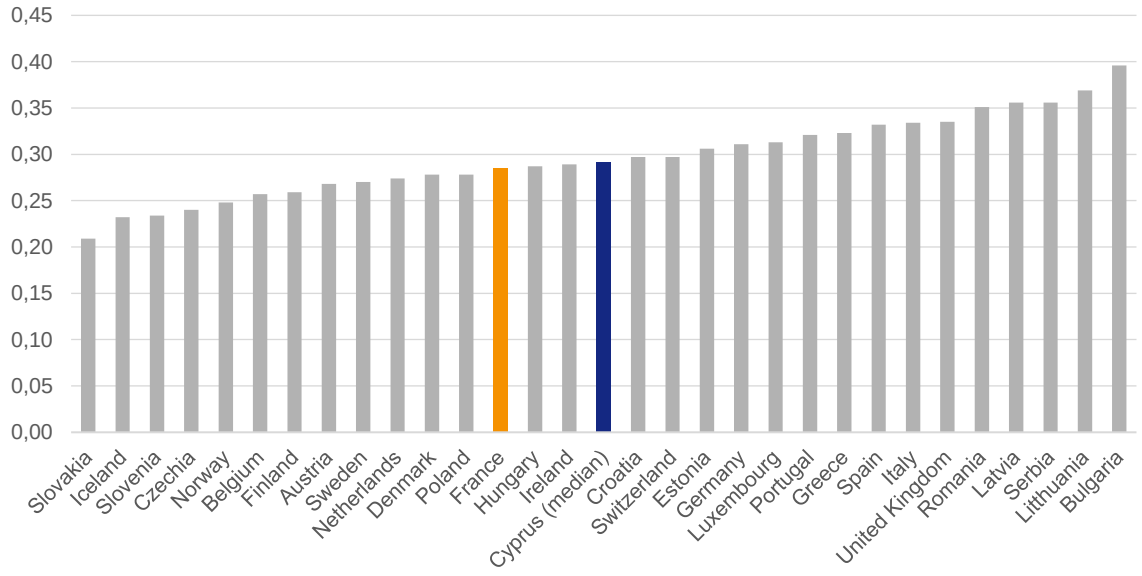
Figure 1 – Inequality of pre-redistribution income (before direct taxes and social transfers but including pensions): Gini coefficients of income per consumption unit, 2018 (2017 incomes)



Note: The German statistical institute refused access to its data.

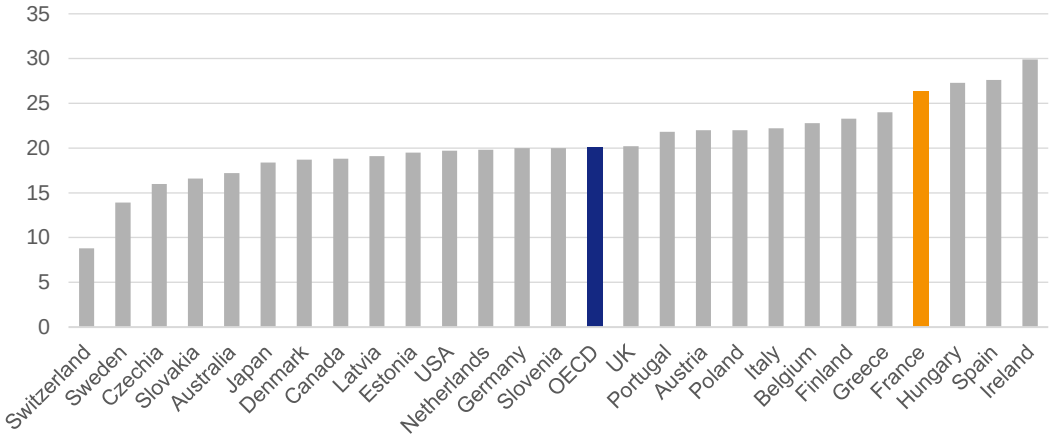
Source: France Stratégie (2020b), "Inégalités primaires, redistribution : comment la France se situe en Europe", Rousselon J. and M. Viennot, La Note d'analyse*, No. 97, December*

Figure 2 – Inequality of disposable income (after direct taxes and social transfers): Gini coefficients of income per consumption unit, 2018 (2017 incomes)



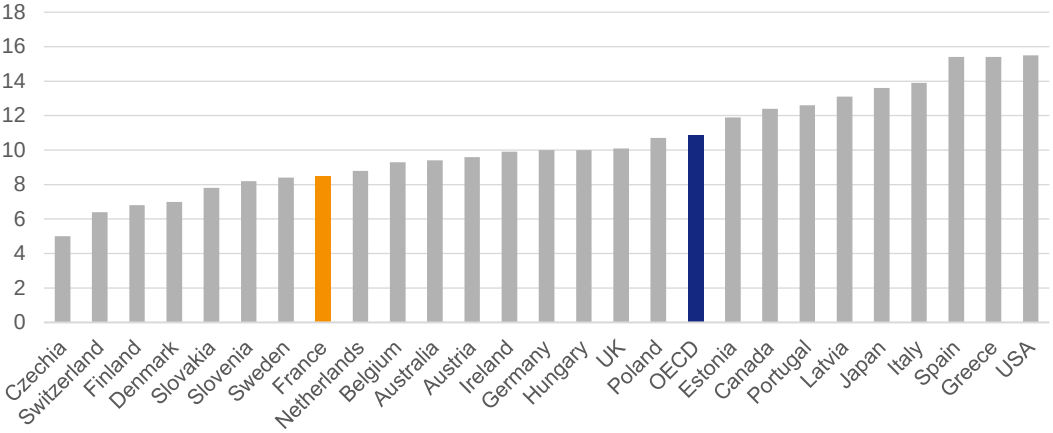
Source: Eurostat

Figure 3 – Poverty rate *before* taxes and transfers (population aged between 18 and 65)



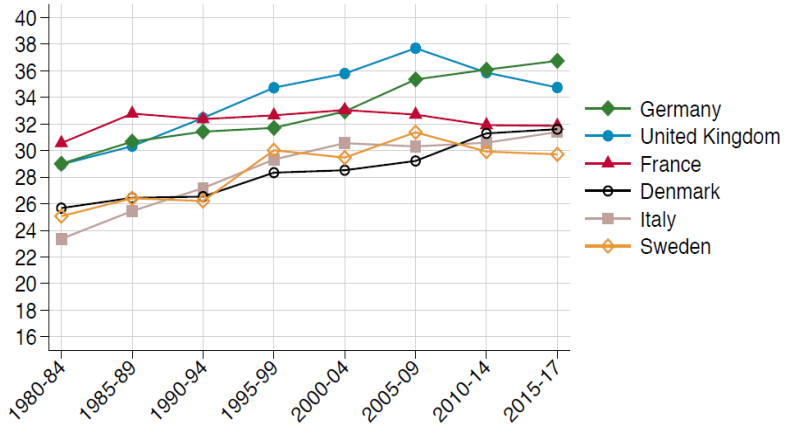
Source: OECD (2019). OECD Economic Surveys: France 2019

Figure 4 – Poverty rates *after* taxes and transfers (population aged between 18 and 65)



Source: OECD (2019). OECD Economic Surveys: France 2019

Figure 5 – Top 10% income share in Western and Northern Europe



Source: Blanchet T., Chancel L. & Gethin A. (2019), "How Unequal Is Europe? Evidence from Distributional National Accounts, 1980-2017", WID. World Working Paper, 6

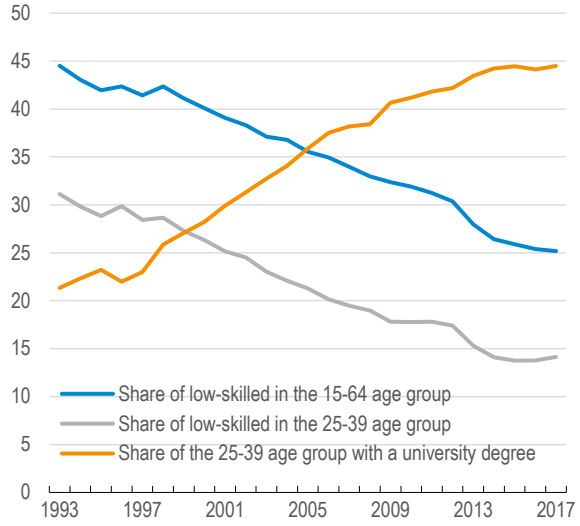
Table 1 – Difference between bottom 50% growth and top 10% growth in Europe between 1980 and 2017

	1980-2017	1980-1990	1990-2000	2000-2007	2007-2017
Eastern Europe					
Albania				2.8	12.0
Bosnia Herzegovina	-162.3	1.1	-127.5	-6.2	-1.3
Bulgaria	-220.6	-24.9	-45.2	-12.2	-23.1
Croatia	-17.0	-16.3	-2.6	-3.3	8.4
Czech Republic	-110.1	-20.4	-37.1	-8.0	-6.6
Estonia	-100.2	-49.2	-39.8	10.8	23.3
Hungary	-176.7	-33.7	-40.3	-52.5	7.0
Kosovo				-6.0	24.0
Latvia	-100.8	-10.0	-33.6	2.5	-3.8
Lithuania	-125.5	-22.9	-23.9	-15.4	-11.5
Macedonia	-35.0	0.9	-36.1	-4.4	11.3
Moldova			-13.9	16.9	46.3
Montenegro	-24.2	1.3	-15.9	-11.6	0.1
Poland	-206.1	-12.1	-88.8	-23.3	-0.7
Romania	-111.3	-2.2	-40.5	-66.7	38.2
Serbia	-47.8	-3.6	-17.9	-20.5	-5.9
Slovakia	-37.7	3.1	-31.3	-4.1	13.5
Slovenia	-68.7	0.0	-49.1	-4.4	-11.8
Southern Europe					
Cyprus			13.9	4.5	-23.8
Greece				45.3	-18.1
Italy	-53.2	-20.2	-24.0	0.4	-5.5
Malta				11.5	-53.2
Portugal	-60.6	-26.6	-26.2	-2.1	5.5
Spain	-4.0	-4.5	11.4	-2.7	-6.3
Western Europe					
Austria	-22.2	-3.7	1.4	-4.2	-8.4
Belgium	-13.0	-4.5	-2.2	1.5	-4.6
East Germany		-6.6			
France	-15.1	-15.7	-2.8	-0.6	6.3
Germany	-62.3	-17.2	-5.5	-28.1	1.0
Ireland	-154.7	0.7	-49.4	-10.2	-18.3
Luxembourg	-37.7	-3.7	-11.2	-16.7	3.0
Netherlands	-32.4	-2.2	7.5	-26.1	-3.6
Switzerland	-28.5	-3.0	-9.0	-4.3	-6.8
United Kingdom	-47.3	-22.3	-12.9	-11.5	13.4
Northern Europe					
Denmark	-68.4	-7.6	-14.0	7.9	-29.2
Finland	-52.6	12.9	-34.3	2.2	-15.4
Iceland				-31.6	29.7
Norway	-27.1	32.3	-65.1	1.0	-1.1
Sweden	-71.9	3.0	-22.6	-16.0	-7.3

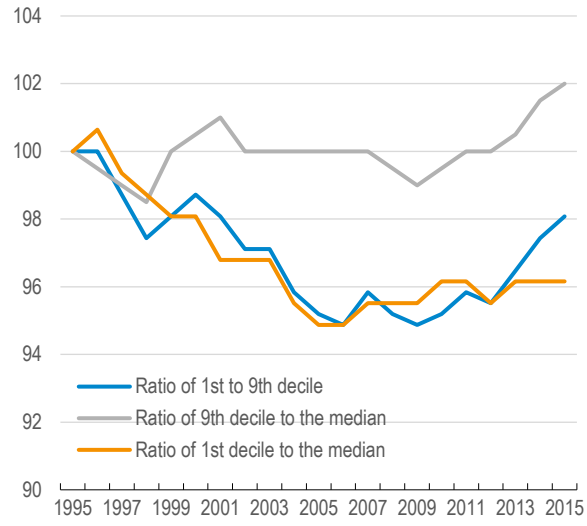
Source: Blanchet et al. (2019)

Figure 6 – Evolution of wage inequality and level of education in France in the 2000's

A. The level of education has increased*, per cent



B. Wage inequality decreased somewhat**, per cent



* As a percentage of the population; low-skilled workers correspond to a level of education that is equal to or less than the first cycle of secondary education.

** Decile ratios of net annual salary (full-time equivalent) for all workers. Mainland France until 2001, France excluding Mayotte as of 2002. All private-sector and state-enterprise workers, except agricultural workers, apprentices, interns and except for salaries paid by non-professional employers.

Source: OECD (2019), The Future of Work, OECD Employment Outlook 2019

1.2. Territorial inequalities in France

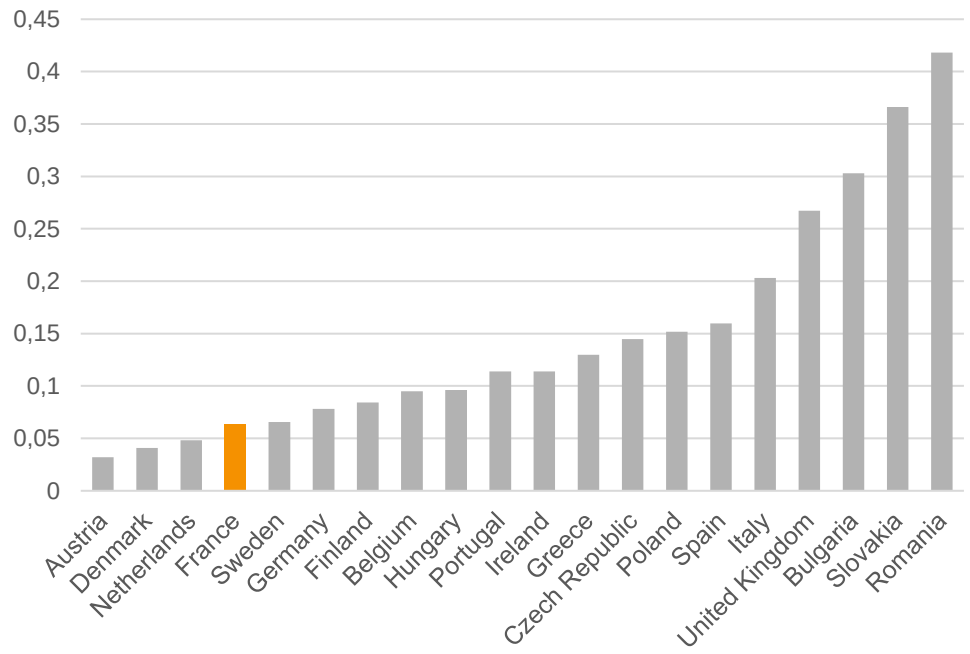
In spite of rather limited regional inequalities in European comparison (Figure 7), ten *départements*[1] in metropolitan France (as ranked by median income) face both the highest unemployment and poverty rates, according to INSEE's data. The vast majority of these *départements* are located in the northern and southern ends of the country. The poverty rate is 9 points higher before redistribution and 6.5 points higher after redistribution than the average for the other *départements*. The median income per consumption unit in these *départements* is €200 per month lower than elsewhere (€215 before redistribution, €170 after). Within this group of *départements* in difficulty, there are rural as well as urban places, and even large metropolitan areas. There are strong inequalities even at a geographical level finer than that of the *départements*:[2] the average hourly wage in the top 10% highest employment zones (mostly large urban areas) is 36% higher than in the bottom 10%.[3]

[1] These are subregions.

[2] The level covered is the one of employment areas (*zones d'emploi* as defined by INSEE).

[3] INSEE (2017), *Salaire net horaire par zone d'emploi*.

Figure 7 – Variation coefficient of average disposable income across regions in Europe



Note: We consider the NUTS 2 Regions, according to the EU nomenclature. Member states with less than 3 regions are excluded.

Source: Eurostat, calculation from France Stratégie

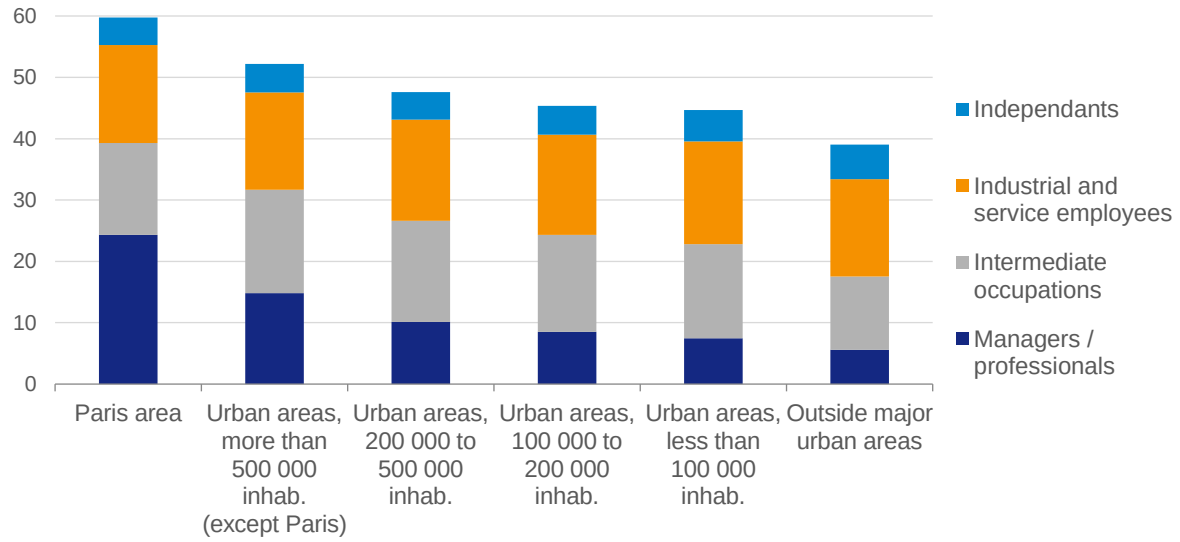
Income inequality and unemployment rates are not systematically different in rural or urban zones, small towns or large metropolitan areas. Even if the large metropolitan areas have seen their share in total employment increase, the differences in terms of incomes and labor market outcomes are primarily regional. Put differently, disparities are starker between *régions* than within *régions*.

Nevertheless, there are areas of high poverty and unemployment in the densely populated metropolitan areas as well. Unemployment is not on average lower there than it is in medium-sized cities. It is actually higher than in rural areas, partly due to different demographic composition and dynamics. It is hard to identify a *région* or group of *régions* that is consistently successful along all dimensions (employment, inequality, poverty, social mobility, growth, etc.). To give some examples, the Paris region is characterized by particularly high living standards (as almost all capital cities in Europe) and low unemployment rates, but it is also marked by a high level of income inequality and high poverty rates. Poverty rates are particularly low in the west of the country, but the median standard of living is not particularly higher. Unemployment is on average lower in the rural Massif Central and in the West (as in Brittany for instance).

Geographical inequalities appear to be stable since the 1980's, with little catch-up by poorer *départements*, as shown by Bonnet, d'Albis and Sotura (2020). INSEE data also shows that the regional map of economic difficulty has changed little over the last few decades. Unemployment rates in employment areas in 2019 are 90% correlated with those observed in 2003. In other words, the two *régions* with high unemployment rates in the north and south have experienced unemployment for a long time. Finally, with a few exceptions (i.e., the overseas territories or Corsica) the GDP per capita of lower-income and high-income *régions* does not seem to be converging.

Yet, it remains that large metropolitan areas capture a high share of total employment and the occupations with the highest potential of new job creation. By contrast, jobs at higher risk of destruction are located in low population density or rural areas. As an example, jobs in sectors with high new employment creation potential represent 60% of total employment in Paris urban areas but less than 40% in rural areas (Figure 8). These divergences could partly be linked to the educational disparities already outlined above, given that the share of 25 to 64 years old with higher education is above 40% in cities and only slightly above 25% in rural areas (Figure 9).

Figure 8 – Share of employment with high potential for job creation, depending on density

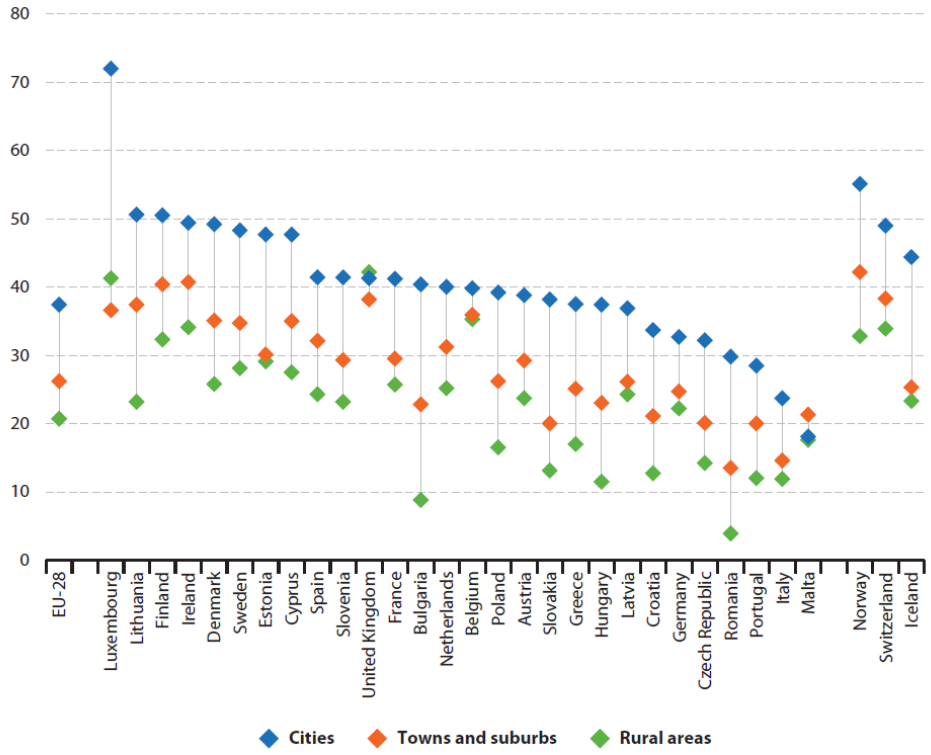


Note: Basing on a prospective analysis on employment in 2022, authors define employment with high potential for job creation as those for which the rate of creation is above the average on the period 2012-2022 (considering the benchmark scenario of the prospective analysis).

Reading: In the Paris area, employment with high potential représents 60% of the total employment; as opposed to 45% in urban areas between 100 000 and 200 000 inhabitants.

Source: France Stratégie (2017a), "Dynamique de l'emploi et des métiers : quelle fracture territoriale ?", by *Lainé, F.,* La Note d'analyse*, No. 53, February*

Figure 9 – Proportion of people aged 25-64 with a tertiary level of educational attainment, by degree of urbanization, 2014



Source: Kotzeva M. M. & Brandmüller T. (eds.) (2016), Urban Europe: Statistics on Cities, Towns and Suburbs, Publications Office of the European Union

Thus, with regards to income or employment, medium-sized towns and rural areas do not appear to be particularly disadvantaged or without prospects for those living there.[1] Nevertheless, the *Gilets jaunes* (Yellow Vests) movement has brought to the forefront the dissatisfaction of a significant part of the population in these territories. A study of the French Council of Economic Analysis (CAE)[2] highlights the deterioration in access to public and private services as a key element for understanding this dissatisfaction. Over the last thirty years the share of localities that no longer have local shops or schools has increased significantly, which has led to a perceived worsening of living conditions and quality of life.

[1] Eurostat statistics relating to the poverty risk after housing costs (broken down by degree of urbanisation) show that France posts the second lowest poverty rate from the EU as for rural areas.

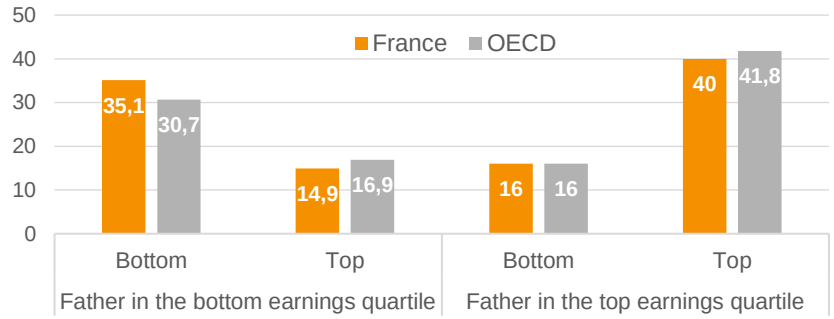
[2] CAE (2020), "Territories, well-being and public policy," by Algan, Y., Malgouyres, C. and C. Senik, note No. 55, January.

1.3. Social mobility

Social income mobility remains low in France. Computing statistics can prove challenging as there is only little data linking parents' incomes to that of their children. The OECD (2018a) study finds that, in France, 35% of sons with fathers in the bottom income quartile end up in the bottom income quartile themselves, compared to an OECD average of 31% (Figure 10). Only 15% of them end up in the top income quartile. France is part of the low intergenerational mobility countries for bottom quartile children, with only Luxembourg, Germany and the United States having lower mobility rates (Figure 11). France Stratégie (2018) finds that among the generations now aged between 30 and 45, the social origin is a strong predictor of income and risk of living in poverty.

As is the case for inequality, social mobility is also very different across *régions* and *départements* (Figure 12). *Régions* where children grow up have a strong impact on their future standards of living (France Stratégie, 2020f). For instance, median standard of living[1] for children of workers who grew up in Île-de-France is around €1,700, against €1,500 in Corsica (Figure 13). Interestingly, even if children come from poor neighbourhoods, but from the richer *régions*, they can expect to reach a higher standard of living than children from poorer *régions* having the same social background. For instance, blue-collar workers' children from Seine-Saint-Denis can expect to reach a median standard of living of €1,680 as compared to the median national standard of living of €1,600. Moreover, educational inequalities between *régions* reinforce social mobility disparities within French territory. For instance, in Paris the share of people who are in a better socio-professional category than their parents is above 45%, and the share of those with higher education is close to 35%. In Calvados, these shares are 25% and less than 20% respectively (Figure 14). In addition, children from disadvantaged backgrounds have lower geographical mobility and are therefore more affected by the conditions of the local labor market.

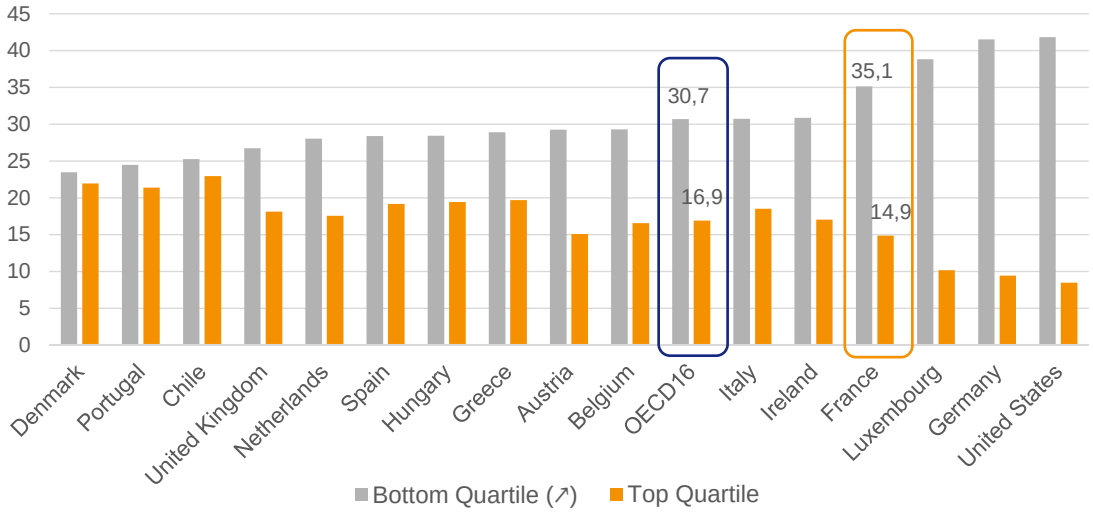
Figure 10 – Share of sons from bottom (top) income quartile ending up in bottom (top) income quartile in France against OECD average



Source: OECD (2018a)

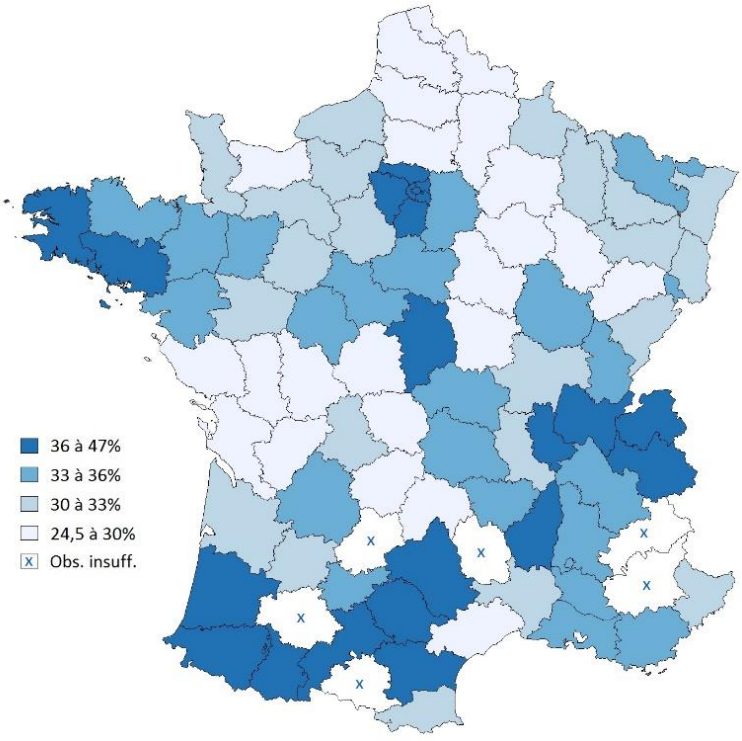
[1] Standards of living are defined as disposable income per unit of consumption.

Figure 11 – Comparison of sons from bottom income quartile ending up in bottom or top income quartile between OECD countries



Source: OECD (2018a)

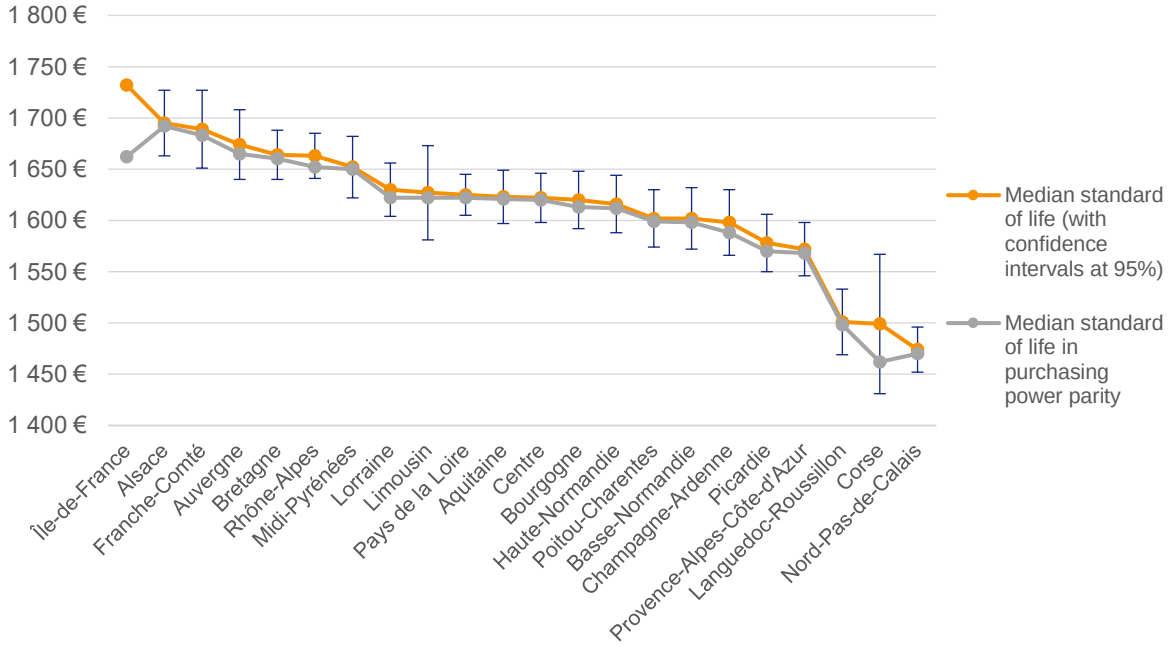
Figure 12 – Share of workers and employees' children that became executive or middle manager, depending on birth's department



Scope: population aged 30 to 45, born between 1965 and 1979.

Source: France Stratégie (2015), "La géographie de l'ascension sociale", by Dherbécourt, C., La Note d'analyse*, No. 36, November*

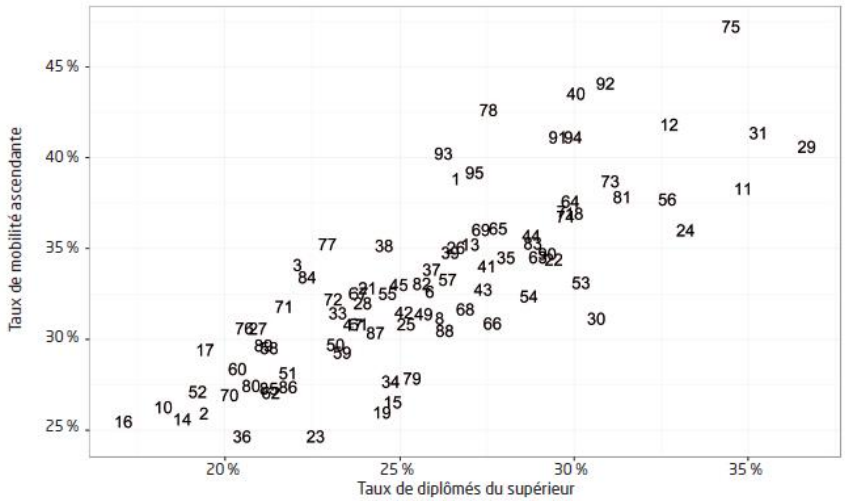
Figure 13 – Median standard of life of adult children of workers or employees, by regions of origin



Note: Standard of life is defined as the available income, per unit of consumption.

Source: France Stratégie (2020f), "Quelle influence du lieu d'origine sur le niveau de vie ?", by Dherbécourt, C. and G.Kenedi, La Note d'analyse*, No. 91, June*

Figure 14 – Rate of upward mobility and rate of higher degree among children from popular classes



Scope: persons born between 1965 and 1979.

Note: The x axis is for the rate of higher education while the y axis for the rate of upward mobility. This rate is the share of people who are in a better socio-professional category than their parents. Data points represents French *départements'* administrative codes.

Source: France Stratégie (2015), "La géographie de l'ascension sociale", op. cit.

1.4. Labor market polarization

France ranks among the large industrial countries with the strongest decline in manufacturing during the last decades. Since the 1980's, manufacturing has declined to only account for 10.3% of all employment and 13.4% of GDP (as compared to 25.5% in Germany, 19.7% in Italy, and 16.1% in Spain). Labor market polarization, unemployment, and lower quality jobs have to be considered against this backdrop of a sharp decline in manufacturing.

Labor market polarization is a major issue in France as in other developed countries. Yet, to compare across countries, one must be careful. Indeed, France is often seen as one of the EU countries with the most polarized labor market, but this has been argued by researchers at France Stratégie to be a statistical artefact due to different classifications, as well as changes in the definitions and data over time (see the analysis by France Stratégie in Box 2, at the end of this section). Undertaking an international comparison on level of skill or qualifications of jobs is very challenging. Professional qualifications depend on factors which might differ from one country to another, such as the level of education, collective bargaining, and "social status" which are not always reflected in wage levels.

If we use a more careful and consistent classification of jobs to diagnose polarization in France, we can see, as in other countries, a "hollowing out" of the middle. The share of the most qualified jobs is continuously increasing, as does the share of the workforce with higher education. By contrast, the share of medium-skill workers is declining. There is little to no increase in low-skilled jobs. The only growth observed within low-skilled jobs are that of workers in home care and some childcare sectors (see Box 2, end of section).

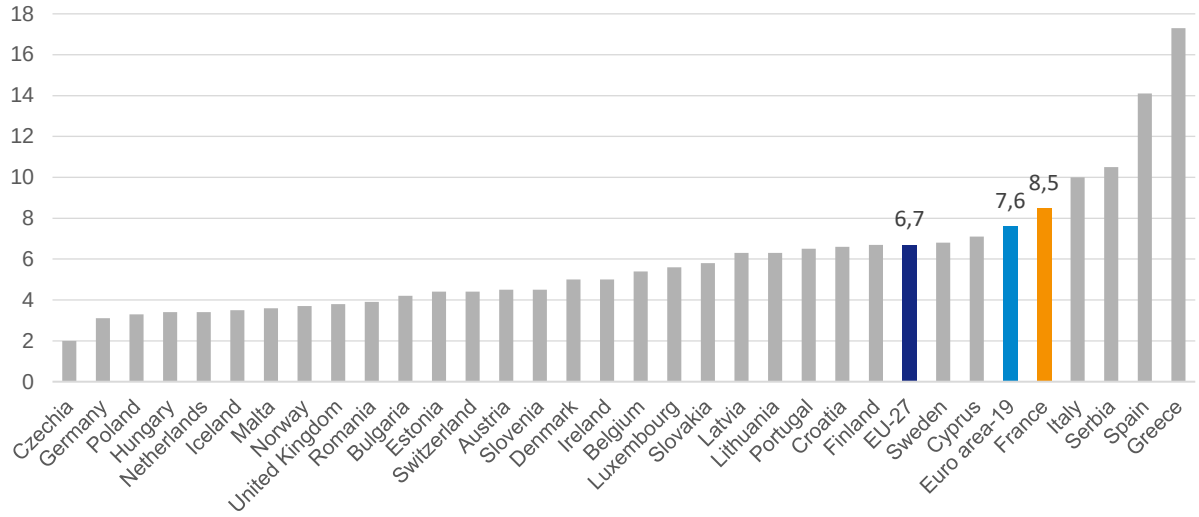
France has a somewhat higher unemployment rate than the EU27 or Euro Area averages – with in 2019 an average rate of 8.5% for the 15-74 years old against 7.6% for the Euro Area average and 6.7% for the EU27 (Figure 15) –, and the gap widens when focusing on French youth unemployment (almost 20% in 2019, as opposed to Euro area and EU27 averages close to 15%). The share of young people neither in employment nor in education and training (NEET), reaching 10.6% in 2019, also exceeds both Euro Area and EU27 averages (Figure 16 and 17).

Regarding additional indicators about labor market, France performance is mixed. On the one hand, the level of part-time work and the potential additional labor force – people who

[1] Between 1996 and 2015, medium-qualified jobs decreased (-16%) but the decline in low-skilled jobs was even greater (-19%). At the same time, the share of qualified jobs increased by 17% (Figure 15). The share of medium-qualified employment continued to decline after the crisis, particularly between 2007 and 2010 (-7%). After 2007, low-qualified employment ceases to decline and high-qualified employment continues to increase, reinforcing the hollowing out of medium-skilled jobs.

do not correspond to the ILO (International Labour Organization) definition of unemployment but whose situations are close to unemployment – are lower than the Euro Area and EU27 averages (Figure 18 and 19). On the other hand, temporary employment represents 13.3% of total employment in 2019 (above the Euro Area and EU27 averages), and, worse than that, France posts the lowest percentage of European countries in terms of transitions from temporary to long-term employment contracts, at slightly above 10% (Figure 20).

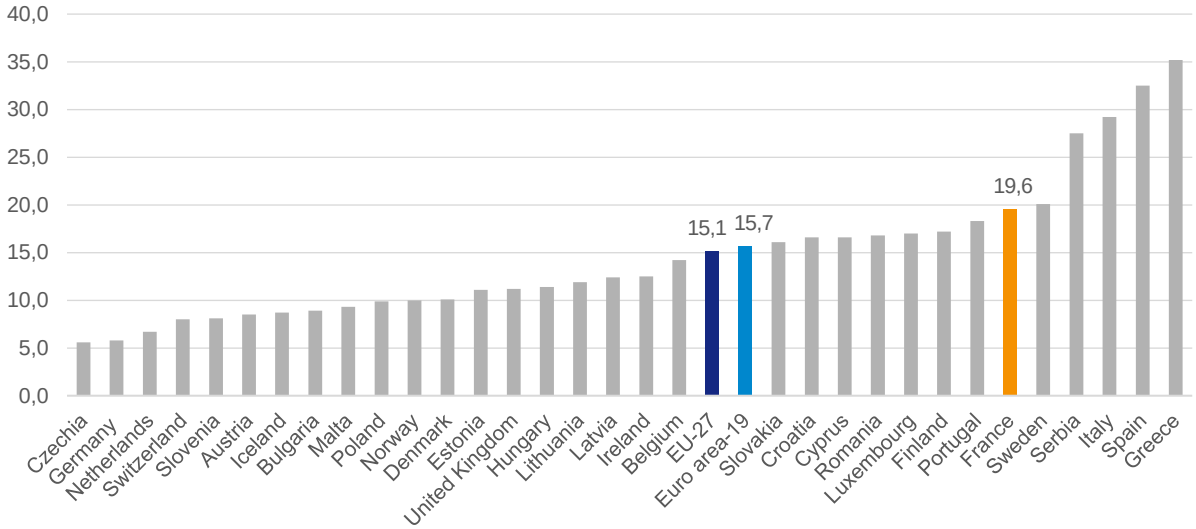
Figure 15 – Unemployment rate of 15-74-year-olds (2019)



Note: Those figures are based on the ILO definition of unemployment, that is unemployed people, available and actively looking for a job. This includes people until 74 years old to apply a homogenous definition of unemployment over different countries and thus allows for international comparisons.

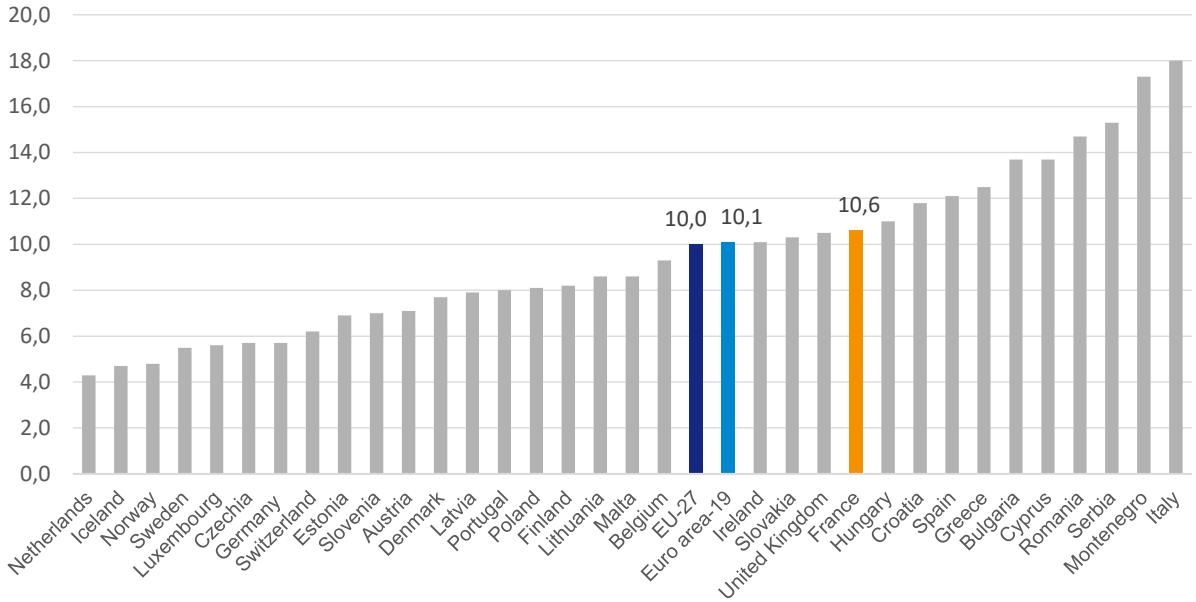
Source: Eurostat

Figure 16 – Youth unemployment rate (among 15-24-year-olds, 2019)



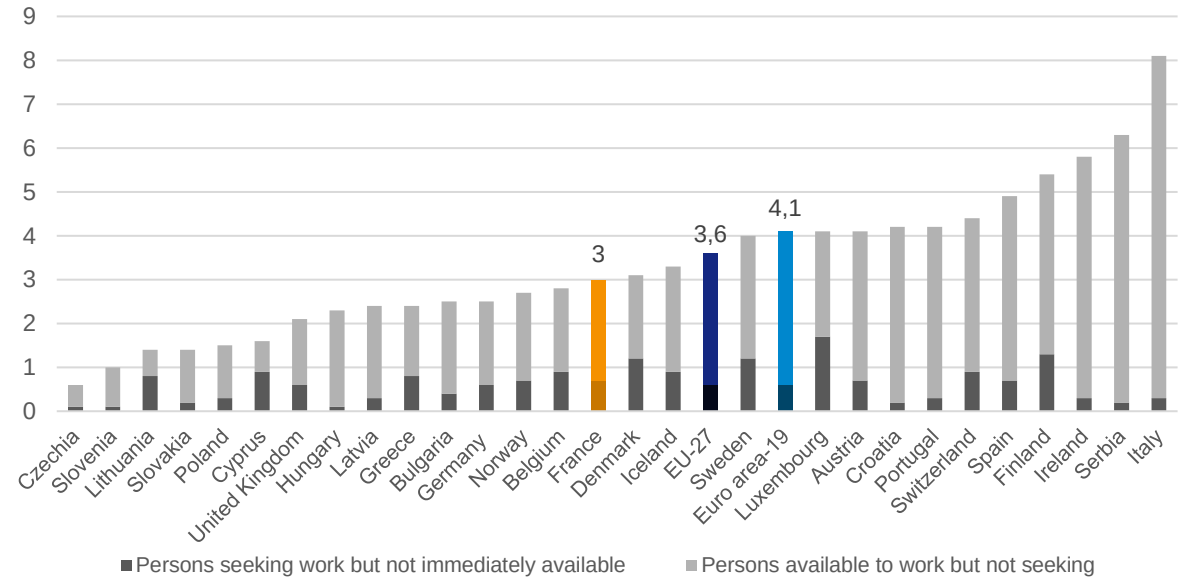
Source: Eurostat

Figure 17 – Share of young people aged 15-24 neither in employment nor in education and training (NEET), annual data for 2019



Source: Eurostat

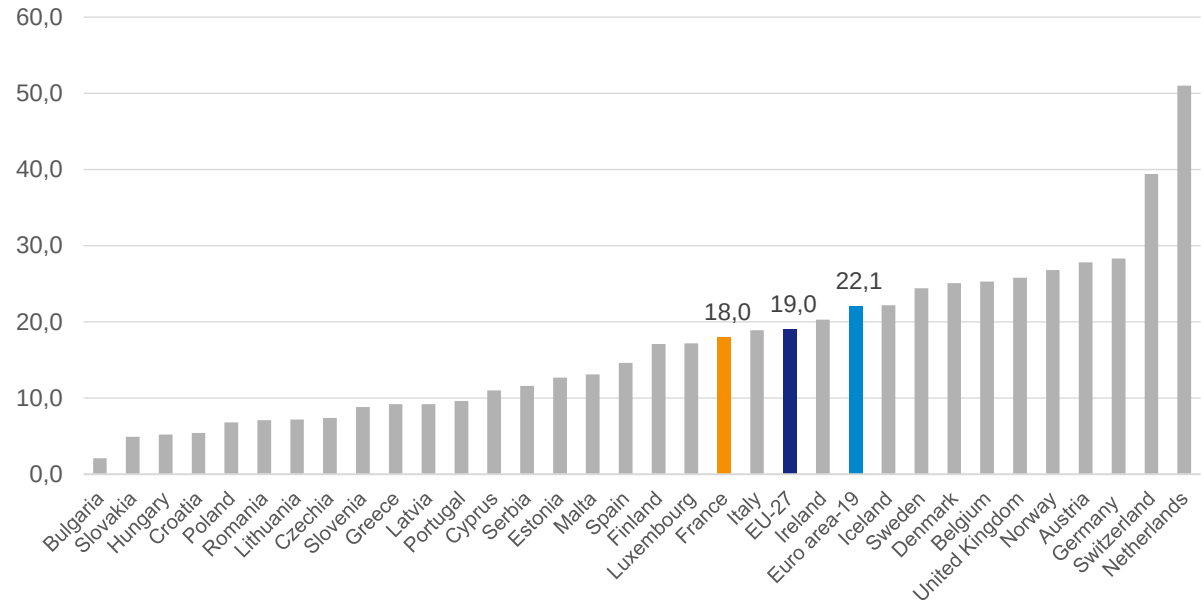
Figure 18 – Potential additional labor force (share of the 15-74-year-olds, 2019)



Note: Eurostat has defined potential additional labour force, to account for people who do not correspond to the ILO definition of unemployment but whose situations are close to unemployment. They defined two components of this halo: the first component includes the unemployed, actively looking for a job but not available for work within two weeks and the second component consists of the unemployed available for work within two weeks but not actively looking for a job.

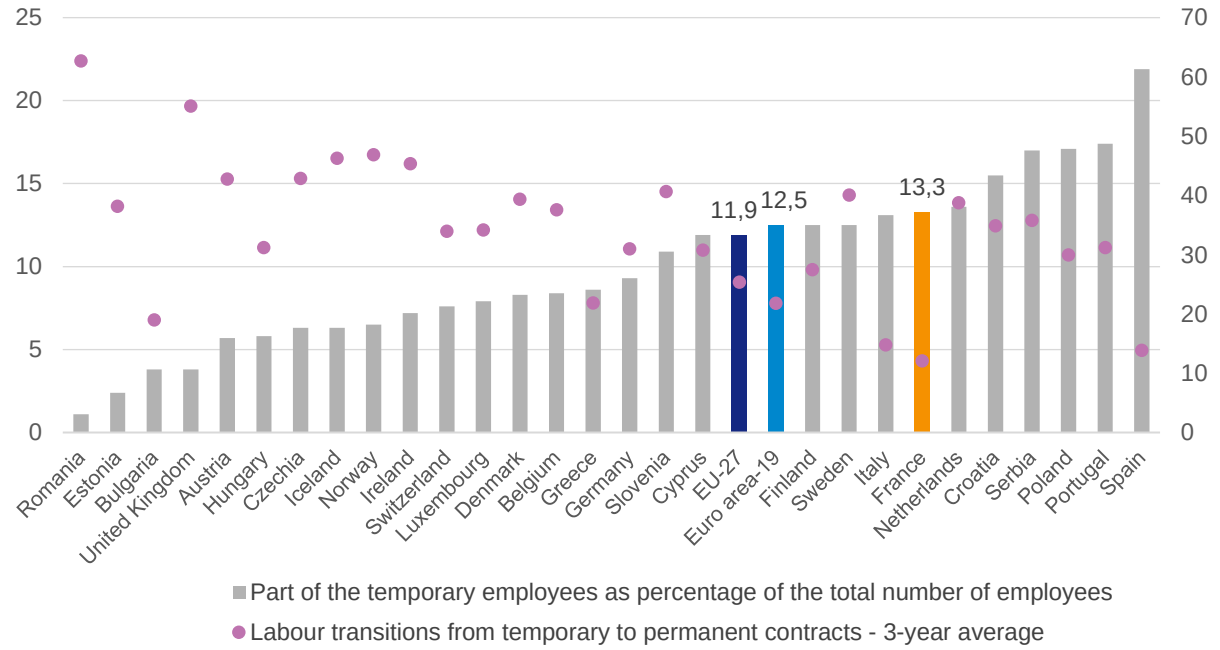
Source: Eurostat

Figure 19 – Part-time employment as a percentage of total employment (2019)



Source: Eurostat

Figure 20 – Share of temporary workers over total employees 15-64 (2019) and transition rate to permanent jobs, 3-year average (2018)



Note: France has 13.3% of temporary employees as a percentage of the total number of employees, and the rate of transition from temporary to permanent contracts amounts to 12.1% (this corresponds to persons having a temporary contract who moved to a permanent contract between two consecutive years – 3-year average).

Source: Eurostat

2. Attitudes and Views

In August and September 2020, we designed and ran two surveys on nationally representative samples of around 1,500 French respondents each. The *2020 Jobs, Inequality, and Insecurity Survey* asks people about their experience of the labor market, insecurity, and inequality and their views on various associated policies. The *2020 Taxes and Policy Survey* elicits respondents' knowledge, perceptions, and views of major tax and education policies covered in this report. We will draw from this data throughout the report and provide statistics on what people think about the various policies and issues we address. We have also pooled together a broad range of data from existing major cross-country surveys in order to draw a precise picture of French attitudes, as well as to compare them to those in other countries. Appendix 1 presents the detailed results of our own analysis of these existing cross-country surveys. We now present some key results that paint a picture of how people perceive their jobs, "good jobs," inequality and insecurity[1].

2.1. What are "good jobs" according to people?

To start, we ask people open-ended questions on what is, to them, a "good job" without priming them one way or the other. When performing text analysis on these answers, the terms that come up most frequently are "good salary," "well paid," "a good environment/good feeling," "good work conditions," and terms related to "private life" and "family life" to indicate a desire for work-life balance. A "bad job" features almost the exact opposite terms. When asked about what aspects of their own jobs are the best, respondents emphasize "work relationships" and the "good work environment," "flexible work hours" and "free time," "good pay" "short commutes," "good boss," and "work security." We also ask respondents what features of a job they would pay most attention to if they had to look for a new one. Important features appear to be pay, good relations with colleagues and with one's boss, the possibility to leverage one's skills, autonomy and creativity, career progression, interest and passion in the job, and safe work conditions. Next come the possibility for some work hour flexibility, reasonable work hours, and the feeling to be contributing to society. Just around 50% of respondents feel like their work is of higher quality than that of their parents at the same age. Only half of respondents believe there are good jobs available in their area.

On the major causes of lack of good jobs in France, 57% of respondents believe it is due to outsourcing and globalization; 28% that it is due to technology. Close to 60% of respondents believe that a major factor in determining access to good jobs is the region of residence, and the same share believe that family background is.

[1] All the Appendices are gathered in a second volume, also available online.

Using French data from the 2015 European Working Conditions Survey, we also find that job traits that are positively correlated with work satisfaction include higher working time quality (measured by the working time quality index), greater job prospects and opportunities for advancement (measured by the prospects index), better physical and social environments (measured respectively by the physical and social environment indices), and more opportunities to use one's skills and decide how and when to work (measured by the skills and discretion index). Being part of a union and having a more intense workplace are negatively correlated with worker satisfaction (Appendix 1).

2.2. What does and can the government do according to people?

When it comes to what the government can do, around 60% of people believe the government should put priority on creating good jobs that meet sufficient quality criteria, even if that implies fewer jobs overall. Thus, people side with quality rather than the sheer quantity of jobs. Between 60-70% of respondents believe the government should intervene in the labor market, by subsidizing continuous training, improving labor market regulations, and incentivizing firms to create quality jobs. Respondents are also very favorable to fostering dual education programs, improving job search assistance, especially those in partnership with local employers. Respondents are quite favorable to government intervention to help workers from a company that either relocates abroad or replaces labor with robots. Less than a third of people believe the government currently provides sufficient help to buffer moments of insecurity such as unemployment, old age, or poor health.

2.3. Attitudes on inequality, insecurity, and mobility

Overall, 73% of respondents believe that inequality in income is a serious or very serious problem. 62% believe that inequality in wealth is a serious or very serious problem. People in France are generally more pessimistic on social mobility than people in other EU countries. They tend to perceive lower chances of having access to quality higher education or to good jobs (Appendix 1). In our own survey sample, 70% of our sample believes that inequality in opportunity is a big issue, that children from poorer backgrounds receive an education of very different quality than children from higher-income backgrounds, and that the latter have much better chances of getting a good job, even conditional on similar education levels.

In line with the regional cleavages outlined above, if people are split according to their possibility of moving, groups with lower rates of geographic mobility report being unable to make ends meet more often than not, while the geographically mobile tend to be able to

afford their expenses.[1] All groups except the truly mobile ones agree that it is increasingly hard to find employment, and the more so if they feel more geographically constrained. Together, these facts indicate that those with low geographic mobility face limited employment opportunities, insofar as businesses close and are not replaced, and new firms are not being created in their area.

When it comes to feelings of economic insecurity, becoming ill or disabled, struggling to meet all expenses, and crime or violence are the top three most cited concerns among French respondents for the short and medium run. Workers in stable, longer-term jobs are more likely to be concerned with becoming ill or disabled but less likely to worry about job or income loss. Over the long-run, individuals report their main concerns to be financial security in old age and not attaining a high enough status or level of comfort for their children.

Having painted the landscape of the reality and attitudes on inequality, mobility and labor markets in France, we now turn to our proposed framework for good policy.

Box 2 – Polarization in France

An analysis by France Stratégie[2]

France is often identified in European comparisons as one of the most polarized countries in the Union, but this is a statistical artefact. ISCO is not designed to classify the occupations by socio-professional category or professional qualification. Within the low-qualified category, professions identified as moderately qualified within the French socio-professional categories and which create jobs can be found: this is the case of salespersons or transport agents, located at level 5 “Service workers and shop and market sales workers” in the ISCO nomenclature. Conversely, in the medium-qualified ISCO categories, low-qualified jobs are including who are in fact losing jobs (cashiers, at level 4 “clerks” of the ISCO nomenclature).

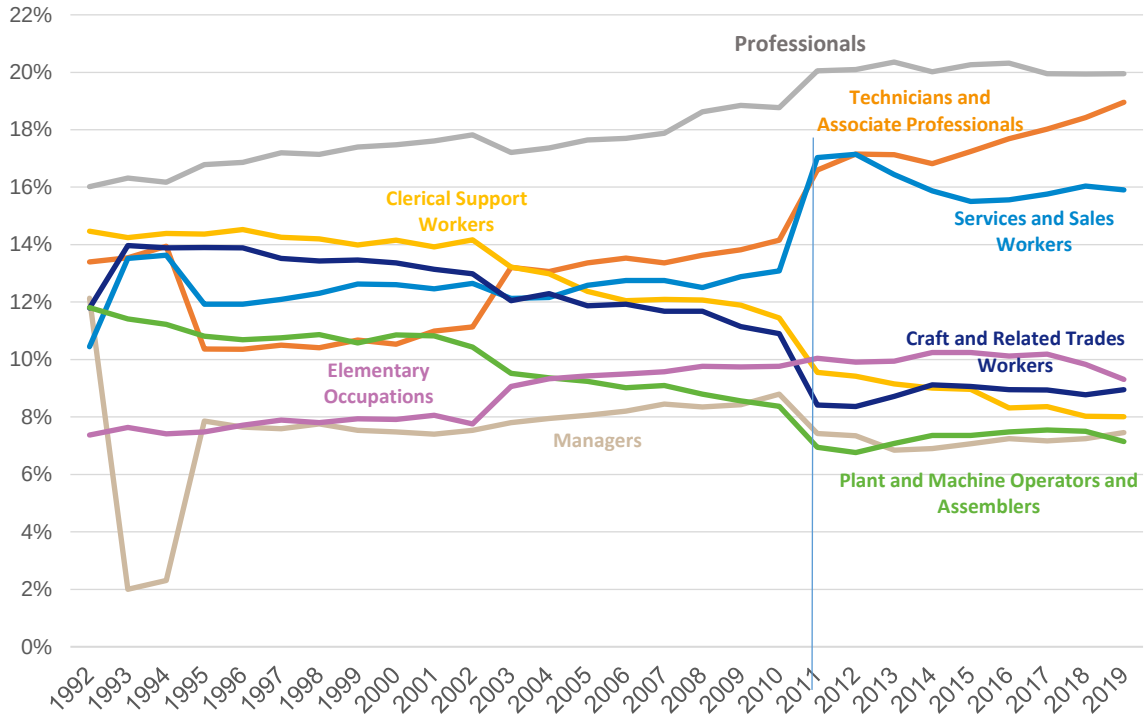
Another more serious methodological issue, the ISCO nomenclature suffered breaks in its history (in particular between 2010 and 2011, not including the breaks at national domestic levels) which were not back casted by Eurostat (Figure A). Data before and after this date therefore cannot be compared. In the case of France, the revisions led, after those of 2003 and 2008, to increase the

[1] The groups are the *Affranchis* who are free from geographic and social constraints, the *Enracinés* who could move but are attached to their geographic location, the *Assignés* who are socially and geographically constrained, and the *Sur le Fil* who have aspirations to move and pursue different opportunities but cannot free themselves from their socioeconomic and geographic background.

[2] France Stratégie (2020a), “Polarisation du marché du travail : y a-t-il davantage d’emplois peu qualifiés ?” by Jolly, C. and C. Dherbécourt, *La Note d’analyse*, No. 98, December.

number of jobs within personal services, which are precisely the only low-qualified occupations whose employment is increasing over time. This contributes to overestimating the increases in low-qualified jobs.

Figure A – Employment by occupations (1992-2014) according to ISCO, as a share of total employment



Scope: metropolitan France, people living in private households.

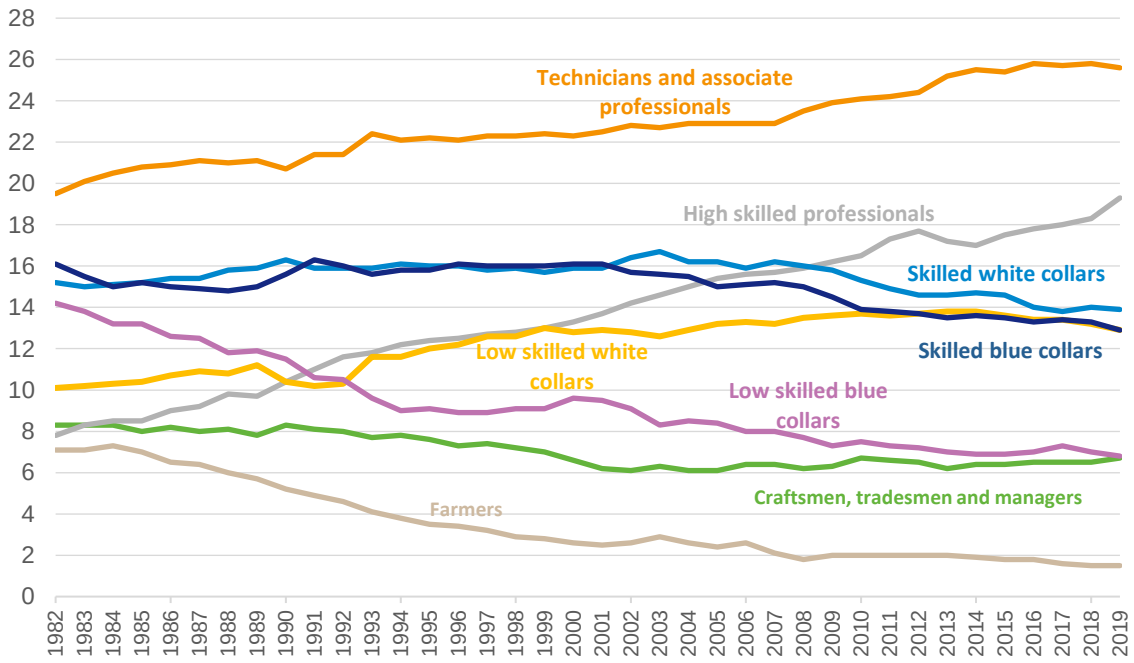
Lecture : the revision of the ISCO nomenclature in 2010-2011 implies an increase of 4 percentage points of the share in total employment of “personal services and sales workers”.

Source: Labor Force Survey, Eurostat

However, the real problem is that the international comparison on qualifications is very difficult. Professional qualifications depend on level of education, on social negotiations and “social status” and can be reflected by the level of wages (but not necessarily: some occupations are well paid and not so well considered by society; conversely, others are poorly paid but well considered particularly in the health sector in France). Therefore, professional qualifications are very specific and differ from one country to another. In most of European countries, especially in Eastern member States, drivers are considered as low-qualified workers. This not the case in France due to labor law and a collective agreement placing them amongst the most favorable in Europe for this occupation. Another example is the case of the caregivers in France and in the United States. In France, the caregivers are a regulated profession (accessible through competitive examination) that requires medical skills. In United States, they are akin to domestic helpers without any medical requirements. In France, the caregivers are defined as middle-qualified employees.

The diagnosis on polarization in France is different from what can be observed in the United States. The share of the most qualified is continuously increasing (composition effects of an economy specializing in high value-added services; socio-demographic effect with an increasing share of higher education graduates), while the share of medium-qualified workers (i.e. industry workers and qualified employees) is declining, both due to deindustrialization for the former and automation for the latter (but also due to the fall in public spending). On the other hand, there is little or no increase in the low-qualified jobs, these workers are even worse off than qualified workers and some low-skilled employees such as maintenance workers and cashiers are currently declining or stagnating. The only growth observed within low-qualified jobs are that of home-helpers and childminders. The Figure B below illustrates this.

Figure B – Proportion of professional qualifications in employment, 1982-2018



Scope: metropolitan France, people living in private households.

Source: Labor Force Survey, INSEE, back casted data

This diagnosis is a view shared by INSEE,[1] France Stratégie[2] and the Dares[3] and is robust to the use of salary as a proxy. Whilst salary can be used when estimating the polarization of employment, it poorly reflects the content of occupations and the skills required to perform them. However, it can

[1] Berger, E. and P. Pora (2017), "Y a-t-il eu polarisation de l'emploi salarié en France entre 1988 et 2014 ?" In: *France, portrait social. Édition 2017*, Paris: INSEE.

[2] France Stratégie (2015), "La polarisation des emplois : une réalité américaine plus qu'européenne ?" by C. Jolly, *Document de travail*, August.

[3] Ast, D. (2015), "En 30 ans, forte progression de l'emploi dans les métiers qualifiés et dans certains métiers peu qualifiés de services," *Dares Analyses*, No. 28, April.

facilitate international comparisons and brings job analysis closer to quality of life analysis. Job qualification is defined on the basis of the distribution of wages in the earliest period (here 1996).

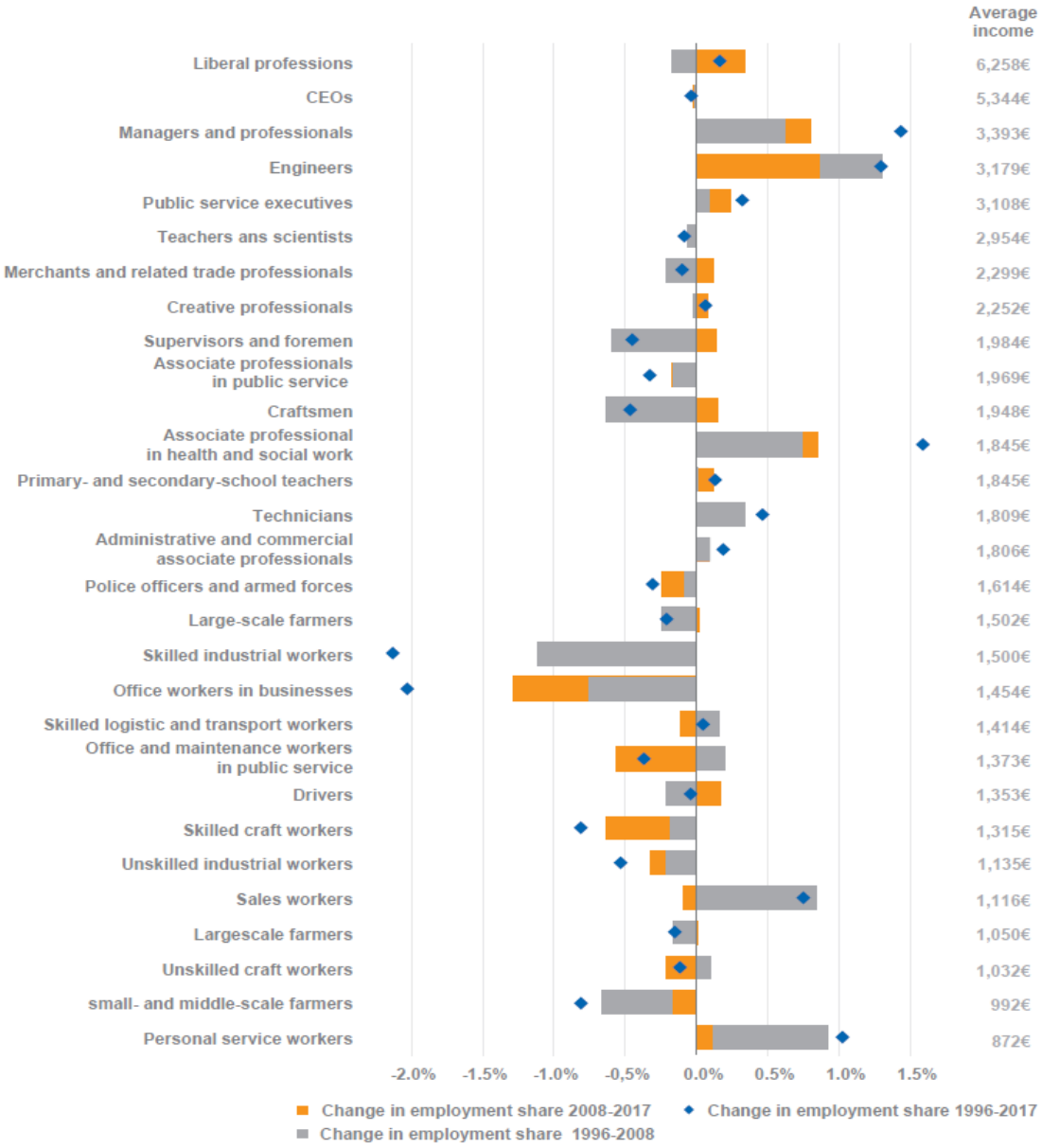
Using the method developed by M. Goos and A. Manning and then developed by David Autor, the average income per profession makes it possible to identify the level of qualification. The professions are thus classified according to their level of remuneration (here salaries or profits declared for income tax purposes). In order to limit possible variations in remuneration over time, the reference salary or activity income from which the trades are ordered is that of 2005, i.e. halfway through the observation period. To take account of working time, a full-time equivalent wage is reconstituted. Finally, the self-employed who represent 13% of employment are taken into account through their activity income. To avoid threshold effects, the changes in the share of occupations in employment according to the level of their earned income are represented occupation by occupation. The change in the share in employment of all occupations over time (1996-2017) is then observed to identify the polarization of employment.

Between 1996 and 2017, the share in employment of the lowest paid occupations, considered as low-skilled, stagnates (+0.2 percentage points), as the increase in personal services staff and commercial workers is offset by the decline in the employment of low-skilled industrial workers and small and medium-sized farmers. Unsurprisingly, the occupations that are declining most sharply are skilled industrial workers and administrative employees of companies in the middle of the wage distribution. The share of all medium-paid occupations (mainly skilled workers and employees) has declined by almost 6 percentage points in 20 years. Conversely, the occupations that are progressing very significantly are the best paid (company managers in particular), whose share has increased by almost 4 percentage points in 20 years, providing evidence of a rise in job qualifications. Among the intermediate professions, the most marked increase in employment is that of intermediate health and social work professions (nurses, educators, organisers, pharmaceutical assistants, etc.), whose dynamism is driven by the ageing of the population and the socialisation of health and social protection expenditure. The picture is more contrasted and less marked for the other intermediate professions: the share of intermediate professions in the private sector is increasing slightly, but that of foremen, who are more often employed in industry, is declining; in the civil service, the share of intermediate professions is eroding fairly sharply (increasingly qualified recruitment) except for teachers.

The distribution of employment by skill level estimated by the wage distribution of occupations is, however, not a uniform process over time and across all qualifications (see Figure C below). The rise in the low-skilled was thus particularly noticeable before 2008 (an increase of almost 1 percentage point up to 2008) but has stopped since then (-0.7 percentage points). The share of personal services personnel is ceasing to increase and that of commercial employees is declining as a result of digitalisation in commerce (e-commerce and cash register automation), while the share of low-skilled workers is declining even more sharply. On the other hand, the share of medium-skilled employment is declining steadily, particularly after 2008 (-3.7 percentage points). The 2008 crisis, which affected industrial and construction workers significantly, has therefore accentuated the erosion of median qualifications. In intermediate occupations, in contrast to the low-skilled, the post-2008 period saw a significant increase (+1.5 percentage points), with intermediate occupations in the private sector recovering after a pre-crisis decline, reflecting a form of “displacement” of qualifications in industry, construction or logistics (recruitment at a higher level

than that of skilled workers). Finally, despite a general upward trend in highly qualified employment over the last 20 years, this trend has been less marked since 2008 for engineers and managers whose activity in qualified business services or in industry is more sensitive to the economic downturn. The opposite is true for licensed professionals, whose share initially declined before recovering after 2008, while self-employment simultaneously rebounded.

Figure C – Change in the share of occupations by period, 1996-2008 and 2008-2017



Scope: Metropolitan France, persons in employment with a strictly positive salary or activity income living in a household with a positive or zero level of income declared to the tax authorities and where the reference person is not a student.

Source: INSEE-DGI, Retropolated Tax and Social Income Survey from 1996 to 2017

SECTION 2

WHAT CAN BE DONE?
A FRAMEWORK FOR GOOD POLICY

In order for economic opportunities to be widely distributed, a society needs institutional arrangements that ensure both an adequate supply of productive jobs and access to educational, financial, and other opportunities that prepare individuals for participation in the economy. These institutional arrangements must reflect societal preferences. They should also be open to revision on the basis of evidence and experience.

Our proposal for a "good jobs welfare state model" is therefore built on three components:

– an update of the traditional welfare state pillars with focus on education, labor market policies, social protection, and progressive taxation;

– a new focus on directly creating good jobs for all through labor market policies that partner with business and industrial/innovation strategies that target quality employment more explicitly;

– a new communication between governments (national, local, regional levels) and employers, and between the government and citizens.

Unlike the traditional approach which keeps the productive and distributional agendas of society distinct, with separate policy tools that address each respectively, our approach entails the joining of the two. Redistribution is important and can be carried out more effectively as we shall argue below. But it must be adequately complemented with the creation of productive employment opportunities for those at the middle and the bottom of the income scale. Expanding the circle of good jobs in turn also directly contributes to higher productivity and economic growth for the economy as a whole.

The *sine qua non* of a good job is an adequate level of labor productivity that enables appropriate wages and benefits to be paid out. The survey results above inform us about

what people expect from good jobs. The definition of a good job must remain necessarily elastic, depending on local circumstances (such as the cost of living) as well as job seekers' preferences (such as full-time versus flexible-hours employment). But essential features of a good job would include an after-tax earnings level that enables middle-class living standards, access to benefits (health, pensions, child care, etc.) and social protections (e.g., unemployment compensation) regardless of skills, gender, sector, or geographic location, and voice in the workplace.[1]

We shall develop these ideas in greater detail in later sections. But first we want to develop a general framework for thinking about policy that is useful to characterize both the range of policies one could employ (or that already exist) and to clarify the differences between our approach and prevailing strategies.

1. A Policy Taxonomy

We organize our discussion of policies around two questions. First, which income group do we care about when we talk about inequality or economic insecurity? Are we concerned mainly about the well-being of the poor, those at the very bottom of the income distribution? Are we concerned about the health of the middle classes, groups who have traditionally had access to good jobs but may now be facing an income/wealth squeeze and greater insecurity? Or are we worried about the concentration of economic power at the very top and the attendant political influence of wealthy individuals and large corporations? Our policy priorities will depend on whether we are targeting the bottom, middle, or top end of the income distribution.

The second question is: at what stage of the economy should we choose to intervene? A useful distinction, due to Hacker (2011), is between pre-distribution and redistribution policies. Redistributive policies are those such as government transfers that reshape income inequality ex post, after employment, investment, and innovation decisions have been made and markets have done their job. We will call such redistributive policies *post-production* policies.

Pre-distribution policies are those that directly influence how markets work and the outcomes they generate. We find it useful to further subdivide pre-distribution policies into two categories: *pre-production* and *production-stage* policies. Pre-production policies alter the endowments that individuals and households bring to market – educational opportunities, financial wealth, networks, and social capital. Production-stage policies are those that directly shape the employment, investment, and innovation decisions of firms.

[1] See Cohen (2020) for a broad, philosophical discussion of "good jobs." The notion extends from material conditions (wages and benefits) to having adequate voice in the workplace, to fulfillment and sense of purpose.

This leaves us with a three-fold distinction among pre-production, production, and post-production policies.

Our full taxonomy of policies can be presented in the form of a 3x3 policy matrix (Table 2). Each of the nine cells in the matrix refers to a set of policies targeting a certain income segment and a particular stage of the economy. We can fill the matrix with examples from contemporary policies in France and elsewhere, as is done in Table 2. Examples of pre-production policies for the bottom of the income distribution would be public spending on primary education and support to vocational training (top-left cell). Public spending on tertiary and adult education currently seems to supports for the most part the middle class (center-left cell). Income support programs such as the French RSA (*revenu de solidarité active*), which guarantee a minimum level of income, are post-production policies targeting the poor (top-right cell). Policies such as unemployment insurance and public pensions are also post-production transfers but cover a broader part of the income spectrum (center-right cell). Progressive income and wealth taxation target the rich (bottom-right cell). Among production-stage policies, minimum wages and apprenticeship programs affect the bottom of the distribution (center-top cell); industrial policies target broadly the middle of the employment distribution rather than the lowest paid workers or wealthy professionals (middle cell); and competition policies rein in large corporations (center-bottom cell).

Table 2 – A policy matrix

		At what stage of the economy does policy intervene?		
		Pre-production stage	**Production stage**	**Post-production stage**
Which income segment do we care about?	**Bottom incomes**	• Primary education and early-childhood programs • Vocational training	• Minimum wage • Apprenticeships • Reduced social security contributions by firms • In-work benefits	• Social transfers (housing, family, child benefits) • Guaranteed minimum income (RSA)
	Middle class	• Public higher education • Adult retraining programs	• Cluster policies (*pôles de compétitivité*) • SME support programs (BPI) • EU Structural and Investment Funds • Occupational licensing • On-the-job training • Collective bargaining and work councils • EU trade policies	• Unemployment insurance • Pensions
	Top incomes	• Inheritance and estate taxes	• R&D tax credits (*crédit d'impôt recherche*) EU competition policies	• Top income tax rates • Wealth taxes

Source: Authors

While it is possible to fill the entire matrix with existing policies, traditional welfare state arrangements rely mostly on the first and third columns: investments in education and training to prepare young people for successful entry into the labor market on the one hand, and transfers on pensions and social insurance to cover idiosyncratic risks (such as unemployment, illness, disability) on the other. Production-stage policies are typically not considered an integral part of the welfare state, though there are notable exceptions such as the minimum wage, collective bargaining regulations, and labor protections. Most production-stage policies are concerned instead with market competition, physical investment, and R&D. This reflects the traditional separation between social policies and economic policies, the former focusing on inequality and insecurity, and the latter focusing on productivity, innovation, and growth.

This separation makes sense in a world where good jobs are available to all with adequate education, and a middle-class standard of living is out of reach for only those who are hit with unfortunate shocks or have failed to save adequately for their old age. It works less well when the disappearance of middle-class jobs is a secular trend, driven by underlying forces of technological change and globalization. When such forces hollow out the middle of the employment distribution, we have a structural problem that exhibits itself in the form of permanent bad jobs and depressed regional labor markets. Traditional welfare state policies then become inadequate and can address at best only symptoms of the problem. We need a new strategy to accompany a modernized welfare state and that tackles the production stage and good-job creation directly. This supplemental strategy focuses in particular on the cell at the center of the table – i.e., policies to buttress the middle classes.

Our broader approach is rooted in the fact that inequality and insecurity have many sources. They result in part from the circumstances under which we are born. They are shaped by the risks we are exposed to and the decisions we make over the course of our lives. But they are also perpetuated – moderated or enlarged, as the case may be – in the course of innovation, employment, and investment decisions that firms make. When a firm invests, say, in a particular kind of technology or decides to outsource production, it has a major impact on the economic livelihoods of current and prospective employees – effects that it may not necessarily fully take into account. Those decisions are therefore an appropriate additional focus of policy attention for a truly inclusive economy.

2. Social Benefits of Good Jobs

In fact, employment, investment and innovation decisions regarding the quantity and quality of labor demand produce pervasive social and political benefits that go considerably beyond the workers immediately affected. Good jobs allow local communities and national polities to thrive; their absence or disappearance is a harbinger of social and political

trouble.[1] These broader benefits are analogous to environmental externalities or R&D externalities, two domains in which government action is readily accepted.

The central distinction in an externality is between private and social costs.[2] The private cost of labor is the wage that an employer pays to a worker, net of employment taxes (or subsidies). The social cost of labor is its social opportunity cost, which is normally taken to be the value of output forgone in the rest of the economy when the employer hires that worker. There are many things that could drive a wedge between the private and social costs. If the next best alternative for the worker is not to be employed at all, the social opportunity cost of labor could be small (essentially just the personal disutility associated with work). If the alternative is a less productive and hence lower-paying job, the social opportunity cost will be higher but still lower than the private cost to the employer.[3]

A broader conception of the social opportunity cost of labor would also take into account the social consequences of job creation (or destruction) for the local community and the polity. When employers create good jobs, they strengthen the social structures that underpin economic prosperity and social stability. This implies that the true social opportunity cost of such jobs could be very low (and even negative). When good jobs are lost, those structures are undermined.

Research has shown that communities where middle-class jobs have gone scarce suffer from severe social ailments. In the American context, sociologist William Julius Wilson (1996) has described in detail the social costs of the decline in manufacturing and blue-collar jobs, ranging from broken families to drug abuse and crime. Wilson's focus was on racial minorities living in inner-city ghetto neighborhoods in the U.S. More recently, Autor, Dorn, and Hanson (2019) have studied communities across the entire U.S., differentiating them by the degree to which they were affected by import competition with China. They found that communities where jobs came under greatest pressure from Chinese imports experienced an increase in "idleness" among young males and a rise in male mortality due to drug and alcohol abuse, HIV/AIDS, and homicide. There was also an increase in the fraction of mothers who are unwed, of children in single-headed households, and of children living in poverty. In their evocatively titled book *Deaths of*

[1] Rodrik and Sabel (2019) call these "good jobs externalities."

[2] The discussion that follows draws heavily on Rodrik and Sabel (2019).

[3] Austin et al. (2018) consider three sources of economic externalities from non-employment: fiscal costs on the state through the tax-transfer system, costs imposed on the family, and spillovers that encourage non-employment by others in the community. They reckon these costs range 0.21-0.36 times the wage of low-income workers. The broader social and political costs that we discuss here are at least as important, though harder to quantify.

Despair, Anne Case and Angus Deaton (2020) have described the consequences for disease and mortality when capitalism fails the local community.

While these studies have been carried out in the U.S., their arguments apply more broadly. They resonate with the experience of communities experiencing long-term de-industrialization in economically depressed regions in France and elsewhere in Europe. Recent social protests, such as the *Gilets jaunes*, have been linked to similar social and spatial divides. Such concerns are also relevant to outer suburbs of metropolitan centers with high concentration of recent migrants and non-native populations (such as North Africans) where good jobs have been scarce or not easily accessible to residents, while access to public services also proves more difficult.

The economic and social impacts of good jobs disappearing are compounded by the political consequences. There is now a considerable body of evidence that links the rise of nativist populist movements to job losses or economic insecurity associated with increased trade, automation, austerity, or labor market liberalization (see the overview by Rodrik, 2021). In the United States, for example, Autor et al. (2020) have shown that the China trade shock had a significant impact on political polarization; districts that experienced sharper increases in import competition were less likely to elect a “moderate” legislator in 2010. Interestingly, they find that labor market disruptions due to the China trade shock may have been directly responsible for Donald Trump’s electoral victory in 2016. According to their analysis, had the growth of Chinese import penetration been 50 percent lower than the realized rate over the 2002-2014 period, Hillary Clinton would have obtained an overall majority in the Electoral College and carried the Presidency.

Similar results have been reported for other European countries. As in the U.S., right-wing populist parties have generally been the primary beneficiaries of increased economic insecurity and anxiety.[1] Analyzing the political realignment behind Brexit, Colantone and Stanig (2018a) attribute a key role to the labor market impact of globalization. Using an Autor et al.-type China trade shock variable, they show regions with larger import penetration from China had a higher Leave vote share. They corroborate this finding with individual-level data from the British Election Survey that shows individuals in regions more affected by the import shock were more likely to vote for Leave, conditional on education and other characteristics. A second paper by Colantone and Stanig (2018c) undertakes a parallel analysis for 15 European countries over the 1988-2007 period. It finds that the China trade shock played a statistically (and quantitatively) significant role across regions and at the individual level. A larger import shock was associated with support for nationalist parties and a shift towards radical right-wing parties. Guiso et al. (2018) look at European survey data on individual voting behavior and find an important role for economic insecurity

[1] See Rodrik (2021) for a discussion of reasons.

– including exposure to competition from imports and immigrants – in driving populist parties' growth. Individuals who experience greater economic insecurity were also less likely to show up at the polls.

A paper on Sweden traces the consequences of labor market disruption produced directly by policy (Dal Bò et al., 2019). A conservative government undertook a series of reforms after 2006 that increased dualization in labor markets. These reforms reduced social insurance and transfer benefits while lowering taxes, thus increasing the disposable income gap between those with steady jobs (insiders) and those who were either unemployed or relied on temporary jobs (outsiders). The financial crisis and recession after 2008 further contributed to the gap. The main beneficiary appears to have been the right-wing, anti-immigrant Sweden Democrats party. The authors show that the insider-outsider income gaps and the share of vulnerable insiders are positively correlated with larger electoral gains by the Sweden Democrats at the local level. Interestingly, they find no relationship between exposure to immigrants and support for the farright. The fundamental cause of nativist politics in Sweden seems to be decline in secure, good jobs rather than cultural or xenophobic preferences per se.

The electoral consequences of automation have been studied by Anelli, Colantone, and Stanig (2019). They analyze the experience of 14 West European countries between 1993 and 2016, looking at individual or regional exposure to automation, where exposure is measured through ex ante industrial structure or occupation. They find greater exposure to robots increases support for right-wing populist parties, both among individuals and across regions.

Perhaps the most concerning aspect of the political consequences of adverse labor market shocks is that such shocks may weaken support for democracy and foster authoritarian attitudes. Economic crisis and income insecurity among the middle classes in interwar Europe were closely associated with the rise of fascism (Frieden, 2006). Benjamin Friedman (2005) has argued that stagnation or decline of middle-class incomes undermines the set of moral values and beliefs that sustain liberal democracy. There is evidence that some of the same tendencies are at play currently. Ballard-Rosa et al. (2018) have found that individuals located in local labor markets in the U.S. that were more substantially affected by imports from China appear to develop more authoritarian values. Similarly, Colantone and Stanig (2018b) report that individuals living in European regions that received more negative globalization shocks were systematically less supportive of democracy and liberal values and more in favor of authoritarian leaders.

In short, there are significant economic, social, and political costs of failure to generate good jobs. These costs drive a large wedge between the market wage and the social cost of labor. Bad jobs lead to lagging communities with poor social outcomes (health, education, crime)

and social and political strife (populist backlash, democratic malfunction). A private employer fails to take these costs into account, unless prompted to do so by the state.

3. Merging the Social and Productivity Agendas

We are certainly not the firsts to emphasize the importance of a good-jobs orientation. But prevailing policy approaches tend to stick too closely to the traditional welfare state model. A good example is the "good jobs" strategy laid out by the OECD (2018c). While the approach presents lots of good ideas, it still revolves around social protection, investments in skills and training, and what it calls a "growth-friendly environment." The links between good jobs and firms' choices, beyond encouraging growth, are weak, if they exist at all. Another strand of argument on "good jobs" focuses on management practices in the area of labor relations that may be beneficial ultimately to the firm itself. This is similar to the idea of efficiency wages in economics. For example, in her book *The Good Jobs Strategy*, Zeynep Ton (2014) argues that smart companies can boost profits by investing in their employees. But the evidence that profit maximizing firms can benefit from "high road" employment practices remains limited (Osterman, 2018).

In general firms that face higher labor costs try to economize on the use of labor and to adopt technologies that replace workers. From a society's standpoint, this produces an undesirable trade-off between good jobs and the level of employment. Too often, today's economies manage this trade-off by allowing dualistic labor markets to become entrenched (Temin, 2017): islands of productive, high-wage activities exist in a sea of poor jobs and pockets of unemployment. Labor market and social policies generally determine the distance between working conditions in the two sectors. But it is feared that a higher floor on economy-wide working conditions would come at the expense of higher unemployment and lower labor hours.

In countries where minimum wages and labor regulations prevent the bottom of the labor market from dropping too low, such as France, the cost is youth unemployment and more difficult entry into the labor market by new jobseekers.

The only way these tensions can be alleviated is by increasing the supply of productive, good jobs for those who would otherwise be excluded. Historically, this was achieved through an economy-wide rise in productivity, which narrows the gap between opportunities available for insiders and outsiders of the labor market. For example, the mechanization of agriculture during the 19th and early 20th centuries created a surplus of labor in the countryside. But the workers who flooded into urban centers were largely absorbed into manufacturing activities (and related services) where productivity and wages tended to be higher. De-industrialization during the second half of the 20thvcentury led to a similar but more challenging situation. Rapid labor productivity growth in manufacturing

(and import competition) resulted in a loss of production jobs and a shift to employment in services, where wages and employment conditions were often inferior.

Today's technological trends – automation, the knowledge economy, digital technologies – are leading to a significant exacerbation of the problem. The productivity effects of these new technologies remain bottled in a limited number of sectors and metropolitan locations, generating relatively small numbers of good jobs, while the rest of the economy remains stagnant (Remes et al., 2018). AI and other new technologies seem to offer revolutionary breakthroughs, yet aggregate productivity growth remains sluggish. Part of the explanation is that the advanced techniques are not spreading sufficiently rapidly throughout the economy. The productivity gap between the best performing firms and the laggards has been increasing in most countries, and in services as well as manufacturing (Andrews et al., 2016; Akcigit and Ates, 2021).

The dualism exhibits itself in labor markets as well as productivity differences. Good firms produce good jobs – and possibly vice versa. Recent work by Criscuolo et al. (2020) covering 14 OECD countries show that around half of the rise in wage inequality since the 1990s is accounted for by differences in pay across firms for similar workers. In other words, earnings are determined not only by workers' skills and earning capacity but also by the characteristics and performance of the firms in which they are employed. Criscuolo et al. (2020) speculate that successful firms share their rents with workers. But these pay differentials may be also due to what Aghion et al. (2019) call "the innovation premium to soft skills." Aghion et al. (2019) find in UK data that more innovative firms pay higher wages to observationally similar workers, and that this is especially the case for low-skilled workers. They interpret this result as evidence of returns to certain soft skills – such as reliability of work, capacity for teamwork – that are complementary to innovative firms' assets. Workers with these soft skills get rewarded in R&D intensive firms even if their educational and other "hard" skills are at the lower end of the distribution (see also Mas et al, 2020, and Duhautois et al., 2020 on the French evidence).

This complementarity between good jobs and good firms provides yet another argument for policies targeting the production stage. Improving productivity in low-wage firms far from the frontier is required to increase the supply of good jobs. As Criscuolo et al. (2020) note, "worker-centered policies, such as education and training, may need to be complemented by *firm-centered policies* that promote productivity in low-wage firms to effectively address concerns around high inequality and low productivity growth" (emphasis added). If we want better employment prospects, we need to work not only on the training side of the equation but also with firms to upgrade their capabilities. There is a complementarity between active labor market policies targeting workers and industrial/innovation policies targeting firms.

When successful, this approach would enhance aggregate productivity growth as well. The most direct way to reduce the economy-wide productivity drag that technological dualism

induces is to facilitate a greater number of workers and firms to be absorbed into the more productive segments of the economy. If successful, the good jobs approach would help spread the productivity benefits of more advanced production techniques throughout wider segments of the economy. This would kill two birds with one stone: higher economic growth *and* better distribution. In other words, a production-stage based approach enlarges the overlap between the equity/inclusion agenda and the growth/productivity agenda.

Another way of looking at what we are proposing is to consider what it entails for existing policies. On the one hand, there is a wide range of industrial and innovation policies that France and other EU countries already pursue. These focus on advanced technologies, productivity at the frontier, and global competitiveness. While employment creation regularly features as one of the objectives of such policies, they are not crafted with good job considerations in mind – especially for those at the low and middle ranges of the skills distribution. Social policies and training/skills policies, on the other hand, are typically conducted independently from firms' investment and innovation decisions. They are not well integrated with the productive agenda of employers. We argue that these largely separate tracks have to merge to some extent. We need employment policies that look more like innovation and industrial policies, and industrial and innovation policies that look more like labor market policies. And trade policies have to explicitly take into account fairness concerns around the employment consequences of international trade and outsourcing.

We strongly emphasize that the production-stage policies we will discuss later in the report are certainly not a substitute for education, progressive taxation, or social protection policies. They would *complement* updated welfare state policies, especially with regard to education and progressive taxation which we will also discuss in some detail. They would target more directly the inequality and insecurity that arise in the course of production. They would ease the burden on overstretched social spending budgets. And in view of the limited public appetite for expanded transfers and more redistributive policies, they would open a valuable additional margin for policy.

We summarize the key elements of our approach in Table 3, using the policy matrix we discussed earlier. The rest of the report will elaborate on the specific policies included in the matrix, covering pre-production, production, and post-production stage policies in turn.

We conclude this overview by making one final comment about our approach in the report. When offering policy advice, economists like to stick to recommendations for which there is solid evidence showing they work in practice. Emphasizing "evidence-based policy" is often the responsible approach. But, by construction, it does entail a certain degree of policy conservatism. Policies for which we have good evidence are necessarily those that are already in place. A categorical and unflinching insistence on this principle would unnecessarily restrict policy innovation – engaging in new directions for policy with

unproven benefits but potential upsides in principle. When the challenges we face are ordinary and we already possess a large arsenal of proven policies to tackle them with, the conservative approach may not be too costly. But when the challenges are both significant and (as in the case of new technologies) novel, a certain boldness may not be out of place. This is the case for the challenges we face at present. We cannot know if new policies work without first appropriately trying and evaluating them.

Table 3 – Our approach: The good-jobs welfare state agenda

		At what stage of the economy does policy intervene?		
		Pre-production stage	**Production stage**	**Post-production stage**
Which income segment do we care about?	**Bottom incomes**	Enhanced education policies		
	Middle class	Enhanced education policies	• Employer-focused active labor market policies • Business incentives with good-jobs focus • Labor-friendly innovation policies • Trade policies that address fairness	Measures to increase productivity/monitoring of public expenditure
	Top incomes	Inheritance & gift taxation		• Reducing fiscal leakages • Broader, more effective taxation of capital & automatic exchange of info • EU tax coordination for high-income earners • Improved multinational firm taxation

Source: Authors

Our report reflects this tension between policy conservatism and policy innovation, without giving up one for the other. We will advance both recommendations that are based on good evidence and best-practice and those that are explicitly of a more experimental nature. Where we can, we will offer detailed and specific policy guidance. But we will not shy from proposing broad policy directions that are substantially new as well. In the latter areas, we shall emphasize that a lot of the policy detail will have to develop over time, relying on careful, strict, and appropriate monitoring and evaluation.

SECTION 3

PRE-PRODUCTION POLICIES

In this section, we outline our proposals for the two main pre-production policies: inheritance taxation and education policies.

1. Inheritance Taxation

A small source of revenues that is projected to increase

In principle, a tax on transfers of property between generations, either beneficiary-based (like the inheritance tax) or donor-based (like the estate tax in the U.S. and the UK) is an important type of tax to improve intergenerational mobility and to go some ways towards leveling the playing field between people from different backgrounds. Of course, even a well-functioning inheritance tax system is no magic bullet against wealth inequality, but it is an important tool in the arsenal. As in other countries, transfers of property are relatively concentrated, which is directly related to wealth concentration more generally. In recent years, they have also tended to occur at later ages of the recipients than before (see Appendix 2)[1]. In the current practice, inheritance taxes raise little revenues, but according to the OECD, these revenues can be expected to rise as private wealth and its concentration increase, even if countries put in place a relatively high tax-free allowance. In France, a study from France Stratégie (Dherbécourt, 2017b) predicts a boom in inheritances due to demographic factors and estimates that the share of property transfers (gifts and inheritances) in the disposable income of households will go from 19% today to more than 25% in 2050. Fiscal revenues from the gift and inheritance taxes in France have

[1] All the Appendices are gathered in a second volume, also available online.

been multiplied by five in the last four decades, reaching €12.5 billion in 2015 (going from 0.22% of GDP in 1980 to 0.56% in 2015).

A misunderstood tax

Across countries, the inheritance tax is typically both poorly understood and highly unpopular. In our *2020 Tax and Policy Survey*, we find that people tend to overestimate the tax rate that applies to inheritances – including by direct transfer to one's children, underestimate the exemption threshold, and show poor understanding of the fact that there is a progressive rate system in place (relative to the amount of the transfer) (see Appendix 2). In line with our survey results, a survey study from France Stratégie (Grégoire-Marchand, 2018) also finds that respondents tend to overestimate inheritance taxes. For instance, they believe that the tax rate for transfers between spouses is 22%, when those transfers are in fact tax exempt.

An unpopular tax

Inheritance taxation did not encounter much support in our sample. When asked whether an inheritance tax should exist at all only 31% of respondents said yes. In fact, only 25% of respondents support an increase on inheritance taxes for wealthy people. The above study from France Stratégie finds that the inheritance tax is among the least popular taxes and that support for it is waning with 12% more people today (87% of all respondents) relative to six years ago considering that inheritance taxes should decrease to allow parents to pass their wealth on to their children.

However, in line with our proposition below, 54% of respondents either agree or strongly agree with the idea that inheritance taxes should be made more progressive. The lack of support for the estate tax could be stemming in part from misconceptions, in part from disagreement with what enters its base (i.e., what is actually taxed), and in part from fairness concerns, to which we turn now.

Thorny ethical issues related to property transfer taxes

The unpopularity of taxes on transfer of property in many countries, including France, rests in part on ethical considerations. Research has found that people consider transfer taxes as "double taxes" and perceive it as unfair that the income transmitted has already been taxed (Stantcheva, 2020). People are also deeply worried about the unfairness of people facing liquidity issues, namely having to sell the family business or the family home in order to pay the tax.

There are fundamentally some quite thorny ethical issues related to transfer of property taxes. When thinking of the estate tax, the difficulty is that from the point of view of the parents, being able to pass on wealth to their children seems relatively fair, as it seems fair

to allow people to purchase other types of goods with their money. However, from the point of view of the children, many people would feel it is unfair that children receive very different wealth transfers from their parents through no fault or merit of their own. This is an "equality of opportunity" argument that finds a lot of support, but directly conflicts with the fairness concerns from the perspective of the parents. How do French citizens trade off these thorny ethical issues?

In our sample, close to 80% of respondents find it unfair that the estate of parents who have "worked hard" in order to save money for their children is subject to inheritance tax. This share is reduced to 70% (still a very large number) if respondents are asked to consider parents who did not necessarily work hard themselves but have inherited wealth from their own parents. On the other hand, from the perspective of heirs, 85% of respondents believe it is not fair that children born in wealthy families have access to better amenities than children from less wealthy families. When faced with the explicit trade-off, 52% of respondents on balance believe that it is better to let wealthy parents transmit all their estate tax-free to their children, even if that means that some children will start with very unequal opportunities in life, than to tax the estate of parents who have worked and saved for their children's sake so that the playing field for children from different backgrounds can be levelled.

Issues with the current system

The major issue with the current inheritance tax system is that it is myopic: transfers that date from more than 15 years ago are "forgotten" by the tax authority. Furthermore, there is no accounting for the fact that the same person can receive transfers from more than one person. As a result, people can end up paying very different tax rates on the same total amount received or, conversely, identical tax rates on very different total receipts. An example of the first case would be individual A who receives €200,000 from both their father and their mother and individual B who receives €200,000 only from their mother and nothing from their father: both will pay the same tax rate. On the other hand, individual C who receives €400,000 from only their father will pay a higher tax rate than individual A, despite receiving the same total amount. In addition, current exemptions that are given for inter-vivo transfers, such as the allowance to transmit wealth tax-free that renews every fixed interval of years, are likely to mostly benefit wealthy households. Indeed, for those relatively high thresholds to be binding every few years, household wealth needs to be significant. They also require advance planning that implies that a household is sufficiently wealthy to have the need to optimize such transfers. This is why we need to be careful that the wish to make transfers happen earlier in the life of heirs by itself should not lead to regressivity. More generally, because the tax system is myopic and not beneficiary-based, it is very difficult to make it truly progressive and to gear exemption levels towards lower

wealth and middle-class families. Finally, there are loopholes in the inheritance tax base that provide opportunities to shelter wealth from the tax authorities.

A major reform direction

It is important to keep in mind that large and significant inheritances are very concentrated. Many other issues such as the age at which transfers are received are at the moment secondary to this issue (which may change if in the future transfers become less concentrated). Any adopted reform needs to be careful not to introduce unintended regressivity (e.g., giving exemptions or preferential rates for transfer of property to younger heirs, which in the currently concentrated system is likely to simply benefit higher-wealth families).

A major reform that is worth thinking about and that we recommend evaluating further would involve restructuring the taxation of transfers to make it beneficiary-based and progressive in the cumulative amount received by each beneficiary. Thus, instead of taxing transfers at each death, the new system would tax the total transfers (gifts, inheritances, from all sources) received by the heir, so that those who receive more will be taxed at higher rates. It would still be possible to have preferential and reduced rates based on the relation between the donor and the heir. In addition, it is possible to take into account the age at which transfers are received. This tax needs to be very broad-based, covering all or most assets.

Much more quantitative evaluation is needed to estimate the effects of such a reform and determine the right parameters. So far, such a type of tax has only been implemented in Ireland. The Irish “Capital acquisitions tax” is a tax on the total of all the gifts or inheritances received throughout lifetime. The rate there is 33%, with a tax-free threshold of €335,000 for transfers from parents to children. There is no conclusive evaluation of it, as the effects of that particular tax are hard to disentangle from all the other differences between various countries (see Nolan et al., 2020, and Appendix 2).

If such a reform is indeed considered and carefully studied, we provide two further pieces of advice. First, there is no need to penalize middle-class households, and the exemption threshold on total donations could start relatively high. A move to a beneficiary-based progressive system would allow to strengthen overall progressivity. High total transfers could be taxed at increasing rates, while still allowing many middle-class parents with more modest wealth to pass on their estates tax-free to their children. This should foster political support as it would reduce the perception that it is a double tax on the savings of hard-working parents who wish to help their children – which is one of the main perceptions that make the current tax so unpopular. It can also go some way towards addressing the fundamental ethical dilemma citizens feel between being fair to parents versus children outlined above based on the survey evidence. It is worth noting that such a progressivity

is much more challenging to achieve if the system continues to be myopic as outlined above. Any increase in the exemption thresholds (for gifts or inheritances) is bound to strongly benefit large estates.

Second, exemptions from the tax base need to be strongly limited (i.e., the inheritance and gifts tax bases need to be as broad as possible). Limiting exemptions can also be a goal even in a more partial reform approach outlined next. But in a beneficiary-based progressive system, necessary exemptions could be targeted properly towards lower-wealth families. To the contrary, exemptions that are given for specific assets in the current system that is myopic and are capped at some amount of transfer (rather than of lifetime wealth received) benefit higher-wealth households to the same degree for every euro of gift or inheritance.

Challenges for such a reform could be the higher complexity of such a scheme relative to a myopic one, as well as the possibility of tax-induced mobility. On the latter, there is little empirical evidence on whether French taxpayers move or expatriate in order to avoid inheritance taxes, and, hence, it is not possible to know whether these effects are expected to be large or small. The complexity and tax-induced mobility issues would have to be carefully considered and perhaps regulated. Before we can recommend such a new and quite different system, more quantitative work is needed in order to estimate properly its costs and benefits.

Possible improvements today

Even without a major reform, there are several possible improvements that can be made to the existent system. First, there are too many loopholes in the inheritance tax as implemented today. One of the most vivid ones is the exemption of "*assurances-vie*" capped at 150,000 and the generally preferential rates that apply to it even above that threshold. The preferential rate becomes particularly attractive for large inheritances and when the inheritance is not in direct line (see Appendix 2). This exemption and the underlying reasoning for subsidizing this type of asset over others (in particular other safer, long-term investments) should be reconsidered. Current estimates suggest that revenues would be 20% higher without this exemption (France Stratégie, 2017b). This is a politically contentious issue as the size of the life insurance sector – in part propped up thanks to this tax advantage – was worth €1.8 billion in December 2019 (before the Covid-19 crisis).

There is currently also a large exemption for passing on family businesses. While this may be considered fair by people for modest-sized businesses, it is more dubious when it comes to the very large family businesses held by wealthy families in France that benefit from these exemptions. It makes sense to impose a cap on this exemption so that it is truly limited to small or medium-sized businesses that may be more liquidity constrained. On the liquidity issue and how high the exemption cap should be, two things are worth considering.

First, if the tax base for inheritances is broad enough in a reformed system, the tax rate itself need not be high, especially at the levels relevant for small family businesses, so liquidity issues may not be as important. Second, one can imagine the government or the *Banque publique d'investissement* (BPI, public investment bank) to provide credit to bridge the liquidity issues.

A final avenue that could be explored is that of using the revenues from the inheritance tax specifically to improve equality of opportunity for children from different backgrounds. This could be done in at least two ways. First, revenues could be used to finance expanded investments in early childhood and education. Second, they could be used towards a universal grant to every child (e.g., at age 18), a suggestion made by Atkinson (2015) and taken up again by France Stratégie (Dherbécourt, 2017b). The rationale for this proposition is to improve the wealth distribution not only by taxing the transfers of large amounts of wealth, but also by directly helping children from lower income families start building wealth. At the moment, this is at the conceptual stage only, and an actual implementation requires more work on the optimal level, financing, and conditions of use of such a grant.

2. Education Policy

2.1. Introduction

Education is the major first-order policy for social mobility: a well-designed education system starting from the earliest ages can reduce the extent to which the inequalities of one generation carry over to the next generation. And indeed, despite a lower-than-average income inequality among OECD countries, France also has relatively low social mobility ("A Broken Social Elevator? How to Promote Social Mobility," OECD 2018).[1]

Education remains very important for making it in the labor market, highlighting the need to continue efforts to ensure access to high-quality education for all children in France. Youth unemployment is high in France, as it is in other countries. Against this backdrop, a college degree is correlated with better prospects, although it is not a guarantee for success. In France, 75% of those aged 25-34 with a high-school degree are employed, and 87% of those with a college degree are (the corresponding numbers for the OECD average are 78% and 85%). A college degree also confers an earnings advantage (the "college premium") which is 46% for those aged 25-64 with any college degree (as compared to 54% for the OECD average). A bachelor-equivalent degree grants a 36%

[1] Dherbécourt in "Social mobility in France: what do we really know?" (France Stratégie, 2020e) shows that although France does not rank among countries with the best performance in terms social mobility, there is no clear consensus on its international position.

(OECD average 43%) earnings premium, while a master program grants an 84% one (OECD average 89%), according to the OECD report *Education at a Glance 2020*.

In our survey, around 70% of our sample believes that inequality in opportunity is a big issue and that children from different backgrounds receive an education of very different quality than children from good backgrounds and that the latter have much better chances of getting a good job, even conditional on similar education levels.

The French education landscape is one of excellent aspects co-existing with less-than-stellar ones. France has a very high formal schooling rate, which is a great achievement. The system is excellent for some students, who perform very well and go on to make great contributions to science, business, and society. Yet, it is a very unequal system. Success in school is too often still highly linked to family background, and opportunities remain very unequal. For instance, while average PISA (Programme for International Student Assessment) scores for 15-year-olds in France are slightly above the average of the OECD, five times more students from low socio-economic backgrounds do not meet the minimal level for reading. They are also overrepresented in vocational training rather than in the academic training tracks in high school: 87% of those in vocational training have parents without college education. The same is true of only 51% of students in the general academic tracks ("Perspectives des politiques de l'éducation," OECD 2020). The influence of families' socio-economic background on educational attainments as measured by PISA scores seems very pronounced in France (see Figure 2 in Appendix 5).

The policy issues in education we address in this report are not new. In fact, they have been identified for a long time and a lot of progress has been made in recent years in these directions, with many initiatives. They center around providing better access to schooling from early ages on for low socio-economic background children, improving outcomes for schools in difficult and disadvantaged areas, rethinking and making more attractive the profession of teachers, giving more responsibilities and autonomy to school administrations, boosting vocational and dual vocational-academic tracks, and improving the transition from school to the labor market. Giving equal opportunities for access to high quality education to all students and ensuring their smooth transition into the labor market is and should remain the goal of the French education system.

2.2. Financing education: Reorienting spending towards disadvantaged schools and students

It is worth noting from the outset that France spends more on education overall than the average OECD country. Spending per student per year ($11,364) is 8% above the average of the OECD. A large share of that spending is public spending; private spending on education in France is below the OECD average and comes mostly from (relatively low)

tuition and fees. Yet, spending is concentrated at the secondary and higher education levels and is 10% below average for primary schooling (*Education Policy Outlook*, OECD 2020).

There are large geographical variations in this spending. To take but one example, in a recent survey (TALIS, 2018), 2 out of 5 school directors in France complained of insufficient internet access in school, which hampers the school's capacity to provide quality education. Close to 60% also lament a lack of computer hardware and software. These gaps in resources appear mostly in disadvantaged zones.

A push, thus, has to be made to direct more funds towards the worse-off schools and disadvantaged zones, where the marginal value of public spending could be highest.[1] Spending should also be rebalanced between the secondary and the primary levels. In fact, this has been the intention of the legislation in the "*loi pour la refondation de l'école de la République*" (2013) and the "*loi pour une école de la confiance*" (2019).

It is worth noting, however, that in our survey, despite respondents' concerns with unequal access to good education, only 37% of them are in favor of directing more funds to disadvantaged zones. This suggests a wish for equity in inputs that may stand in conflict with the desire to provide more equal opportunities. Perhaps support for more investment in difficult areas and for lower-socio economic background children could be generated by showing to people the gaps in achievements and the gaps in quality of education for these students (which could be reduced with more public investment). To the contrary, respondents are in favor of rebalancing spending towards primary schools (as well as universities).

2.3. Pre-K schooling

Rates of enrollment of pre-elementary schooling in France are among the highest in the world, with essentially 100% of children between 3 and 6 enrolled in "*maternelles*" which are compulsory after age 3. There are larger gaps in enrollment at the level of the "*crèches*" for children below 3 years of age. Perhaps because the *crèches* are operated by localities ("*communes*"), the availability of slots is very disparate in different areas. It has also been reported that parents from low socio-economic backgrounds sometimes lack trust in these institutions. The education of children younger than three is thus dealt with by different authorities than for children older than three years, and there is sometimes a lack of coordination. Given how critical the ages from 0 to 6 are, coordination would have high value-added. Any lag that occurs at these young ages gets compounded at later ages.

[1] The third Chapter of this report, dedicated to demographic change, considers the problem of school segregation and the disadvantaged access to good schooling for children from minority or immigrant families.

The class size in France for pre-K education remains higher than other countries. This is an issue, as a higher educator/children ratio for those early ages has been shown to be a predictor of the quality of education (see Appendix 5 and the OECD report *Education at a Glance 2020*). In France, the number of children per educator is 23, while the OECD average is 14. Yet, France also makes more use of "assistants" who are civil servants specialized in early education, which brings the ratio down to 16 children per *adult* (relative to the average of 11 for the OECD), according to the report *Education at a Glance 2020*.

A major challenge for the education of below 6 years old is the shortage of qualified educators and the heterogenous educators' training for these institutions. Thus, training educators for this age group has been and should continue to be a priority. Involving parents more by fostering communication between these young age schools and families also seems important for fostering trust.

2.4. Elementary and secondary schooling

School administrations

A first challenge encountered by French primary and secondary schools is school administration. Primary schools in France are often run by teachers, who are sometimes still teaching part-time ("school directors"). This system is different for secondary education, where it is civil servants, called "establishment directors," who are in charge of school administration. Such managerial positions require a distinct set of skills that is not easily acquired as a former teacher. The OECD points out that there is too little training on actual management of schools and pedagogy for establishment directors. Within OECD countries, France has the lowest share of establishment directors who have followed trainings on teaching methods or other pedagogical tools (TALIS, 2018).

The autonomy and roles of school directors and establishment directors are limited, even though establishment directors have a higher status. School directors have very little autonomy and less responsibilities. This is reflected in a very large pay gap between the school directors and establishment directors (the largest in the OECD). There needs to be a proper status, with responsibilities and more autonomy for school directors in elementary schools. The example of Finland covered in Appendix 5 can be particularly informative here.

Compensating for unequal and "missing" family inputs

A second challenge is that children from different backgrounds are not benefitting to the same extent from a given schooling input due to "missing family inputs." Good initiatives try to level the playing field by substituting for what may be missing due to children's family backgrounds. Such initiatives should be expanded and fostered. In France, since 2017,

the program "*Devoirs faits*" ("Doing Homework") offers children a time to do homework with supervision and help, in their own school. It is free and available based on students' needs, so as to reduce inequalities in the help that children can expect to get from their families at home. Such inputs could be expanded beyond homework to cover other training and skills, as well as extracurricular activities that children from different backgrounds have unequal access to.

In addition, unequal access to the internet, to computers, and to the learnings opportunities they offer is still a big issue. Schools could thus also do more to provide access to quiet study spaces, with computers and internet for children who lack such access at home. Unfortunately, this may only be implemented at scale post-Covid-19, even though it is particularly urgently needed now.

There are interesting good practices from other countries, too. Some explicitly try to leverage the internet to equalize access to educational inputs. The "Cyber Home Learning System" is a widely used K12 self-study platform launched by the South Korean government in the mid-2000's. The goal is to reduce inequalities in access to extra-curricular education between urban students and students from remote regions and/or low-income backgrounds, in the context of South Korea's highly competitive education system. For such a system to be productive, for example, in France, it will require inputs in terms of hardware (computers) and internet connections. The latter could be provided in schools too, as just outlined above.

Also leveraging online learning, the *Cognitive Tutor* program in the United States is a way of teaching math topics (e.g., algebra or geometry), in which a personalized tutoring software complements a textbook. Half a million students have used it in total so far, and studies have found significantly positive impacts on algebra learning.

Finally, the UK's *Shireland Learning Gateway* is a portal developed by Shireland Collegiate Academy in cooperation with Microsoft to allow students and parents, many of which are from low socio-economic backgrounds, to track student performance and behavior, improve communication with the school, and access extra-curricular materials. To improve access, this portal is also available in community settings (such as libraries) in the spirit of our recommendation above.

2.5. Teachers: Boosting training, lifelong learning, and pay

Teacher training

OECD studies point out that, as compared to other OECD countries, French teachers enter their professions with high formal education degrees but less well prepared on the pedagogical aspects and receive much less training related to in-class pedagogy (TALIS,

2018). There have also been gaps pointed out in training to use Information and Computer Technologies (ICT).

The most recent reforms in France have been explicitly aimed at improving teachers' training (both their initial education and their lifelong training). The newly renamed "*Instituts nationaux supérieurs du professorat et de l'éducation*" (INSPÉ) have the mission of harmonizing teacher training. "*Pré-professionalisation*" initiatives have been launched to help future teachers get exposure to schools (with financial support), before taking their teachers' exams. Lifelong training became required for all teachers, and young teachers can receive additional support following graduation to help them adapt to the unique characteristics of the school and the area they are assigned to.

Despite these very positive developments, French teachers currently themselves declare engaging much less in "high-impact" training activities, such as peer-to-peer coaching, than other countries (TALIS, 2018). They also say they feel less socially valued than teachers in other countries. An interesting example on this front comes from the Czech Republic's "Repository of Digital Learning Objects" which is a peer-to-peer portal for teachers launched by the Ministry of Education. Teachers can post learning materials to help other teachers and share best practices with one another.

A final important aspect of teacher training in France will be knowledge of digital tools. The Covid-19 pandemic has starkly shown how important digital technologies can be for teaching. Recent reforms in 2019 in France, geared towards teaching more IT skills in secondary education, will also require that teachers are helped to become proficient in new technologies.

Teacher salaries and career progression

Teacher salaries are an issue, as in many other countries. This is reflected in the fact that average salaries for teachers with 10-15 years of experience is around 18% lower than the OECD average. This gap is largest for mid-career teachers, due to a low growth in salary for young teachers with little experience, according to a recent OECD study (*Education at a Glance 2020*).

An issue for teachers, especially young ones without much experience, is the assignment to difficult zones and schools in disadvantaged areas. France has recently tried adding a bonus, but there needs to be more work into studying the adequate compensation and other support for teachers working in difficult areas. An example to study may be South Korea, where going to teach in more difficult areas is highly valued and incentivized. This is hopefully a situation that could at least partially improve organically as there are more investments made in difficult zones as advocated above.

Involving teachers in policy design

Serious, regular, and detailed evaluations of those recent reforms on the teachers' side and in education more generally in France will be very important. Gaining insights both at a macroscopic level (by gathering data) and microscopic level (by listening to teachers' feedback and experiences) would allow education policy makers in France to be aware of what worked and what could be improved in the future. Teachers need to be fundamentally involved in policy design and feedback, in line with the communication we advocate for in Section 6.

2.6. Transition from school to work

Providing a smooth school-to-work transition is an essential part of education policy and for the functioning of labor markets. Being jobless in one's early career can have very detrimental and long-lasting effects on both career and earnings prospects. France is plagued by a severe youth unemployment problem (see Section 1). We see two important issues to address in regard to a better transition into the labor market: improving vocational education and training and providing better guidance to students on their choice of higher education.

Vocational education and training

Vocational training can be extremely beneficial. But in France it is still considered to be a second-tier track for those who cannot succeed on the academic track. There are fortunately several reforms underway to restore the luster of the vocational tracks and to improve their quality. This is commendable and should continue. In particular, there is an effort to reorient vocational tracks towards the current needs of the labor market (e.g., personal and home care services, sustainable development) and also in high-tech areas such as digital technologies.

But dual tracks that combine work and study programs are still scarce. Only 1 out of 4 students in vocational training is also working at the same time (*Education at a Glance 2020*). Yet, such tracks have been shown to be extremely successful for inserting young people into the labor market in other countries, such as Germany. There are new initiatives in France though to foster the cooperation between regional administrations, businesses, and school campuses in order to create "excellence campuses" anchored in each *région* and locality. A good practice and example would be the Netherland's *Katapult* system that is a network of public-private partnerships which group businesses, R&D centers, and schools to train (mostly) Vocational Education and Training (VET) students and share innovative practices. In our survey, around 60% of respondents are favorable to more dual training programs.

Orientation and guidance for choosing a higher education track

A major challenge for students is to choose a proper higher education track. There still are a significant share of drop-outs and delays in degree completion in France at the higher education level. A new initiative called "*Parcours Sup*" goes in the right direction and should be expanded. It is an online platform to provide information on possible higher education paths. Degrees and study tracks are presented in detail in terms of content, skill requirements, and academic background needed. One way in which this good initiative can be improved is with additional information on labor market outcomes for these tracks, as well as with feedback and input from current and former students' experiences.

There is also not much current support and guidance for students who would prefer to start work after high school. An interesting initiative here is Japan's "*Hello Work for New Graduates*." It is a partnership between the Japanese Public Employment Service and high schools, aimed at improving job placements of young Japanese – including high-school students. Students who express the wish to find a job straight out of high school receive help and advice from teachers-counsellors and from the Japanese Public Employment Service at each stage of the job search. The program is extremely successful, with a job placement rate of 98% (70% at 6 months before graduation), and no evidence of job instability down the road, according to the report *Investing in Youth: Japan* from OECD (2017).

Another interesting initiative to help high-school students choose their orientation is the "graduate tracking" program launched in the Netherlands in 2018. It is a partnership between the Dutch Public Employment Services, a research institute from Amsterdam University, and the Central Bureau of Statistics. As part of the project, data about more than 100,000 young professionals' career trajectories is analyzed (using variables such as time required to find a job, gross hourly wage, annual income, share of people who are permanent employees) and linked to the degree chosen by those professionals. The data is made available to prospective students at the time they are choosing their field of higher education study, so they can make a well-informed decision on employment outcome of each academic track. Such a program could potentially increase labor market transparency and better match the supply and demand for young people. It could both reduce youth unemployment and improve opportunities for recent graduates.

2.7. A push for coherent policy evaluations

The evaluation of establishments and schools is compulsory in France, but it takes different forms based on the geographical area. The tradition of evaluation is a positive aspect to be leveraged and expanded. Indeed, relative to the OECD average, school evaluations are actually less frequent. The system would also benefit from a better coordination between the different evaluation modes and actors. Teachers should provide input on how they think

evaluations should be done to be most useful. There should be more sharing of information between schools and at a national level to identify common problems, discuss solutions, and come up with best practices. It could also be beneficial to solicit some feedback from students themselves, since they have concerns and insights that would be valuable and important to take into account.

More generally, education is an area in which impact evaluation is done in many other countries. For instance, Singapore's "Future Schools" features a network of a dozen pilot schools that experimented incorporating information and computer technology (ICT) in K12 education, in partnership with researchers and private ICT providers.

Education policy is also an area where it is critical to pay attention to the actors on the ground, to listen to them, and to generate an iterative feedback loop with policymakers (very much in the spirit of both Sections 5 and 6 below). Policy design and evaluation will require giving platforms to students, teachers, and school or establishment directors and administrations to express concerns, ideas, and provide feedback. Ideally, these inputs should be diffused at a national level to contribute to the common knowledge and best practice pool.

The French Ministry of Education is currently holding a *Grenelle de l'Éducation*, to discuss various topics such as "*revalorisation, formation, parcours professionnels, numérique éducatif, RH de proximité, santé au travail*."[1] It will be interesting to see whether the measures that arise out of this initiative echo some of the ones we described here.[2]

[1] See the site of the French Ministry of Education.

[2] This report was drafted before the *Grenelle de l'Éducation* is held.

SECTION 4

PRODUCTION-STAGE POLICIES

1. Employer-Focused Active Labor Market Policies

In this section, we first review briefly active labor market policies and their effectiveness. We then hone in on examples of successful employer-focused training programs, in the U.S. and in Europe. We then comment on French policies and propose a new direction that entails greater collaboration and cooperation with employers.[1]

1.1. Active labor market policies

Active labor market policies are defined as "all social expenditure (other than education) which is aimed at the improvement of the beneficiaries' prospect of finding gainful employment or to otherwise increase their earnings capacity" (EU – Factsheet on ALMPs, note 1). There is a wide array of such policies in Europe. They include skills training and certification, employment subsidies, public sector work programs, and assistance with job search and matching with employers. Many of the services are delivered through Public Employment Services (PES). Participation in such programs is typically a condition for receiving unemployment insurance benefits. As Table 4 shows, ALMPs cost less than one percentage point of GDP and cover around 20-40 percent of people looking for employment.

[1] We relegate a discussion of specific labor market regulations outside the scope of this section to Appendix 6.

Table 4 – Active Labor Market Policies in Europe

	Austria	Germany	France	Italy	Netherlands	Poland	Sweden
Passive measures expenditure (% GDP)	**1,41**	**0,75**	**1,97**	**1,29**	**1,51**	**0,20**	**0,53**
Active measures expenditure (% GDP)	**0,59**	**0,26**	**0,64**	**0,41**	**0,42**	**0,34**	**0,97**
Training, excluding apprenticeship	*0,38*	*0,17*	*0,24*	*0,06*	*0,04*	*0,01*	*0,13*
Support for apprenticeship	*0,06*	*0,01*	*0,04*	*0,11*	*0,03*		
Recruitment incentives	*0,07*	*0,03*	*0,04*	*0,23*	*0,04*	*0,10*	*0,48*
Sheltered and supported employment	*0,02*		*0,07*		*0,28*	*0,16*	*0,22*
Rehabilitation		*0,02*	*0,01*				*0,02*
Direct job creation	*0,06*	*0,01*	*0,20*		*0,01*	*0,02*	
Start-up incentives	*0,01*	*0,01*	*0,02*			*0,04*	*0,12*
Participation in ALMP per 100 persons wanting to work (2017)	**25,7**	**21,5**	**40,5**	**35,4**	**34,6**	**28,5**	**41,3**
Training	*17,6*	*14,6*	*12,2*	*9,0*	*13,9*	*0,2*	*6,1*
Sheltered employment/ Rehabilitation	*2,6*	*0,7*	*3,7*	*0,4*	*12,8*	*17,3*	*9,9*
Employment incentives	*3,7*	*2,7*	*11,8*	*25,8*	*7,9*	*8,0*	*25,0*
Direct job creation	*1,3*	*2,8*	*8,0*	*0,2*	*0,0*	*1,2*	*0,0*
Start-up incentives	*0,5*	*0,7*	*4,7*	*0,0*	*0,0*	*1,8*	*0,3*

Source: OECD and Eurostat via France Stratégie

The evidence on the impacts of ALMPs has been mixed. Multiple surveys and meta-analyses have found that training programs, particularly for youth, produce uncertain benefits (Heckman et al., 1999; Kluve and Schmidt, 2002; Kluve, 2010; Card et al., 2010; Caliendo and Schmidl, 2016). Employment subsidies and public work programs are not particularly effective either.

In the words of a recent survey: “Overall, the findings with respect to employment outcomes [of ALMPs] are only partly promising. While job search assistance (with and without monitoring) results in overwhelmingly positive effects, we find more mixed effects for training and wage subsidies, whereas the effects for public work programs are clearly negative.” (Caliendo and Schmidl, 2016). In other words, the programs on which the bulk of ALMP resources are spent have a weak track record.

The good news is that a particular approach to skills training, called sectoral training programs in the U.S., has been yielding much more encouraging results.[1] These programs are different from general training courses in that they are oriented towards the need of particular employers and entail greater cooperation with them. Exemplified by Project Quest in San Antonio, Texas, they are typically managed by non-governmental groups such as community organizations or private agencies. They usually entail training in soft skills as well for specific occupations or industry, partnerships with community colleges and employers, follow-up services in addition to job placement, and a dual-customer approach that involves employers as well as job seekers (MDRC, 2016; MIT, 2019, p. 38).

Table 5 summarizes the evidence on some of the successful sectoral training programs in the U.S. Project Quest is the oldest of these and focuses on healthcare and IT. It has been evaluated repeatedly through randomized methods and has been shown to produce significant and sustained gains for participants from the earliest evaluations onwards. Increased earnings produced by these programs are of the order of 20 percent and compare very favorably to program costs – annual gains of $3,500-$6,300 versus cost per participant in the range of $5,000-$10,000.

Table 5 – Sectoral Training Programs

	Project Quest	Per Scholas	Madison Strategies Group	Jewish Vocational Services	Wisconsin Regional Training Partnership
Location	San Antonio, TX	Bronx, NY	Tulsa, OK	Boston, MA	Milwaukee, WI
Target sector	Healthcare; business services/IT	Information technology	Transportation; manufacturing	Healthcare	Construction; manufacturing; healthcare
Target population	Low-income adult population	Young males, predominantly foreign born	Low income-workers, mostly male	Refugees; immigrants; welfare recipients	African American youths
Evaluation results	Year 9 earnings up by $5,490 (20%)	Year 3 earnings up by $4,829 (27%)	Year 3 earnings up by $3,603 for the late cohort, w/ fading effects for earlier cohorts	Year 2 earnings up by 21%	Earnings up by $6,255 (24%) over 24 months

Sources: Maguire et al. (2010), Roder and Elliott (2019), Schaberg (2017)

[1] We note in passing the view that preschool and early childhood interventions are systematically more cost-effective than adult interventions later in life, including workforce training programs. Recent evidence has thrown this conclusion in doubt: there does not seem to be a clear relationship between cost effectiveness and the age at which social programs are targeted (see Rea and Burton, 2020, and Gellman, 2020, "Heckman curve update update," August 12).

As we discuss below, there are some initiatives in Europe that are similar to these sectoral training programs. But there is much more that could be done to ensure that ALMPs connect more directly with employers. We shall outline an approach along these lines below.

1.2. How sectoral training programs succeed

In Nicholas Mathieu's book on a fictional French community during the 1990's ravaged by deindustrialization and job losses, a young unemployed man of Moroccan descent shows up at the local employment office.[1] He has an appointment with the counselor who has been assigned to him, a young woman with a degree in employment law. The woman scrutinizes his resume, asking questions about his hobbies, travel, and computer skills. The youngster gets increasingly frustrated:

> "But what about the job?" said Hacine. "Do you have a thing or not?"
>
> "What do you mean?"
>
> "I don't know, my dad told me to come to City Hall. He said you had jobs."
>
> "Oh no, not at all. Your father came to the mayor's office, but I don't know what they told him. We just do orientation here. We help people get back into the workforce."
>
> "So there's no job, actually."
>
> "There must have been a misunderstanding. Our role is to help people put themselves across well, regain their self-confidence. We help them write their resumes and get training. We can also do coaching."

Later, as Hacine leaves the office, the woman goes out with him for a smoke. Out on the sidewalk, she suddenly turns to him:

> "I forgot to ask. Do you give high fives?"
>
> At first, Hacine didn't understand. "You know," she said. "This sort of thing." She was holding her palm out, so he was forced to slap it.
>
> "Because I met some employers the other day, they were super put off by that. They have young people who high-five people at work, with everybody. It just doesn't look good, see?"

The young jobseeker wonders if the counselor is making fun of him. Apparently not. That is the extent of advice he will receive to become more employable.

[1] Mathieu, N. (2018), *And Their Children After Them*, Translated by William Rodarmor. Arles: Actes Sud, pp. 48-49.

It's a pithy story that nicely captures not just the distance between the youth and the counselor but also the gap between the counselor and employers. This is not an uncommon situation with employment services as they traditionally operate. The distinctive feature of successful sectoral training programs, on the other hand, is that they establish strong links with employers, not only to understand their needs but potentially also to shape them. As one review puts it,

> "a training provider that trains in a specific field but does not have strong relationships with employers or industry associations in that field would not be considered a sectoral provider under this definition. To qualify as a sector program, an initiative must bring together multiple employers in a given field to collaborate on developing a qualified workforce. Many training programs focus more on the participants and work with employers only during the job placement phase. A sector program works with employers at every stage of programming and often invites employers on-site for mock interviews, to consult about curriculum design, or even to provide hands-on training." (MDRC, 2016, p. 2)

Sectoral employment programs target specific industries or occupations where they see the potential of local employment creation. For example, Project Quest, Per Scholas, and WTRP targeted healthcare, information technology, and construction, respectively. Program staff work closely with employers, and the firms themselves may serve on the programs' boards. Training courses are designed in close association with prospective employers. Specific courses may be added or removed depending on feedback from employers. Strong links with labor unions and local governments can help too, as these provide additional vehicles through which workers can be placed.[1]

As the relationship develops, employers start to see these programs as an important asset. Since firms benefit from the training, they are willing to cooperate with the program and sometimes even adjust their hiring practices. Rademacher et al. (2001) report that "a growing number of San Antonio employers think of QUEST as a valuable extension of their human resource capabilities" with the result that in some cases "QUEST's occupational

[1] A study of the Wisconsin Regional Training Partnership (WRTP) reports: "[G]etting a job in Milwaukee's construction industry requires a specific understanding of the skills and aptitudes needed for jobs in the various building trades, their individual hiring processes and their relationships with key actors in the industry. WRTP's strong union and industry networks meant that employers often notified the organization about upcoming hiring, and staff were able to respond by sending appropriate candidates. Staff could also walk participants through the different union processes so that they knew how to get their name on a hiring list, register for an exam or do whatever might be needed for a particular trade. In addition, major publicly funded construction projects often include employment goals that encourage local hiring or greater diversity within the sector. With its connections to the community, WRTP was able to help employers meet such goals" (Maguire et al. 2010, p. 49).

analysis has helped employers restructure positions to make them more attractive to local workers."

For example, a company had difficulty filling its openings for qualified electrician helpers. Project Quest not only collaborated with the company to design a customized training course, it also convinced the firm to modify its hiring criteria so as to enlarge the pool of prospective employees.[1] In a second example, a major medical employer asked Project Quest to train medical records clerks but was offering wages below Quest's standard for a "living wage." Project Quest staff worked with the employer to enhance the positions with added responsibilities so that "the potential employee would be more productive and thus earn a higher wage" (Rademacher et al., 2001, p. 37). Eventually, the firm chose to combine two separate functions into a higher-paying job. These are illustrative of how increased trust between employers and training agencies can pay off in the form of higher productivity for the firm as well as increased labor market opportunities for job seekers. Training partnerships with firms can not only enable job seekers to get better jobs, they can also help firms become more productive through better workers.

Conversely, when links with employers do not develop, sectoral employment programs tend not to work as well. One evaluation has found that the worse performing sectoral training programs were the ones that were least employer-focused (MDRC, 2016). The proactive approach with employers requires an explicit reorientation, and traditional training programs may have difficulties in building the requisite bureaucratic capacity and relationships. Or employment opportunities may evaporate when a targeted sector hits a rough patch.[2]

In addition to the close connection to employers, there are other features of successful sectoral training programs worth noting. First, screening does play a role to ensure the career-readiness of prospective participants. Second, training is customized not only to employers' preferences but also to participants' needs. For example, participants who

[1] "Bexar required applicants to have a 12th-grade reading level. QUEST staff inquired about the true reading level needed – do entry-level employees need to be able to read technical documents, or do they need to be able to read the newspaper? Through this line of questioning, QUEST staff members were able to determine that a reading comprehension level of ninth grade or better would be sufficient for the job, and convinced Bexar to alter its requirements accordingly. Similarly, QUEST showed Bexar how requiring participants to have their own cars was an unnecessary barrier for entry-level employees, and this requirement was dropped." (Rademacher et al., 2001, pp. 36-37).

[2] For example, "the St. Nicks Alliance WorkAdvance program confronted numerous difficulties in adapting its more traditional vocational training program to the WorkAdvance model, which may explain why impacts have not emerged, at least through this report's follow-up period. St. Nicks Alliance is a highly experienced community-based multiservice provider with a relatively small workforce division. The WorkAdvance program at St. Nicks Alliance experienced a collapse in the demand for environmental remediation work early in the program period and faced challenges in responding to these changes. A more effective response would have required a more proactive approach with employers than St. Nicks had previously used" (MDRC, 2016, ES-14).

require childcare or specific kinds of remedial education receive assistance with those. Third, organizational capacity, including capacity to learn and adjust, are important. Finally, as the studies summarized in Table 5 indicate, these programs exhibit a commitment to rigorous evaluation of results (Maguire et al., 2010; Roder and Elliott, 2018, 2019).

1.3. European experiments

Public Employment Services (PES) are the closest European analogue to the entities just discussed managing sectoral training programs. They are the central agency that administer ALMPs. PES are responsible for providing a wide variety of services to job seekers, including counselling, information, assessment of skills and qualifications, job placement, and matching with employers. But there are large differences as well. First, unlike organizations such as Project Quest or Per Scholas, they are public bodies (though with a tripartite governance). That gives them not only an administrative nature but also additional responsibilities, such as processing unemployment benefits according to each country's regulations. It also means that they are much larger. Within the French PES, Pôle emploi, one of the main bodies, employs nearly 50,000 staff and aims to serve job seekers that number in the millions. Second, they are not directly involved in the design of training programs, which are provided by separate agencies, even though they may play a role in certifying them for job seekers and in administering training incentives. Third, their links to employers tend to be weak. PES staff do not engage with employers at the level of detail we have seen the most successful sectoral training programs do. In fact, in the most recent European Commission report on PES, none of the 12 specific PES duties discussed relate to relationships with employers (EU, *Assessment Report on PES Capacity*, 2019, p. 13).

Their scale and governmental nature may make PES less nimble and adaptable, but there have been encouraging trends recently. In general, experimentation has been encouraged, decentralization has sometimes taken place, and there has been greater focus on providing individualized services to job seekers. There are a number of ongoing experiments in Europe that connect job placement services more closely to employers. According to a recent EU report,

> "PES are developing comprehensive employer engagement strategies, defining different approaches as to employer segmentation and organisation of employer services. Most Public Employment Services have set up central coordination levels of employer services though they also do provide services for employers at regional and local level." (EU *Youth Guarantee Report*, 2019, p. 123)

While these have not been formally evaluated like the programs we discussed previously, they are encouraging and provide a proof of concept in the European setting.

In Germany, PES have become more employer-oriented. PES agencies are mandated to spend at least 20 percent of all placement counsellors' working time to services for employers (PES "Mutual learning programme", 2010, p. 9). Local *Jobcenters* are governed jointly by municipalities and the German Federal Employment Agency. Municipal administrations have considerable discretion in the local labor-market services they provide and can respond to the particularities of their own conditions. *Jobcenters* are intended as one-stop shops, where job seekers can obtain individualized help for substance abuse or financial planning, for example, in addition to employment services (Shore and Tosun, 2019).

According to the European Commission staff analysis, *Jobcenters* are increasingly in direct contact with employers, proactively approaching and sensitizing them. This is done by different formats – via networking activities with employers' associations, with regular meetings at the mayor's premise, speed-dating formats and proactive engagement on the basis of job portal announcements. Also, case managers increasingly involve employers in the consulting process, via joint phone calls with the long term unemployed or organizing interviews. In some projects, certain staff act as "employer acquirers", who intensively support the long-term unemployed during the recruiting process. In some instances, these acquirers even accompany them to the job interview.[1]

Jobcenters case workers can sometimes work as intensively with employers as they do with jobseekers. Preliminary evaluations suggest that such "intensive and personal contact" with employers can be effective.[2] Moreover, *Jobcenters* are supposed to provide coaching and other support for up to six months after a worker is placed in a job.

Sweden has also moved in the same direction. According to the same European Commission staff analysis, some PES staff are especially dedicated to work with employers, and targets have been established to ensure quality service delivery to employers as well. A specific Unit for Business Collaboration has been established by the Stockholm Labor Market Administration that connects with employers in sectors with job shortages. The collaboration is based on employer commitments to provide internships or apprenticeships for unemployed workers and students. "A 'Coaching and Mentoring in the Workplace' tool is used to support employers and involves social clauses".[3] Denmark has formed a partnership between the Danish PES and employers to track how many internships/traineeships end up in regular, full time employment. The Traineeship

[1] See "Commission staff working document, Case study – Germany, accompanying the document *Report from the Commission to the Council on the evaluation of the Council Recommendation on the integration of the long-term unemployed into the labour market*", April 2019.

[2] "Commission staff working document. Evaluation accompanying the report from the Commission to the Council on the integration of the long-term unemployed into the labour market", April 2019.

[3] *Ibid.*

Assessment mechanism benchmarks outcomes so employers can evaluate the usefulness of their internships, and job counsellors can direct jobseekers to high-quality internships. Further, since 2016, Denmark's PES has become entirely decentralized, with municipalities now directly responsible for implementing labor market services.

There are also somewhat more ambitious programs that are directly centered on and at least co-managed by employers. A particularly interesting initiative is the Digital Skills Bridge program in Luxembourg. This is a publicly funded program that aims to pro-actively identify jobs that might be at risk due to firms' adoption of new technologies and to upskill the workforce in anticipation of the disruption. It is an initiative of the Luxembourg Public Employment service (ADEM) and is managed by a tripartite body (government, unions, employers' representations). It is open to all firms that want to take part in it.

In a reversal of the traditional approach to ALMP, firms are considered the primary target of the program, and employees are only a secondary target. According to the program brief, companies "do not know the full range of their employees' skills nor their real abilities to take up new positions in the company." Skills Bridge aims to fill the void. Participating firms undergo an evaluation of the skills their workforce might need in the future and of the workforce skills available at present. The requisite training is provided through subcontractors. For example, training in IT is organized by PwC. The program covers 90 percent of the employees' salary during training (up to 2.5x the minimum wage). Firms also receive a subsidy on their training costs, on a graduated scale depending on the expected mobility of the workers. Firms are ultimately expected to benefit through a better trained workforce, less disruption, a better external image, and a more positive internal atmosphere.

Results from early pilot studies suggest a high take-up rate by firms as well as significant retention and redeployment of workers within firms (instead of layoffs and displacement). The Digital Skills Bridge is a good example of the opportunity that employer-centered programs present: they allow an emphasis simultaneously on employment and productivity. It is an employment-focused program that is also an enabler of productivity enhancement.

A more long-standing example is provided by Switzerland's vocational training associations (*Lehrbetriebsverbünde*). These are voluntary groupings of firms that share apprentices and the associated financial/administrative burdens. They receive public funding for the first few years and then are expected to be self-sufficient. Two or more employers are required to create an association; some associations have more than 100 members grouped into sub-categories. A "lead" firm or an over-arching organization takes responsibility for the group, signs the contract, represents the association externally, and is legally responsible for the quality of the training of the apprentice. Employers provide training to apprentices on a rotating basis. Since apprentices are

shared, the system enables not only the employees to benefit from the training, but it also allows best practices in technology and training to disseminate from the larger or more advanced firms to the smaller firms. Participating companies are able to benefit from the knowledge that other companies have transmitted to the apprentice. According to one study, the majority of small businesses would not have had apprentices if these associations did not exist (OPET, 2008). The system appears to generate both more productive firms and more skilled workers.

Sweden's Job Security Councils (JSC) represent an example where the objective is to facilitate workers finding new jobs when their current jobs might be threatened. These are entities based on collective agreements between employer and employee organizations. They run in parallel to the PES, and the government is not directly involved. The distinctiveness of the scheme is that it is triggered early, as soon as a company is facing a potential restructuring, and before layoffs actually occur. Workers have access to highly personalized training, transition services, and financial support (in addition to unemployment benefits). The support typically covers 6-8 months, though some agreements provide for up to 5 years. The system is financed by premiums paid into a fund by individual companies. JSCs seem to be successful as a vast majority of participants in the program are reported to find jobs within 7-8 months at pay equal or above their previous one. However, there is considerable heterogeneity in outcomes, since the services received by blue-collar workers tend to be of lower and much more variable quality (OECD, 2015).

Hence, there are already multiple models in Europe where job placement and training services are closely integrated with employers. It would seem desirable to encourage more decentralized experimentation with such business-partnered training programs, either through the PES or through alternative organizations.

1.4. The French case

Boosting training to improve labor market opportunities of both young and older workers is one of the stated priorities of the Macron administration. To that end, the government has instituted a two-pillared approach. The first pillar is a personal training account (*compte personnel de formation*, CPF) that is intended to empower workers by allowing them to invest in their own training and to enhance their professional trajectory and mobility.[1] Workers choose the training courses on a mobile app and have access to this account over their working lives.

[1] In 2019, the limits were €500-€800/year depending on pre-existing qualification, with a maximum of €8,000 over the workers' lifetimes for low-skilled workers or low-skilled jobseekers.

The second pillar focuses specifically on low-skilled workers and young job seekers. The government launched a €15 billion plan for investment in skills over five years targeting the enrolment of 1 million low-skilled jobseekers (*Plan d'investissement dans les compétences*, PIC), as well as 1 million young people neither in employment nor in education or training (NEETs). A new body was created in 2018 to coordinate vocational training (France Compétences). According to the European Commission 2019 Education and Training, "key features of the reform on apprenticeships involve new incentives for apprentices and companies, the apprenticeship premium for SMEs and first qualification levels, and joint development of vocational courses by the state and professional branches." One of the objectives is to encourage "innovative experimentation," with successful pilot programs to be scaled up. In the aftermath of Covid-19, the government has announced further measures to increase spending on skills training and hiring additional staff for Pôle emploi.[1]

These are important initiatives that could potentially produce quite significant effects. We draw on evidence on workforce development programs we have reviewed previously to suggest some policy orientations that we think would increase the effectiveness of the new resources being deployed on training and skill upgrading. Our recommendations involve some new (or enhanced) roles for the Pôle emploi, requiring more intensive engagement with employers. These would reinforce measures that have already been taken in that direction.

At present, the French PES focus mainly on providing individualized guidance, counseling and job-search assistance to job seekers, and on the administration of unemployment benefits. A recent evaluation of the Pôle emploi notes that there has been a notable increase in the share of staff devoted to counseling, at the expense of staff dealing with unemployment benefits (Cour des comptes, 2020). Importantly, an additional 1,000 counselors were hired or deployed in 2019 focusing specifically on employers, though the report mentions this might be re-evaluated in light of Covid-19 (Cour des comptes, 2020, p. 16). The services presently offered to employers include "support in managing job offers," "support in selecting candidates' profile," "general info about labor markets," and "advice to smoothen the hiring process." Key performance indicators revolve around measures of employer satisfaction. Firms' levels of satisfaction with Pôle emploi services correlate strongly with firm size: larger firms tend to be more satisfied, and the smallest employers are the least satisfied (Cour des comptes, 2020, p. 122).

[1] Reported post-Covid plans entail €200-300 million additional spending on training and the hiring of 3,000-5,000 new counselors over two years for Pôle emploi. See *Les Échos* (2020), « Plan de relance : un effort massif pour moderniser la formation professionnelle, » by A. Ruello, August 20th, and *Les Échos* (2020), « Plan de relance : Pôle emploi va recruter des milliers de CDD pour aider les chômeurs, » by A. Ruello, August 23rd.

Engagement with employers can be enhanced in several ways. First, Pôle emploi can play a larger role in ascertaining employers' skill needs and ensuring that local training providers are offering the appropriate courses. This would require working closely with France Compétences, the new body in charge of ensuring training providers' quality through certification and continuous assessment.

As we have seen, successful sectoral training programs in the U.S. actively solicit participation of targeted employers in the design of training programs. We also mentioned evidence previously that suggests "soft skills" might be an important asset for low-qualified workers (Aghion et al., 2019). Hence, available training may need to cover both "hard" and "soft" skills. Moreover, while larger firms may be in a good position to articulate their skill needs to private training providers, smaller firms may be less capable to do so. Here Pôle emploi can play a useful role by coordinating and aggregating those smaller employers' needs and ensuring they are met.

Currently, Pôle emploi are consulted by regional councils in order to build regional training plans. Acting as an intermediary between (groups of) employers and private training providers – and doing so in a flexible and timely manner – to ensure a tighter match between the demand and supply sides of skills seems to us to be an important function for the PES to fill.

To enhance firms' own incentives to invest in skill upgrading, exemptions from social security contributions for low-wage earners could be made conditional on the provision of firm-based training. The Pôle emploi can also help smooth out some of the potential wrinkles with the new personal training accounts (CPF). Workers may lack adequate information on which types of courses best fit their professional needs and desired trajectories. Employers may regard them as a nuisance since they take workers away from the job and may not directly benefit them. The Pôle emploi can act as an honest broker and provide guidance to both workers and companies. For example, employers may be encouraged to top up funds for the types of training that are more likely to support in-company transitions.

Second, Pôle emploi can be more proactive in assisting currently employed workers whose positions might be at risk due to company reorganizations. When companies plan to restructure their operations – because of outsourcing or the introduction of new technologies or new products – some workers may be displaced while others will need new skills. As we have seen, successful programs anticipate such changes and work closely with employers to ensure as much compatibility between employment and productivity objectives as possible. Beyond simply being notified by companies of prospective layoffs, this requires the PES to be in close contact with employers on a continuous basis. It also means Pôle emploi may need to offer a broader range of services, including those that we

discussed previously in connection with Luxembourg's Digital Skills Bridge program (e.g., company specific skills evaluation programs and training).

There are some employer-based arrangements for larger firms in France that are designed to serve similar functions. The "anticipatory management of employment and competencies" (GPEC) requirement obligates firms with more than 300 employees to launch negotiations on corporate strategy and its foreseeable effects on employment and skills every three years. The resulting plans are expected to provide guidelines for future employment and skill needs and lay out the implications for current work force. The "*contrat de générations*" are company-level agreements that set conditions for the employment of young workers and retention of older staff.[1] While these arrangements look good on paper, we have the impression that they have turned into routine HR functions with not much real impact. They could be folded into PES's workstream and reinvigorated through more public support – in particular greater coordination with training/job matching – instead of being viewed purely as part of job retention/collective bargaining arrangements.

Third, there is the possibility that such schemes can move beyond providing better services to firms or cushioning the shocks of company restructuring to actually shaping the employment decisions of firms on an ongoing basis. There are hints in the U.S. evidence from sectoral training programs as well as from some European programs (e.g., Luxembourg's Digital Skills Bridge) that well-designed partnerships can serve both the needs of workers and the productivity challenge of firms. The availability of PES services may induce employers to produce more good jobs.

For example, Pôle emploi can help with the development of skills that are strong complements to firms' other assets, for those who are at the bottom of the earnings distribution. This would enable employees to achieve more productive career progression paths within firms. Those are also likely to be jobs that are typically not outsourced (Aghion et al., 2019). The right approach here might be the provision of specific firm-based qualification training. Local knowledge of which firms and industries are most likely to respond well to such efforts would be essential to good policy implementation.[2]

This kind of longer-term engagement with employers can be an important direction for Pôle emploi. But it is also the most challenging. Experience elsewhere indicates that moving beyond placement to productivity and job trajectories requires not just the right institutional designs but also a process of building trust among social partners – employers, workers'

[1] Companies can combine the negotiation on GPEC with the *contrat de générations*. According to France Stratégie, 9 agreements have been signed at the sectoral level since June 2013 and some 200 GPEC initiatives exist at territorial level.

[2] We are grateful to Richard Blundell for suggestions on this topic.

organization, and public agencies such as the PES. Developing the requisite social capital will necessarily take time.

Such arrangements can help businesses produce more of the social benefits associated with good jobs. But they will result in the full *quid pro quo* – more good jobs in return for more good workers – only when businesses recognize the benefits of the services provided to them by public sector training and placement agencies. Other public programs – in particular, investment incentives and innovation programs – obviously need to play a complementary role here, insofar as the productivity agenda goes beyond worker skills. We will turn to those complementary programs in the next sections.

Finally, in view of the uncertainty about what might work in the French context, we would encourage a certain amount of decentralized experimentation by local PES offices, coupled with evaluation – both of which are features of successful sectoral training programs. This will require granting local offices a degree of autonomy that they may not presently possess. Such experiments can be evaluated in the short term on the basis of intermediate targets such as number of participants or degree of employer satisfaction. Longer-term evaluations can track numbers of new jobs created, earnings trajectories of participants, and productivity impacts for firms participating more intensively in PES programs.

2. Business Incentives with Good-Jobs Focus

Economists tend to be cautious, if not downright hostile, towards industrial policies. The attitude derives less from economic theory than from practical considerations. The externalities and market failures that industrial policy aims to fix – learning spillovers, coordination failures, agglomeration effects, and, increasingly, the social benefits of good jobs we have emphasized here – are widely understood to be widespread in contemporary economies. The concern is that governments lack the knowledge to identify accurately where these market failures are ("governments cannot pick winners") or that they will be subject to political lobbying and capture once they put themselves in a position to select industries to support.

Despite economists' aversion, industrial policies have always been part of most governments' arsenals, simply changing shape and focus (and, sometimes, names) as economic priorities and fashions evolved. In the U.S., the practice of industrial policy has a long history, even if the term has carried a note of disrepute until very recently. It has taken a wide range of forms – from the Defense Advanced Research Projects Agency (DARPA) to Small Business Administration programs, to widespread state-level business incentives. In France, policy has always been more self-consciously activist; Buigues and Cohen (2020) provide an account of the many phases of postwar French industrial policy.

France Stratégie (2020c) outlines the industrial policies in which France has engaged recently, even though they have not always explicitly been labelled as such, and explains the renewed appetite as well as need for more intentional and explicit such policies.

In recent years, policy makers have articulated the need for industrial policy more explicitly and forcefully. The challenges of transition to a green economy, geographic divides, digitalization, and, increasingly, the perceived threat of Chinese competition in high-tech industries have highlighted the urgency of public action to stimulate investment and innovation in particular industries and regions. The European Union acknowledged the importance of industrial strategy explicitly in the Juncker Plan of 2014. The European Commission's Horizon 2020 Report targeted an increase in the manufacturing share of GDP in the European Union from 16% to 20% (a target that was missed). The EU is already a massive provider of business incentives through a variety of funds. While the bulk of the EU's structural and cohesion funds are invested in infrastructure, about 10% takes the form of direct grants to firms, which makes the program "one of the largest enterprise subsidy schemes in the world" (Murakosy et al., 2020, p. 3).

In France, business incentives center on three schemes. First, there are tax credits for R&D spending (*Crédit d'impôt recherche*), the stated objective of which is to increase the competitiveness of the country through innovation. Second, there is investment support for SMEs (through the Banque publique d'investissement, BPI), which channels government and EU funds to support investment and innovation through various financial instruments (credits, credit guarantees, or buying shares). The BPI works closely with client firms through the life cycle of projects, providing counseling and management training. Third, there are publicly funded "competitiveness poles" (*pôles de compétitivité*). These are designed to promote clusters in specific regions or industries – bringing together small and large firms, training organizations, and research labs – through financial support and tax incentives.

We will address incentives specifically directed to innovation in point 3 of this Section. Focusing on the other incentives, it is fair to say that while employment is almost always a subsidiary goal of these programs, they are rarely designed with employment as the key objective.[1] In the main, they target increased productivity and global competitiveness and try to foster new digital and green industries. In the EU Industrial Strategy Package (2020), for example, high-quality jobs and employment are occasionally referenced, but the emphasis is clearly on digital innovation and green tech. Employment is generally viewed as part of the social agenda, distinct from the productivity and economic growth agendas.

[1] This is a general feature of business promotion schemes. In a global review of such programs, Robalino et al. (2020) write: "In practice, projects are seldom selected for public support based on the jobs impacts the investments are likely to generate (…) Often, the beneficiaries of demand-side programs are selected, subject to the size of the firm, on a first-come-first-serve basis."

In view of the broader benefits of good jobs we have discussed previously, this orientation may need a second look. In particular, there is a need to connect business incentives more tightly with the kind of labor market and training programs discussed previously. While labor market interventions may do a good job of preparing jobseekers for good jobs, their effects will remain limited if there is not a corresponding increase in the supply of good jobs on the part of firms. Accordingly, we shall propose an approach that prioritizes good jobs more directly.

Another consideration is that business incentives work best when they are customized and targeted to specific needs of firms, and when they are part of an iterative dialog between firms and government agencies. The traditional conception of industrial policy is represented by the East Asian caricature: bureaucrats independently choose a set of economic activities to be promoted, select pre-determined incentives (tax rebates or subsidized credit), and then impose hard conditionality on the receiving firms (they either perform or else). This type of policy hardly works well, and in fact was never quite how industrial policy was actually implemented in Japan, Taiwan, South Korea, or China. Successful programs tend to revolve around a process of strategic collaboration in which firms' needs, market opportunities, and appropriate remedies are discovered over time, with policies revised as learning takes place. Our proposal will be in line with this newer understanding of business incentives.

As we discussed at the beginning of the report, territorial and spatial inequalities remain large in France. A key objective of the policies we propose here is to enhance productive employment opportunities in lagging regions through what we will call Regional Business Bureaus (though the same functions can be performed under existing institutional structures). While we do not cast business incentives explicitly as "place-based policies," their operation would be similar to successful place-based policies elsewhere.

2.1. Do business incentives work?

Evaluating the full efficiency consequences of business incentives requires either direct knowledge of the magnitude of the externalities being addressed or making assumptions about them. Empirical evaluations typically fall short of providing estimates of the externalities. They tend to focus on the narrower question of effectiveness: did the incentives alter the recipients' behavior on relevant dimensions (e.g., capacity, employment, investment in technology, exports, level of productivity)? Such studies are still informative, because they speak to the ability of government agencies to achieve the immediate intended effects of their interventions. There has been a number of high-quality recent studies, which we briefly summarize below. They tend to show that business incentives do help create employment. They also suggest, however, that these incentives

can be targeted and deployed in more effective manner. While these studies typically focus on jobs overall, rather than good jobs per se, they provide important lessons.

One of the best studies of industrial policy is the recent paper by Criscuolo et al. (2019), which analyzes the effects of the Regional Selective Assistance (RSA) program in Britain. The RSA is a system of discretionary subsidies designed to maintain and expand employment in low-income, high-unemployment areas, with the bulk of the payments going to manufacturing. The RSA operates in designated geographic regions.[1] In these areas, firms can apply to the government with specific investment plans, either to finance new capital equipment or to modernize existing plants. The government reviews the plans and, if approved, finances up to 35 percent of the investment. According to Criscuolo et al. (2019), "the formal criteria stipulated that the project: (a) should be expected to lead to the creation of new employment or directly protect jobs of existing workers which would otherwise be lost and (b) would not have occurred in the absence of the government funding ('additionality')." Hence the scheme, unlike so many others, directly targeted employment. However, and this is more typical, it subsidized spending on physical capital and not other kinds of spending which may have had a more direct impact on jobs.

Nevertheless, the authors find a quantitatively significant effect on employment: "a 10 percentage point increase in an area's rate of maximum investment subsidy causes about a 9% increase in manufacturing employment and a 4% decrease in aggregate unemployment."[2] Interestingly, they find that these positive employment effects were confined to relatively smaller firms, with under 50 workers. They speculate that the reason may have to do with the ability of larger firms to "game" the rules, by receiving the subsidy and not changing their behavior. Their finding is especially impressive in light of its being confined to smaller firms. Their estimate of the program cost per job saved/created turns out to be very low ($3,683 at 2010 prices).

Another recent study looks at grants made to Hungarian firms under the European Union's Structural Funds and Cohesion policies (Murakosy et al., 2020). The objective was to support the growth of SMEs. The grants appear to have been administered in a completely non-discretionary manner, and also without many precautions against abuse. There was a simple check list for eligibility. "Firms which satisfied a set of simple criteria (e.g., were at least 2 years old or had at least 5 employees) and submitted a formally complete application were awarded grants at a first-come, first-served basis." There does not appear to have been much monitoring or follow-up checks on the part of government. Nevertheless, the authors

[1] As we emphasized earlier, the definition of a good job depends on context. Ordinary assembly-line work in a depressed region can be considered a good job in light of the alternatives.

[2] Criscuolo et al. (2019) exploit a change in EU-wide rules regarding which regions can qualify for the subsidies, arguing that the change was exogenous to specific local circumstances, and hence can be used to identify the causal effects of a policy change without being confounded by the latter.

find significant effects on employment, as well as the capital stock, capital intensity, and labor productivity (but only marginally significant effects on total factor productivity). Wages seem to have been boosted by the program, but more for skilled workers (6-9%) than for lower skilled employees (4%). Ehrlich and Overman (2020) provide an overview of results under European cohesion funding.

We are not aware of many rigorous recent evaluations of business incentives in France. One study conducted a diff-in-diff analysis of firms that benefit from incentives and participate in R&D projects under the Competitiveness Poles program (Chaudey and Dessertin, 2018). They identify 643 establishments that took part in the program between 2004 and 2010. Even though the program does not directly target employment, the authors find positive overall effects on employment, with an increase of 10 percent on average. However, there seems to be considerable variance in outcomes across firms and these results are not highly significant statistically. Mayer et al. (2017) and Briant et al. (2015) report positive employment effects for urban enterprise zones (*zone franche urbaine*).

In the United States, individual states provide significant tax incentives to attract businesses from abroad or other states. These totaled $47 billion in 2015 (Bartik 2020). In a recent survey, Slattery and Zidar (2020) summarize such incentives under three headings: state corporate taxes, state tax credits, and firm-specific incentives. On average, the recipients of these incentives tend to be large firms in manufacturing, technology, and high-skilled service industries. The average discretionary subsidy is $160 million for a promise of 1,500 new jobs. The value of these incentives ranges from 20% (California) to 150% (West Virginia) as a percent of corporate tax revenues. Slattery and Zidar (2020) report that they “find some evidence of direct employment gains from attracting a firm” but conclude that there is no “strong evidence that firm-specific tax incentives increase broader economic growth at the state and local level.” U.S. Empowerment Zones (EZ) are a federal program, which provides tax incentives and block grants (to be used for infrastructure, business assistance, and so on) to designated jurisdictions. Using rejected and future applicants to the EZ program as controls, Busso et al. (2013) find that EZ designation substantially increases employment in zone neighborhoods (by 12-21%) as well as wage levels for local workers (by 8-13%). They find no increase in population levels or the local cost of living, indicating the efficiency costs, if any, were small. Tuzel and Zhang (2019) look at state-level adoption of a federal tax incentive for investment and conclude that the effects on workers were heterogenous. When states expanded investment incentives, firms increased physical equipment and employment of skilled workers. After a couple of years, however, less skilled, routine-task employees took a hit. It appears that the new investment was heavily biased towards skill-intensive technologies. Overall, the employment effects were insignificant, reflecting the mix between positive and negative effects on different segments of the workforce. This is a particularly interesting study as it

highlights how the consequences of poorly targeted business incentives can be adverse for those workers who are particularly at risk.

Business incentives that subsidize physical investment and new technologies are clearly not the most effective ways of helping workers. As Bartik (2020) notes, “cash incentives to encourage local job creation have high costs per job created because it takes a lot of cash to tip a business location or expansion decision.” Available studies indicate the fiscal costs per job saved or created, even when there are positive employment effects, can be quite high. Criscuolo’s estimate of $3,683 (at 2010 prices) for the RSA represents the low end. Other studies produce cost per job estimates that range from $18,000 for Empowerment Zones in the U.S. to more than $68,000 for investment subsidies in the Mezzogiorno in Italy (Criscuolo, 2019, Table A21; all figures are in 2010 prices).

Tim Bartik of the Upjohn Institute has been a long-term observer of business incentives in the United States, and his synthesis of the evidence provides a valuable perspective that applies equally well to Europe as well (Bartik, 2019, 2020). In summary: public policy focusing on job growth in distressed areas can be effective and generate persistent gains in employment-to-population ratios, but current systems are not very effective. They are based on significant tax breaks that often go to large corporations and are not properly targeted or designed. He makes several recommendations. First, business incentives should focus on areas that are distressed – that is, areas that truly need them. Second, the incentives should focus on sectors or firms that are likely to have high job creation multipliers. Third, public assistance should focus less on tax incentives (and encouraging physical investment) and more on specific public services needed by firms, such as customized business services, zoning or infrastructure policies, local amenities, and skills training. Fourth, business assistance should be viewed as a portfolio of services rather than a particular incentive, with the actual mix attuned to local conditions. The second, third, and fourth of these recommendations are especially relevant to France (and Europe more broadly).

Bartik’s recommendations echo ideas that have developed over the last couple of decades into a new conception of industrial policy (Evans, 1995; Hausmann et al., 2008; Rodrik, 2007, 2008; Sabel 2007; Fernández-Arias et al., 2016; Ghezzi, 2017). Under this conception, the government is not presumed to know where the market failures are beforehand and, therefore, does not determine ex ante what the specific policy instruments are. Industrial strategy consists of a collaborative process of “discovery” involving business and agencies of the state, where the objective is to identify the constraints and opportunities over time, and to design interventions appropriately. As learning takes place, policies are revised, refined, and sometimes reversed.

The classic conception of industrial policy is defined by clear sectoral priorities and a clear set of incentives, while the private sector is held at arm’s length by government agencies.

The "modern" version is distinguished by an iterative process of dialog between government agencies and private firms, taking place in multiple institutional settings such as sectoral roundtables, supplier networks, or clusters. The focus is less on subsidies or incentives and more on removing specific impediments or providing needed public services to speed up the creation of good jobs. We know such practices are feasible because they already exist in a number of policy domains; Rodrik and Sabel (2020) discuss water-quality regulation in Europe and promotion of high-tech innovation through DARPA in the United States, while Ghezzi (2017) discusses their application to modern agriculture in Peru. The question is what such a regime might look like in the specific context of France.

2.2. Towards new institutional arrangements for business incentives

We propose the setting up of regional business promotion agencies that operate alongside the PES (Pôle emploi) and cover the same territories. We call them "regional business bureaus" (RBB). We sketch below how they might operate. The main thrust of our proposals is to create a structure for job-enhancing productivity assistance to firms that runs in parallel (and in cooperation) with the worker-oriented Pôle emploi.

We are aware of the risk of adding complexity to an already crowded institutional landscape in France. It is possible that the tasks we describe below could be handled or absorbed into existing agencies that deal with firms. Our focus is on the functional responsibilities that need to be discharged rather than their institutional location. In general, it would be desirable to streamline rather than add to bureaucratic procedures. Perhaps the coordinating functions we propose below can be performed better by reducing the number of agencies that are already engaged in providing support to firms.

The goal of RBBs (or their equivalent) would be to provide a portfolio of services to local firms or prospective investors with the overarching goal of assisting them to increase productivity while creating good jobs.[1] Many of these services would normally be administered by other agencies, in which case the role of the RBBs would be mainly to coordinate those agencies and help firms navigate through them. For example, RBBs may cooperate with the BPI (Banque publique d'investissement) to help SMEs get access to financing or business advice. They may coordinate with the local PES to identify suitable workers and help recruit them. They may organize training providers to ensure the requisite skills are built up. They may help with infrastructure needs of SMEs, for example with respect to internet and cloud services where pooling of fixed costs could be an advantage.

[1] One question is whether EU state aid rules are sufficiently flexible to permit the kind of scheme we describe below. We note that those rules allow a substantial number of exceptions, particularly with respect to smaller enterprises, funding of innovation, and disadvantaged regions. "Disadvantaged" regions presently cover about a quarter of the French population. See *Guidelines on regional state aid for 2014-2020* on EUR-Lex.

They may also act as a go-between with the local bureaucracy as regards local regulations such as zoning. And they could be provided with additional resources to provide other services as well, as the needs reveal themselves. In general, RBBs would be in a position to assist with the financing (through their own or other agencies' resources) of any productivity and employment increasing spending or reorganization on the part of firms. Investment subsidies would not be prioritized over other incentives.

The RBBs would take a customized, individualized approach to their relationship with firms, in the understanding that different firms/sectors have different needs. They would maintain an open-ended relationship with them, trying to understand their problems and opportunities.

Firms would make proposals to the RBB for use of one or more particular services, say a training program or purchase of a particular advanced technology system. In return, they would make commitments on specific quantities of jobs they will create at different qualification levels (i.e., low salaried employees, medium-salaried employees, etc). Firms would be encouraged to pool proposals when they make use of common inputs – as would be the case for workers with particular skills or infrastructure.

It is particularly important that the process of soliciting proposal be open to new or young firms. In particular, new firms may be deterred by regulations or sectoral agreements that act as entry barriers. In addition to encouraging proposals from such firms, RBBs might also be empowered to grant young firms certain temporary exemptions from sectoral regulations or agreements in order to ease business formation. This would obviously have to be done in exchange for good-job conditionalities and in agreement with social partners. Failing agreement with social partners, new firms might be provided with financial incentives that compensate for the cost of the relevant regulations.

Bureaus would then screen proposals for suitability. They would evaluate the overall desirability of the proposed project, paying attention to the quality of the project, its feasibility and plausibility, the additionality of the jobs that are to be created, and the likelihood that the RBB can deliver the services needed on the timescale required. Larger, more expensive proposals might be evaluated by outside consultants. At this stage, the RBB might also negotiate additional requirements with the firm. For example, the firm might be asked to work with its local suppliers to improve their management or technological capabilities. Or a firm that is considering outsourcing part of its production to a foreign county may be asked to delay doing so for a number of years, in case productivity improvements at home may render those plans unnecessary. The firm may be required to arrange for additional training for some of its employees. The project would then be given an overall score, to compare with others on a single scale.

Once projects are approved and launched, there would be periodic audits designed to check whether firms are making sufficient progress towards their commitments – especially on employment. It would be understood that there is a certain provisionality – inevitable in light of uncertainty and unforeseen circumstances – to both the targets and the package of assistance being deployed. The audits would reveal that some projects are clearly not working out. Those would be terminated. Some other projects may turn out to underperform because of unanticipated changes but may still be salvageable with existing (or revised) supports. Those would continue to receive support. In other words, the audits would be as much an opportunity to revise policies and targets as they would be an occasion to make binary, up-or-down decisions.

To the extent possible, the proceedings of the RBB would be open and transparent. Packages of support as well as targets agreed to by firms would be public information. Any revision of supports or targets would also be carried out in a transparent fashion, with firms' justifications for revising targets open to public scrutiny. Transparency over these matters would be essential both to limit public corruption and to ensure firms have limited ability to game the bureaus.

Finally, at the end of the first five years (and each subsequent five years) a certain number of RBBs would be subject to rigorous evaluation. The objective would be to see whether the bureaus are achieving their central objective: creation of productive job opportunities. If the bureaus were being phased in over time gradually, such evaluations could be carried out initially using randomization or synthetic-control (comparing each *région* with a synthetic control group) methods. Subsequently, evaluations could be carried out within *régions* using regression discontinuity (comparing firms just below and above the cutoffs on the overall score).

We note that much of the resources which the bureaus would help coordinate and direct are already allocated in other programs, such as the BPI, Pôle emploi, or municipal budgets. Additional resources may well be needed for new initiatives along the lines we have suggested.

2.3. Governance considerations for RBBs

It is worth saying a bit more about the regulatory model that underlies our approach, since it differs from the standard, arm's length regulation model of economists.[1] In the conventional regulatory approach to the mitigation of externalities, firms have to meet clear guidelines, and consultation between the regulator and firms is limited typically to resolving differences. The costs of mitigation are known to firms but not to the regulator. Firms use

[1] The discussion here follows closely Rodrik and Sabel (2019).

this informational edge to minimize their costs of adjustment while regulators devise ways of eliciting the cost information without being captured by the firms. There are fixed limits on permissible behavior and a schedule of fines for violating them.

This model does not apply well to the present context because the objective itself ("good jobs") is imprecise and multi-dimensional; it needs to be operationalized in a way that is both evolving and context-dependent. Furthermore, creating good jobs depends on a wide array of decisions on investment, technological choice, and business organization, the consequences of which are unknowable ex ante. Technological and operational possibilities are highly uncertain, and neither firms nor government agencies have the information needed to devise concrete behavioral schedules from the outset. Hence the interaction between RBBs and firms must take as its starting point the provisionality of ends and means and the need for disciplined review and revision. Targets and instruments for good-job creation must remain provisional, to be revised as new information comes in. The task of governance is to establish an information exchange regime that induces firms to cooperate with RBBs and adjust their strategies in the desired direction in a context of extreme uncertainty.

Instead of defining precisely each party's obligations, our proposed governance system would establish broad goals and a regime for evaluating their achievement. Such practices have become established in industries as diverse as biotechnology, IT and advanced manufacturing, as well as in policy regimes such as food safety, water quality, civil aviation, and the promotion of advanced technologies (Gilson, Sabel and Scott, 2009; Rodrik and Sabel, 2019). They entail

> "regular, joint reviews of progress towards interim targets or milestones, procedures for deciding whether and with what exact aim to proceed or not, and mechanisms for resolving disagreements. The information exchanged under such a regime allows the parties to develop a more and more precise idea of the shared goal while allowing each to assess with increasingly reliability the capacities and good faith of the other: to observe if the capable stranger can become a reliable partner and the long-trusted partner is capable of innovative tasks. As collaboration progresses, each party comes to rely increasingly on the capacities of the other, deterring opportunistic defection and generating or activating norms of reciprocity. Joint regular review and deliberate consideration of the interim results thus create the conditions in which informal norms and self-interested calculations bind the parties to continue promising collaboration in good faith. Trust and mutual reliance are the result of agreement to collaborate, not its precondition, just as the precise aims of cooperation are the outcome, not the starting point of joint efforts." (Rodrik and Sabel, 2019)

In our specific context, the RBBs would consult local firms extensively and then establish an ambitious, open-ended outcome: "good jobs," as measured by a number of metrics that reflect community preferences as well as national standards. Firms would be encouraged

to enter into partnerships with the RBB to gain access to RBB services (of the type discussed previously) customized to their needs. In return, they would be obligated to make plans to achieve "good job" targets and to regularly report their results. RBB benefits would continue as long as firms report their progress (or lack thereof) accurately and they make certifiable good-faith efforts to meet their targets. Targets would remain soft, and failure to meet them would not necessarily call for withdrawal of support during the early stages, as long as there are demonstrable progress and good faith efforts. The objective of the regime would be to incentivize cooperation, information revelation, and ongoing revision of instruments and targets. In the words of Rodrik and Sabel (2019), "fostering good jobs is likely to depend on solving highly idiosyncratic, place-specific problems: failures of coordination between local firms and training institutions; between firms and their (potential) supply-chain partners; and the managerial breakdowns or skill gaps within individual firms and institutions to which the coordination problems point." With enough success on some of these dimensions, more firms could be drawn into such schemes, generating a virtuous cycle of new production practices and learning spillovers.

Beyond these broad governance principles, there is no "how-to manual" that can guide government officials in this work. Discretion on the part of government bureaucrats remains an integral part of such incentive regimes. But it is disciplined, on one side, by requirements of transparency and professional norms and, on the other, by the demands and needs of firms. Since experimentation by RBBs can add value, local autonomy is useful and can spur learning across regions. Ultimately, success depends on the development of organization cultures that internalize the behavioral norms of this type of governance.

Like all public policies, the proposed scheme may fail or turn out to be ineffective. However, it is important to be clear that key elements of what we have sketched out already exist in the public policy arsenal. For example, the BPI already has considerable experience of working closely with SMEs, using a wide range of instruments (loans, guarantees, equity participation, export credits, training, management counseling, access to technology and networks). The Bank has the capacity to screen firms, monitor their progress, and intervene at various stages of their lifecycle. Effectively, the BPI acts as a public equivalent of venture capital. The proposed RBBs could leverage this capacity with additional instruments and resources, and in a more employment-friendly manner.

Or consider the RSA, which we have discussed previously. Even though this is a non-French example, it is indicative of both how effective incentive programs work and the feasibility of establishing such programs in the real world. To qualify for subsidies under RSA, firms

> "completed an application form, in which they needed to prove additionality, to provide business plans, accounts and reasons for wanting the grant. They then submitted this to the local office of the Department of Business. During the period analyzed, the lag between

> submission and decision was normally between 35 and 60 days for standard grants, and 100 days or more for grants above £2 million. The lag depended on the amount applied for, the time needed to ensure that all of the criteria were met and on negotiations between the government agency and the firm. If the application was successful, the firm was paid the minimum necessary to get the project going. Additional payments started only after jobs were created/safeguarded and capital expenditure defrayed and were based on agreed targets. The payments were given in instalments – between two and seven and usually spread across more than one financial year." (Criscuolo *et al.*, 2019; Appendix 7)

Importantly, Criscuolo et al. (2019) report that the government agency monitored the project closely and visited the operation once a year, and more frequently for projects judged to be riskier than normal. In other words, the RSA was a fairly discretionary program, requiring significant monitoring and ongoing negotiations between a government agency and private firms.

In sum, what we have proposed does not entail a significant augmentation of capacity compared to institutional arrangements that have already proved feasible in other, similar contexts. The novelty, to the extent there is any, lies in the focus and orientation of the business promotion program we are proposing: a closer coordination of business incentives with labor market/training policies, more customized business services instead of ex ante tax incentives, explicit targets for employment and job upgrading ("good jobs"), greater room for revision in light of changing circumstances, and more intensive evaluation.

3. Labor-Friendly Innovation Policies

In 2016 Elon Musk announced that Tesla's Model 3 would be built in a new, fully automated car factory. Codenamed "Alien Dreadnought," with obvious connotations of science fiction and hyper-advanced technology far beyond current practice, the project would enable essentially worker-less production. Complete automation would allow the factory to operate beyond human speed: "raw materials would go in one end and finished cars would roll out the other. In between, robots would do everything, a very high speed — speeds too dangerous to risk around frail human bodies."[1] Only a few human experts would be needed to ensure everything was running smoothly.

The factory was supposed to become fully operational by the end of 2018. But the plans proved hard to implement, and by mid-2018 it was clear that production bottlenecks would not be solved easily. The operation was experiencing "production hell" and was "within single-digit weeks of death," in Musk's words. The dire situation forced the company to

[1] DeBord, M. (2017), "Tesla's future is completely inhuman – and we shouldn't be surprised," *Business Insider*, May 20.

launch a new assembly line inside a sprung structure (what Musk described as a "tent") on the grounds of the factory. Built in three weeks, the new assembly line increased production by 50 percent and returned the company back to financial health.

When CBS News correspondent Leslie Stahl visited the "tent" sometime later accompanied by Musk, she observed that the new Model 3 factory was in fact full of human workers. Musk laughed, responding "people are way better at dealing with unexpected circumstances than robots."[1] "Yes, excessive automation at Tesla was a mistake… Humans are under-rated," he conceded on Twitter.

Tesla's automation mistake is revealing for several reasons. First, it highlights how production techniques relying on human labor can still dominate automation when it is impossible to fully account for uncertainty and routinize all tasks. Second, it is indicative of the excessive faith many business leaders often place on new technologies. Third, it reminds us that technology adoption is a choice: businesses face a range of options about what kind of innovations to use and deploy – choices that have significant implications for the workforce, which are typically not internalized in the decision-making process.

In his magisterial book *Inequality*, the late Anthony Atkinson stressed that there are three reasons why the direction of technological change cannot be left to firms and innovators alone (Atkinson, 2015, pp. 115-118). First, technology choices have distributional implications – the share of capital in value added and the level of wages – to which society may not be indifferent. Second, the replacement of labor with robots and other modes of automation typically entails the substitution for a joint product – a human service alongside manual labor, and there is no guarantee that laissez-faire is efficient in the presence of joint supply. Third, today's innovations have long-range implications for the future and may foreclose technological paths that are more friendly to human workers. The social benefits of good jobs we have already discussed can be considered a fourth broad reason.

3.1. Changing the narrative: Technology for good jobs

Technological change is probably the single most important force that has been driving the polarization of labor markets. As automation, AI, and other new technologies alter the type and composition of skills demanded in labor markets, workers with skills that are in less demand face significant challenges.

The usual discussion around the labor market implications of new technologies is curiously one-sided. The direction of technological change – whether it augments or replaces labor – is taken to be essentially exogenous and out of our control. All the adjustment, therefore,

[1] Alvarez, S. (2018), "Inside Tesla's 'Tent'-Based Model 3 Line That Set a Path to Profitability," *Teslarati*, December 10.

falls on the labor force. Typical statements exhort workers to acquire better education and training to ensure they have the skills required by new technologies. Here is, for example, how a recent McKinsey Global Institute report on the future of work in Europe puts it:

> "Automation will require all workers to acquire new skills. About 94 million workers may not need to change occupations but will especially need retraining, as technology handles 20 percent of their current activities. While some workers in declining occupations may be able to find similar types of work, 21 million may need to change occupations by 2030. Most of them lack tertiary education. Newly created jobs will require more sophisticated skills that are already scarce today" (MGI, 2020, p. iv).

What is striking in such statements is the degree of technological determinism. It is as if technological innovations and their likely impacts on future jobs are completely exogenous, shaped by forces outside the economy, institutional arrangements, and government policy.

In reality, the kind of innovations that are fostered depend on several conditions that may be amenable to control.

First and most directly, government-funded and directed innovation programs make decisions about what kind of innovations to promote. Those priorities are often shaped by considerations about which activities are the industries of the future (e.g., *Programme d'investissements d'avenir* in France) or what specific societal goals need to be fulfilled (e.g., green technologies in the context of the European Green Deal, or defense-related technologies at the national level). These priorities in turn determine what kind of research projects are funded and developed. Employment-friendly technologies – those that augment rather than replace labor – could be part of those priorities, though they are not at present.

Second, private sector innovation incentives can be skewed because of prevailing financing methods or policies. Venture capital, for example, plays a relatively important role in financing innovation in the United States. Venture capital naturally seeks areas where the returns can be capitalized relatively quickly by investors. As Lerner and Nanda (2020) point out, this may exclude innovations where the gains are longer term or reaped by society at large. There are also many policies that indirectly shape private-sector technological investments because of the market incentives they generate. For example, most advanced economies subsidize capital formation (through depreciation allowances and various incentives of the type we discussed previously) and tax labor (through personal income taxes and labor charges). An unintended consequence of the tax system is to induce firms to economize on labor by investing in machinery, to an extent that may be socially suboptimal. In a paper titled "Does the U.S. Tax Code Favor Automation?" Acemoglu et al. (2020) find that a shift to an "optimal" system of factor taxation would increase U.S. employment by nearly 6 percent. There is no reason why such indirect and

unintended consequences on the direction of technical change could not be taken into account if tax (and other) policies were subject to a fuller evaluation.

Third, beyond the economic incentives they face, there is an informal set of norms that guide innovators' decisions. The high-tech community often operates under a shared set of values and expectations with respect to what is a desirable direction for technological change. In the U.S., groupthink is aggravated by the very high concentration of venture capital funding in a small number of firms and cities (such as San Francisco, Boston, and New York City). "Venture firms based in other cities might have chosen very different firms to invest in given their perspectives on their local economies," write Lerner and Nanda (2020).[1] Automation and replacing human labor or ingenuity can be prized beyond the true economic value. Elon Musk's misplaced confidence on the benefits of full automation was perhaps a reflection of such values. Such norms might be amenable to change as society begins to attach specific value to employment-friendly technologies. An analogy might be drawn here with the growing ecological consciousness households and firms have exhibited in recent decades, as the climate change challenge has become part of the everyday consciousness.

Finally, the direction of technological change also depends on the balance of power between employers and employees. When workers have a say in the workplace, management has to get buy-in from them before major technologies are deployed and work is restructured. This can reflect itself in a modern version of Luddism – aversion to any kind of innovation that appears to threaten jobs. But it can also be a useful counterweight to adverse incentives in the system encouraging too much automation or the adoption of what Acemoglu and Restrepo (2019) call "so-so technologies". For example, businesses that take stakeholders' interests into account are more likely to deploy new technologies in a manner that empowers workers rather than replace them or reduce them to mechanical, routine work. Sophisticated technologies can allow managers to monitor their workers' every movement and measure their efficiency, enabling companies to set ever-demanding standards of productivity, at some cost to workers' physical and mental health. Alternatively, new technologies can empower workers to increase their autonomy and control their work environment.

[1] Those who finance innovation are very unrepresentative of societies in which they live. Lerner and Nanda (2020) report about top venture firms: "Eighty percent of partners are male; among the set of partners with at least one board seat, 91 percent are male. Three-quarters of partners with at least one board seat attended either an Ivy League school, or one of Caltech, MIT, or Stanford; moreover, nearly 30 percent of these individuals are graduates of just Harvard Business School or the Stanford Graduate School of Business. In terms of location, 69 percent are based in the Bay Area alone and over 90 percent are based in either the Bay Area, Greater Boston, or New York."

This is a point that is emphasized in the Villani (2018) report on artificial intelligence, which notes that AI can sometimes be used to enhance "the development of general cognitive skills and creativity" but can also at times "increase the routine nature of tasks and reduce capacity for personal initiative and thinking." It cites the example of "major retail logistics warehouses [where] the automation of processes may lead to employees solely following orders from a machine." Relying solely on businesses to make the choices about how AI should be implemented is therefore not optimal: "There must be a broad dialogue on the definition of this form [of complementarity between AI and humans], first and foremost among employees. The aim will particularly be to reconcile the desire to build individuals' room for maneuver and the potentially negative effects of calls for creativity, which can be problematic for many individuals." (Villani, 2018, pp. 91-92)

In short, there are reasons to believe that the direction of technical change, in addition to its rate, depends on a wide range of factors, many of which could be influenced by societal and governmental decision-making. And if so, it may be possible to direct technology to better serve the existing workforce's needs, in addition to preparing the workforce to match the requirements of technology. As France Stratégie (2020g) notes, France has lagged behind some other advanced economies in the adoption of AI by firms. This can be turned into an advantage by encouraging future deployment of AI tools that are in line with good-jobs objectives.

3.2. Margins of technological choice

Historically, technological innovation has created more (and better) jobs than it has destroyed. Even when it takes the form of automation that directly substitutes for workers, the indirect effects have predominated. The increased productivity generates greater aggregate demand and enables more output (and hence employment). Innovation also creates new products and tasks, increasing the demand for labor through occupational and industrial diversification. At the dawn of the Industrial Revolution, increases in agricultural productivity enabled the expansion of urban manufacturing. As manufacturing became more automated, new industries and services were created, absorbing the labor that would be displaced.

However, even if there is full employment and the *average* level of wages rise, there is no guarantee that the process benefits all segments of the labor force. When technology displaces production workers and medium-skilled sales and clerical workers – as it has in recent decades – while increasing demand for highly skilled professionals (as well as personal services at the bottom of the distribution), it will produce adverse distributional consequences for the former groups and labor market polarization. Furthermore, aggregate productivity growth has slowed down in all major economies since the mid-2000s, despite the ubiquity of new technologies such as AI, robotics, biotech, and so on.

Acemoglu and Restrepo (2019) draw attention to a double jeopardy in cases where automation is designed to increase capital share with only minimal effects on total factor productivity: "there is a displacement effect, taking tasks away from labor, but no powerful productivity gains redressing some of the decline in labor demand generated by the displacement effects." New technologies' impact on labor therefore remains an important concern.[1]

Firms faced with the challenge of upgrading productivity face all kinds of decisions they need to make. Their options may range from installing robots (which kind?) to modernizing existing capital equipment, to using advanced analytics to optimize performance. The technology that will work best is unclear ex ante, and rarely comes in ready-made, off-the-shelf form. These choices create the margins around which better or worse decisions can be made.

Technology choices that firms make are closely linked to the organization of production and the degree to which employees benefit from autonomy and a learning environment. Under Taylorist production, workers perform repetitive tasks on the assembly line: jobs may be plenty, but they are hardly satisfying. Under lean production, machines replace routine human labor, but work remains under hierarchical control and offers little autonomy.

In "learning organizations," by contrast, workers take part in decision-making, have considerable autonomy, and are engaged in problem-solving and continuous learning. The learning mode of production not only increases worker satisfaction, it is also more conducive to increased productivity and dissemination of innovations over time.[2] In particular, the introduction of new technologies along with organizational changes can allow less skilled workers such as shop floor operators to identify productivity improvements and engage in appropriate actions. There are plenty of examples of firms, including French ones, that have made a conscious choice to move towards this learning form of organization.[3]

[1] The evidence to date on the effects of automation on French labor markets is mixed. Acemoglu et al. (2020) find robot adoption leads to a decline in production workers and labor share. Robot adopters increase overall employment, but the effects for industry as a whole is negative, as their competitors' employment losses outweigh their gains. Aghion et al. (2020) use a proxy for automation and report that it leads to increases in employment at both firm and industry level, including for low-skilled workers. They attribute the result to increased international competitiveness due to automation, an effect that may not be operative for service industries that are less tradable and where the bulk of employment will have to be generated.

[2] Based on data from European Conditions of Work Surveys (EWCS), France Stratégie (2020g) reports highest levels of job satisfaction in "learning organizations." Also, rates of innovation seem to be correlated with proportion of learning firms at the national level.

[3] A joint program between McKinsey and the World Economic Forum focuses on "lighthouses," firms that are introducing new technologies that have the potential to revolutionize production in a human-centered way, empowering workers and giving them greater agency in the process of introducing innovations. Studying these

Firms will have diverse motives in choosing among these modes: management capacity, organizational culture, relations with workers, and not least imagination. Technological features themselves are rarely the sole determinant. In a recent study, France Stratégie (2020g) notes that learning organizations have become common in Nordic countries but are still scarce in France.[1] It highlights the need for public policies that pay attention to how firms make choices over production modes, instead of treating firms' organization as a black box.

Moreover, different technologies can survive side-by-side. In her study of small and medium-sized manufacturers in Ohio, Waldman-Brown (2020) found her respondents took two different approaches to the competitive challenges they were facing. One approach was to build new greenfield plants that were fully automated, typically in a different country, with the intention of phasing out existing operations. In her sample, one company was building a plant in Mexico and another in Romania. This strategy naturally resulted in job losses in Ohio (and did not create many new jobs in the outsourced countries in view of the extent of automation). But a second group of firms were engaged with "ongoing tinkering with existing plants," and this did not seem to result in much job losses. The retrofitting and modernization of existing plants seemed to be a profitable strategy for

lighthouses provides many valuable insights. For example, the French company Schneider Electric "is implementing, testing and rolling out ideas for innovation in an organized approach in a 'Smart Factory Program.' A strong focus on workforce engagement ensures that the changes and new technologies are supported by employees and therefore adopted quickly. For instance, at the company's Le Vaudreuil site in France, it has created a 3D virtual reality model of the entire factory to use in testing and validating innovative ideas. This is then used to engage operators so they can see how their day-to-day work will change (…)" (World Economic Forum [2019], "Fourth Industrial Revolution: Beacons of technology and innovation in manufacturing," White Paper, January, pp. 35-36.) In another example, "a large manufacturer had deployed autonomous mobile robots (AMRs) for a point-to-point material transfer workflow moving parts from kitting stations to an assembly cell. Workers in another cell noted that their colleagues experienced fewer delays waiting for parts, and they also noticed that the robots would wait in an idle queue between tasks. They approached the floor supervisor and requested that the robots also be assigned to support their cell (…) As a result of their independent and collaborative action, the workers and local staff were able to increase their productivity and also increase the utilization of the robot, making it a win for all involved." (World Economic Forum, *op. cit.*, p. 28). In the words of a machine operator at Foxconn, "my role has changed from loading and other manual tasks to monitoring, diagnostics and problem-solving." (World Economic Forum [2019], "Global Lighthouse Network: Insights from the forefront of the Fourth Industrial Revolution," White Paper, December, p. 27.)

[1] The report cites a rare French example, Favi – an automotive subcontractor: "As early as the mid-1980s, [Favi] chose to focus its strategy on product quality and the use of innovative technologies, with a focus on the health and safety of its employees. It also focused on the autonomy of its employees – especially the workers – by creating "self-organized units," i.e. mini-plants of 5 to 25 employees, each taking charge of a production line in a customer/supplier approach. As at Volvo, employees developed their own methodological tools for monitoring and improving production processes. The operators themselves made contact with customers instead of the sales staff, thus acquiring greater control over their work and a cross-functional view of the production line" (France Stratégie, 2020g, p. 2).

those firms that took this path. The majority of the SMEs Waldman-Brown (2020) interviewed "claimed to have found robust competitive niches" and "very few of these legacy firms seemed to be laggards." Firms pursuing the tinkering strategy "were constantly on the lookout for new technologies that could meet their demands for affordability and versatility, and most were not concerned about being out-competed by automation at home or cheaper labor abroad." Such studies suggest the possibility of different technological paths to firm success, with sharply varying consequences for labor.

An important series of papers by Acemoglu and Restrepo (2018, 2019) argues that it is possible to countervail present technological trends and push innovation in a direction that creates new, labor-absorbing tasks. They cite three areas. First, they suggest AI could be used in *education* in order to create more specialized tasks for teachers, personalize instruction for students, and increase effectiveness of schooling in the process. They note that individual students have different learning styles, which requires teaching to be adapted to their specific needs. By generating real-time information on learning and making recommendations, AI tools can enable customized, smaller-group teaching. They can also allow instruction to respond more rapidly to evolving technologies and labor market needs. Such tools are unlikely to replace teachers; they might in fact increase the demand for teachers (as well as redefine their roles) by enhancing the return to individual or small group instruction.

Second, Acemoglu and Restrepo (2019) note a similar potential in *healthcare*, which is perhaps closer to realization. AI tools can significantly enhance the diagnostic and treatment capabilities of nurses, physicians' aides, and other medical technicians. They can, in effect, allow "less skilled" practitioners to perform tasks that only physicians with many more years of professional education have traditionally undertaken. The same logic also applies to other areas to boost job opportunities for those without the most advanced skills. For example, AI systems already enable the drawing up of simple contracts (such as wills) and the provision of many other services without the actual involvement of lawyers. To date, such systems have replaced primarily paralegals rather than lawyers themselves, but more advanced systems could enable paralegals to perform more advanced tasks, such as document review, due diligence, and document drafting (Remus and Levy, 2016). Machine learning and neural networks can enable mid-level finance professionals to do financial risk assessment, loan underwriting, and fraud detection tasks that would otherwise be undertaken by more senior professionals (MGI, 2018).

Third, Acemoglu and Restrepo (2019) mention the use of augmented and virtual reality technologies in manufacturing, enabling humans and robots to work together in performing precision tasks (rather than the latter replacing the former). Such technologies are based on smaller, more nimble robots that also enable greater customization of production in response to specific customer needs. "This will not just help workers keep some of the

tasks that might have otherwise been automated; it could also create new tasks in which humans, augmented by digital technology and sensors, can be employed and contribute to productivity" (Acemoglu and Restrepo, 2019). More broadly, shop floor apps augment relatively unskilled labor by allowing them to undertake operations that more skilled employees typically perform. Linder (2019) notes that such apps "enable manufacturers to bridge the skill gap." Real-time performance feedback and guidance through manufacturing analytics allow "experienced and new operators [to] work side by side with manufacturing apps" (Linder, 2019).

Product customization is one of the imperatives that have pushed some car companies to moderate their ambitions with respect to automation. Beyond Tesla, companies such as BMW and Mercedes are building their automation plans around human work which they have found allows both greater reliability and more customization in production. The McKinsey Global Institute reports:

> "after years of building robotic factories, BMW in South Carolina is ramping up hiring of human workers. [BMW] says that combining people with machines on its automotive assembly lines increases the flexibility to build multiple models in smaller batches and thus respond to shifting customer demands more quickly." (MGI 2018, 44)

In new BMW factories, lightweight robots ("cobots") that do not have to be physically separated from workers allow humans and machines to perform complementary tasks. For example, to install the insulation inside a door, a worker may first put in place the foil with the adhesive bead, and then the robot applies the heavy pressure needed to seal it.[1] Similarly Mercedes-Benz has replaced some of its older generation robots with AI-enabled cobots, redesigning its processes around human-machine collaboration. This allows the company to build more customized S-class sedans, something that older systems could not do as well. In the plant, human workers customize cars on the fly using hand-held tablets, with the automated work being performed by the light-weight robots (Wilson and Daugherty, 2018). In general, lightweight robots have opened up new potential for human tasks that cannot be routinized.

In sum, there are many margins of technological choice. First, the kind of automation that amounts to replacement of labor, pure and simple, is far from destiny. Second, investing in "learning organizations" can pay off in terms of both worker satisfaction and productivity. Third, many AI systems have the potential of complementing low and middle skill labor instead of high skills. Fourth, appropriately steered innovation can lead to an increase in labor-requiring tasks through greater customization in manufacturing and individualization of services. Some of the examples we have provided suggest that firms can make

[1] BMW Group (2013), "Innovative human-robot cooperation in BMW Group Production", Press release, September 10.

innovation decisions that are simultaneously labor-friendly and profitable. But the mix of incentives they face is distorted by existing policies as well as by their lack of internalization of the social benefits of good jobs.

3.3. Is there a role for policy?

“The direction of technological change should be an explicit concern of policy-makers, encouraging innovation in a form that increases the employability of workers and emphasizes the human dimension of service provision,” wrote Atkinson (2015, pp. 118-119). The question is what this implies for specific policies.

In other areas we have covered, we were able to build on existing research to suggest certain new directions. When it comes to policy to redirect technological change in a more employment-friendly manner, we are less able to rely on empirical evidence since this is not a question that has received much attention from researchers. The conceptual grounds for believing technology can be steered in particular directions is strong. It is not unrealistic to assume that innovators respond to expected profitability. Moreover, we are not short of examples of directed innovation in other spheres of policy. Indeed, much government innovation policy – promoting digitalization, say, or green technologies – is predicated on that assumption. Similarly, government investments in and support for military technologies provide a clear example of innovation being given a specific direction. But we are largely in the dark about which instruments might work and how much can be achieved with respect to worker-friendly technologies. Hence, this part of our proposals is by necessity more speculative and suggestive rather than definitive. Given the importance of technological change to the future of work, however, we believe it is appropriate for governments to experiment with a variety of approaches – always standing ready to review and revise policies in light of accumulating evidence.

We suggest some broad directions for policy here to show that there is a range of tools that is available.

First, it would be useful to review the prevailing fiscal regime in France with a view to ascertaining whether there are excessive incentives for investment in automation (as appears to be the case in the U.S.; Acemoglu et al., 2020). If the answer is yes, corrective instruments may need to be put in place. Possibilities would include an increase in the taxation of capital that directly substitutes for labor (e.g., robots), providing tax preferences for cobots over traditional robots, and, of course, reducing labor charges. We discuss the taxation of capital further in Section 5 (point 2).

Second, it may be possible to incorporate employment considerations directly in the existing regime of tax incentives for R&D. In the presence of a good-job objective, traditional R&D externalities have to be modified to take into account the likely employment

effects of innovations. The selection criteria could revolve around the margins of choice we discussed previously: innovations such as automation that directly replace labor would be favored the least, and innovations that augment labor of low and medium skills and create new, labor-absorbing tasks would be favored the most.

While it may be difficult to ascertain those employment consequences, especially of different types of work, existing research does provide some rough guidelines. For example, Webb (2020) provides a mapping from different kind of research in AI (measured through patents) to the employment structure. This kind of work could guide policy makers in providing a more differentiated structure of R&D incentives, favoring the kind of R&D that is more labor-friendly. Acemoglu (2020) suggests policy makers should look at the labor share of value added. None of the existing methods are likely to be particularly reliable at the outset. The expectation is that paying attention to employment in this context might lead eventually to the development of better measurement frameworks regarding labor market implications.[1]

Third, and in a similar vein, governments could apply a "prospective employment test" when determining their public spending priorities for innovation. At the EU level, for example, employment considerations appear to play virtually no direct role in the construction of the innovation portfolio. Horizon Europe has identified five specific research and innovation missions for the 2021-2027 period: adaptation to climate change; cancer; climate-neutral and smart cities; healthy oceans, seas, coastal and inland waters; soil health and food.[2] No doubt each of these areas is important. But encouraging labor-friendly innovations is no less important. Its absence from the list reflects an unwarranted determinism about the direction of technological change.[3]

[1] Acemoglu (2020) asks: "How do you distinguish an automation application of AI from one that leads to new tasks and activities for humans? For government policy to redirect research, these guidelines need to be in place before the research is undertaken and before technologies are adopted. This calls for a better measurement framework — a tall order, but not a hopeless task. Existing theoretical and empirical work on the effects of automation and new tasks shows that they have very distinct effects on the labor share of value added (meaning how much of the value added created by a firm or industry goes to labor). Greater automation reduces the labor share, while new tasks increase it. Measuring the sum of the work-related consequences of new AI technologies via their impact on the labor share is therefore one promising avenue. Based on this measurement framework, policy can support technologies that tend to increase the labor share ahead of those that reduce the labor share."

[2] See "Horizon Europe structure and the first calls".

[3] Atkinson (2015, p. 120) provides another example: "Did the European-based Eureka consortium [in autonomous vehicles] consider the distributional issues when launching PROMETHEUS (Programme for a European Traffic System with Highest Efficiency and Unprecedented Safety)? The fact that 'efficiency' is picked out in its title suggests that 'equity' was not at the forefront."

The European Fund for Strategic Investments (EFSI) partners with the European Investment Bank (EIB) to finance investment in innovation. The areas it lists as priorities are "infrastructure, energy efficiency and renewable energy, research and innovation, environment, agriculture, digital technology, education, health and social projects." It also provides risk finance to small businesses to help them innovate. One possibility would be to devote a portion of EFSI funds experimentally to developing labor-friendly technologies – just as in the case of green technologies.

The European Green Deal (EGD) provides a more specific opportunity for making employment a focus of innovation. The social component of EGD consists almost entirely of "compensation," the idea being that those regions and groups of workers that are adversely affected by investments in decarbonization should be made whole in some way.[1] An equally important strategy might be to take good job considerations explicitly into account in selecting investment priorities within EGD. In particular, different decarbonization strategies may have different implications for labor markets. Some programs such as retrofitting building and transport systems, waste management, and public transportation tend to be much more labor friendly than others, such as carbon capture and storage (CCS) or nuclear energy. Employment considerations may yield a different portfolio of innovations and investments within the EGD than would be selected in their absence. We discuss the employment implications of EGD further in Appendix 8.

Fourth, the government can directly encourage the introduction and dissemination in the private sector of learning organizations that empower workers. The goal would be for such organizational forms – based on teamwork, development of cognitive, social, and soft skills, workers' autonomy and continuous learning – to replace Taylorist or lean organizational models where feasible. Along these lines, the authors of a recent France Stratégie report recommend the creation of a national program for managerial and organizational innovation to raise awareness of firms and to assist in the implementation of the requisite organizational changes (France Stratégie, 2020g). Since the requisite investments may require both public assistance and skills training, it would be natural for such a program to work together with the Public Employment Services and the regional business bureaus we discussed previously.

Finally, public policy can play a role in shaping public consciousness about the social and employment consequences of innovation. A public that is more aware about the choices we have is likely to expect more from innovators. Acemoglu (2020) draws an analogy with environmental consciousness and concerns about nuclear weapons: "in the same way that

[1] The EGD includes a Just Transition Mechanism to raise and transfer funds to regions dependent on coal, lignite, oil shale and peat, and greenhouse gas-intensive industries. Region-specific "territorial just transition plans" are contemplated for reskilling, development, and regional rehabilitation needs, though plans remain vague at present.

millions of employees demand that their companies reduce their carbon footprint and in the same way that many nuclear physicists would not be willing to work on developing nuclear weapons, AI researchers should become more aware and more sensitive to the social consequences of their actions." One might also add to these examples the increasing concerns about privacy that digital innovations have created. The requisite change in public norms will have to come from within society at large. But the government can play an important role as well in articulating the appropriate narrative on the need for labor-friendly innovation.

The public narrative we might need is one that qualifies the single-minded focus on the imperative of adjustment by workers and their skills to new technologies. This is an oddly one-sided remedy. As a matter of logic, the gap between skills and technology can be closed in one of two ways: either by increasing education to match the demands of new technologies, or by redirecting innovation to match the skills of the current (and prospective) labor force. The second strategy, which gets practically no attention in policy discussions, might be worth a shot too.

4. Trade Policies that Address Fairness

As our survey results indicate, there is an outsized concern among the French public on the adverse job consequences of international trade. Part of the policy response to this has to be the dissemination of more accurate information about the diverse causes of de-industrialization and job losses in declining industrial regions, particularly technological changes and demand shifts. However, policy must also address the possibility that certain kinds of imports, from countries with weak social standards and exploitative working conditions for labor, can undermine conceptions of fair competition and good jobs policies at home. Policies of the sort we have discussed previously that induce domestic firms to expand good jobs can be self-defeating if the result is a loss in competitiveness and imports taking over.[1]

We argue that trade policy must incorporate an explicit mechanism for addressing imports that pose such problems, while shielding from protectionism the bulk of trade that takes place under conditions of competition that differ little from domestic markets. We will describe an anti-social dumping procedure designed to achieve that objective.

The objective is twofold. First, we want a more robust safeguard mechanism to underpin the trade regime. Explicit "safety valves" allowing countries to raise trade barriers under

[1] This is less of a concern when the policies are conducive to productivity gains, as they are intended to be. Even so, the threat of imports might dissuade companies from investing in good jobs strategies that might be viewed as risky at the outset.

certain conditions is a means for enhancing the legitimacy of international trade and outsourcing in general. This is a principle already embodied in “fair trade” provisions of trade agreements. Second, we want to ensure that international trade does not serve – nor is perceived to serve – as a vehicle for undermining high labor and social standards in France and the European Union. Rather than being a restriction on trade, our proposal aims to legitimize the open economy without sacrificing the hard-achieved social rights of workers in countries like France.

We emphasize that our proposal would require a reform at the level of the European Union. Since the EU has a common trade policy, France can of course not engage in unilateral trade policy actions. Furthermore, making it fully compatible with world trade rules will require the EU to negotiate a WTO agreement with trade partners. We believe this is an opportunity for France (and the EU) to act as leaders on the global stage in favor of a trade regime more compatible with domestic social goals.

4.1. Trade and distribution

One of the remarkable implications of the theory of comparative advantage is that sharp distributional consequences are generically the flip side of the gains from trade. This point was first formalized in the famous Stolper-Samuelson (1944) theorem, which demonstrated that one of the factors of production would always be left worse off in absolute terms as a consequence of opening up to trade. In a country where skilled labor is relatively abundant (compared to trade partners) and which has comparative advantage in skill-intensive goods, the loser would be unskilled labor. Even though the Stolper-Samuelson theorem is built on very specific assumptions, the result is remarkably robust and generalizes very broadly. Under competitive conditions, and as long a country does not fully specialize – i.e., as long as it continues to produce close substitutes for importable products – opening up to trade must leave at least one factor of production worse off in absolute terms (Rodrik, 2018). The result that openness to trade creates losers is not a special case; it is the implication of a very large variety of trade models.

Early research by trade economists looked for effects across the skill divide, and the effects there were not that large. Trade seemed to account for perhaps 10-20 percent of the rise in the skill premium. More recent work has focused on differences in labor markets across different geographical regions and has uncovered much larger effects. Workers are apparently not very mobile spatially, and communities that compete with imported goods can be hurt very badly by rising import competition (Autor, Dorn, and Hanson, 2013; Hakobyan and McLaren, 2016).

In Europe, where safety nets are stronger, local labor market shocks arising from import competition have not necessarily produced distributional effects that are as large as in the U.S. However, the evidence indicates that trade shocks have had measurable political

effects nonetheless. In particular, the rise of right-wing populism and the Brexit vote have both been linked to the China trade shock. Chinese import penetration has been linked to increased support for nationalist, far-right parties in a wide range of empirical analyses covering regions within 15 European countries (Colantone and Stanig, 2018a); Italian municipalities (Barone and Kreuter, 2019); German counties (Dippel et al., 2018); and French cantons (Malgouyres, 2017). It is significantly associated with the strength of the pro-Brexit vote in Britain's 2016 referendum (Colantone and Stanig, 2018b). It is also found to lead to lower support for democracy and liberal values in a study of regions covering 15 European nations (Colantone and Stanig, 2018c).

It is somewhat surprising that so many studies covering different European nations have found such strong causal effects from Chinese import penetration to shifts in political preferences. Safety nets and labor market protections are much stronger in Europe than in the U.S. Imports from China and other low-cost nations have not figured prominently in political campaigns, as they have in the U.S. While public opposition to trade agreements has been on the rise in Europe, this opposition generally revolves around trade with the U.S. and Canada, specifically the proposed Transatlantic Trade and Investment Partnership (TTIP) and the Canada-Europe Comprehensive Economic and Trade Agreement (CETA) (Young, 2019). The apparent fact that the local labor market effects of Chinese imports have left a measurable political imprint even in Europe is suggestive of an oversized sensitivity to trade shocks.

4.2. Trade, fairness, and appropriate remedies

How should the labor market disruptions caused by trade be remedied? In a market economy, labor markets are buffeted constantly by shocks of different types. Jobs can be lost or displaced because of demand shocks, technology shocks, management decisions, and a host of other reasons. Trade is only one source of labor market disruption, and normally far from the most important one. Most economists would probably agree that there should be some kind of compensatory mechanism (unemployment and training benefits) when the shocks hit those at the bottom end of the labor market. They would also agree, however, that the safety net should not discriminate by the type of shock. If we are going to help those who are adversely affected by labor market disruptions, we should not treat those who are hit by import competition differently from those who are involuntarily displaced for other reasons.

The view that policy makers should not be concerned by the nature of the underlying shock is predicated on an implicit judgement that all market shocks are alike and therefore require identical responses, if any. But this judgement may not be consistent with basic moral intuitions. To make the point as starkly as possible, consider the following thought

experiment. Suppose Olivier and Jean run two firms that compete with each other. Consider the following scenarios:

1. Olivier works really hard, saves and invests a lot, comes up with new innovations, and outcompetes Jean, resulting in Jean and his employees losing their jobs.
2. Olivier gets a competitive edge over Jean by finding a cheaper supplier in Germany.
3. Olivier drives Jean out of business by outsourcing to a supplier in Myanmar, which employs workers in 12-hour a day shifts and under extremely hazardous conditions.
4. Olivier brings workers from Myanmar to France under temporary contracts and puts them to work under conditions that violate French labor, environmental, and safety laws.

These scenarios are isomorphic from a purely economic standpoint insofar as each creates losers as well as gainers in the process of expanding the overall size of the economic pie for the national economy. That is, Olivier's gains are larger than Jean's losses. They differ only in the manner in which these gains and losses are generated.

Most audiences react very differently to these shocks. Scenario 1 generally elicits the least opposition; what is happening seems to be the normal operation of a competitive market economy. Scenario 2 typically raises also few concerns – at least for an audience that is well educated and understands the benefits of international trade. However, support drops sharply with scenarios 3 and 4. It appears there is something problematic with the exchanges described in the latter two scenarios. What is different with these scenarios is that they entail a form of market competition that would be considered unacceptable if it took place at home – and is in fact illegal under domestic laws. (Many economists still favor scenario 3. But it is not clear then why they should not also favor scenario 4, which would violate the law.)

In recent work, di Tella and Rodrik (2020) carried out a survey in which U.S. respondents were presented with a news story about a factory closure that would leave hundreds of workers at risk of unemployment. The "treatments" consisted of different explanations for why the factory might close. These included: a technological shock (automation), a demand shock (changing consumer preferences), management failures, and two trade shocks, namely, outsourcing to a developed country (France) and outsourcing to a developing country (Cambodia). A control scenario where no specific shock is mentioned was also included. Respondents were asked two questions on how the government should respond: (a) whether the government should provide financial assistance to displaced workers, and (b) whether the government should restrict imports.

The results support three broad conclusions. First, respondents' willingness to provide financial compensation to workers is dependent on whether the shock is trade related or not. Non-trade shocks increase willingness to provide financial support; trade shocks

decrease it (in both cases relative to the control scenario). Second, trade shocks greatly increase preferences for import protection, relative to non-trade shocks. This is a result that we have also found in our survey of French respondents (see Appendix 10). Third, there is a further difference between trade that involves a developed country and trade that involves a developing country. The preference for import protection is greatest in the case of outsourcing to a developing country.

Hence respondents draw sharp differences across the scenarios and how the government ought to respond. While financial compensation – safety nets – is viewed as appropriate for domestic market shocks, it is viewed unfavorably for trade shocks. They also viewed trade with developing countries as more problematic than trade with developed countries, exhibiting a preference for much greater import protection in the first case.

One way to interpret these results is through the lens of distributive fairness. International trade is viewed differently from domestic competition because certain kinds of international competition can undermine domestic norms with regards to what is an acceptable redistribution. (Note that a similar thing happens when competition from tax havens undermines the domestic tax regime, when imports from jurisdictions with poor safety enforcement undermine domestic consumer safety rules, or carbon-intensive imported products displace domestic production subject to strict decarbonization rules.) This is the argument that corresponds to scenario 3 in the thought experiment above. In this case, compensation is generically inadequate because what is at stake is the surreptitious modification of the rules of the game – the undermining of social bargains reflected in domestic regulations through the back door. Trade is not merely a market relationship, but also an instrument for reconfiguring domestic institutions to the detriment of certain groups. One could argue that such instances require targeting directly the trade flows that have the alleged effect.

4.3. Addressing social dumping

Consequently, we need to distinguish between two different arguments for why trade may be problematic from a distributional – and hence social and political – perspective. When international trade operates just like any domestic form of market competition, it makes little sense to set it apart and treat it differently from other approaches for dealing with inequality and insecurity in labor markets at large (using unemployment compensation, progressive tax systems, active labor market policies, employment-friendly macro policies, etc.). But when trade entails practices that violate laws or norms embodied in domestic institutional arrangements, and thereby undercuts domestic social bargains, it may be more legitimate to restrict the import flows that have the alleged effect.

In the specific context of trade with developing nations, what should be of particular concern for labor advocates is not low wages or labor costs per se, to the extent that those

reflect labor productivity or alternative employment opportunities. Restrictions on imports should not be permissible merely because wages in an exporting country are low. But trade may be considered unfair when competitive advantage is gained through the violation of worker rights. A possible response would be for European trade policy to remedy against specifically this kind of trade, to prevent what might be called “social dumping.” This would be analogous to border carbon adjustments – import tariffs on carbon-intensive products – when domestic carbon policies are stricter than those in trade partners. A safety valve that allows principled objections to free trade to prevail may make it easier to repress protectionist steam.

A policy that targets social dumping must distinguish between true social dumping and ordinary market competition. Therefore, it needs a domestic investigatory process of fact finding, as in the case with regular anti-dumping. To see how such a process can be devised we take our cue from the prevailing trade remedy regime under the WTO.

The WTO allows countries to impose anti-dumping duties when imported goods are being sold below cost. In addition to determining dumping, domestic authorities must show a “material injury,” or threat thereof, to a domestic industry. Separately, under the Agreement on Safeguards, countries are allowed a (temporary) increase in trade restrictions under a narrow set of conditions. Triggering the safeguards clause requires determination that increased imports “cause or threaten to cause serious injury to the domestic industry,” that causality from imports be firmly established, and that injury be not attributed to imports if there are multiple causes for it. Safeguards cannot be applied to developing-country exporters unless their share of imports of the product concerned is above a threshold. And affected exporters must be compensated by providing “equivalent concessions.”

A broader interpretation of safeguards might acknowledge that countries may legitimately wish to restrict trade for reasons going beyond competitive threats to the profitability of their industries. Distributional effects that conflict with domestic norms are one such reason. We could imagine recasting the current agreement into an Agreement on Social Safeguards, permitting the application of safeguard measures under a broader range of circumstances. This would require replacing the “serious injury” test with another hurdle: the need to demonstrate broad domestic support, among all concerned parties, for the proposed safeguard measure.

The investigative process in each country would: (i) determine that the imports in question do threaten to undermine a domestic standard or widely held social norm, (ii) gather public testimony and views from all relevant parties, including consumer and public-interest groups, importers of the product(s) concerned, and exporters to the affected country, and (iii) ascertain whether there exists broad support among these groups for the application

of the safeguard measure in question.[1] A technical report laying out the likely economic and distributional consequences of proposed safeguard measures could be prepared by an independent body (or commissioned from economic experts) to frame the discussion.

Ordinary protectionism would not have much chance of success if groups whose incomes would be adversely affected by trade restrictions – importers and exporters – were necessarily part of the deliberative process and the investigative body had to determine whether these groups also support the safeguard measure. At the same time, when deeply and widely held social norms are at stake, these groups are unlikely to oppose safeguards in a public manner, as this would endanger their standing among the public at large. Imagine, for example, that forced labor was used in producing goods for export in country X, or that labor rights were widely and violently repressed. Exporters to country X and downstream users of X's products may find it difficult to publicly defend free trade with this country.

In less clear-cut cases, the main advantage of the proposed procedure is that it would force a public debate on the legitimacy of trade and when it may be appropriate to restrict it. It ensures that all sides would be heard. This is something which rarely happens. This procedure could also be complemented with a strengthened monitoring and surveillance role for the WTO, to ensure that domestic procedures are in compliance with the expanded safeguard clause. The specific oversight criteria might include transparency, accountability, inclusiveness, and evidence-based deliberation. An automatic sunset clause could ensure that trade restrictions do not become entrenched long after their perceived need has disappeared.

It would be incumbent on governments to ensure that the requirements of democratic deliberation are fulfilled: Are the views of all relevant parties, including consumer and public-interest groups, importers and exporters, civil society organizations, sufficiently represented? Is all relevant evidence, scientific and economic, brought to bear on the final determination? Is there broad enough domestic support in favor of the opt-out or safeguard in question? These procedural requirements echo those in the existing WTO Agreement on Safeguards, although the scope of its application would be greatly enlarged.

This procedure would force a deeper and more representative public debate on the legitimacy of trade rules and on the conditions under which it may be appropriate to suspend them. The most reliable guarantee against abuse of opt-outs is informed deliberation by the polity at large. The requirements that groups whose incomes would be adversely affected by the opt-out – importers and exporters – participate in the deliberations and that the domestic process balance the competing interests in a

[1] This proposal draws on Rodrik (2019); see also Shaffer (2019) for a legal treatment.

transparent manner would minimize the risk of protectionist measures benefiting a small segment of industry at large cost to society.

Moreover, even though domestic interests would presumably dominate the deliberations, the consequences for foreign countries need not be entirely overlooked. When social safeguards pose serious threat to poor countries, for example, non-governmental organizations and other groups may mobilize against the proposed opt-out, and those considerations may well outweigh ultimately the costs of domestic dislocations. A labor union may win protection when its members are forced to compete against workers abroad who toil in blatantly exploitative conditions. They are much less likely to carry the day against countervailing domestic interests when foreign working conditions reflect poor productivity rather than repression of rights. As the legal scholar Robert Howse notes, enhancing confidence in the ability of domestic deliberations to distinguish between legitimate domestic regulations and protectionist "cheating" should allay concern that domestic measures are purely protectionist. "Requiring that regulations be defensible in a rational, deliberative public process of justification may well enhance such confidence, while at the very same time serving, not frustrating, democracy" (Howse, 2000, p. 2357). The proposed safeguard would be the embodiment of the principle that countries have the right to uphold their standards when trade undermines broadly popular domestic practices, by withholding market access or suspending WTO obligations if necessary.

Current safeguard procedures require most-favored nation (MFN) treatment of exports, permit only temporary measures, and demand compensation from the country applying the safeguard. These need to be rethought in the context of the broader arrangement we are proposing. MFN treatment will often not make sense. If the safeguard is a reaction to labor abuses in a particular country, it is appropriate to direct the measure solely against imports from that country. Similarly, an ongoing abuse will require ongoing use of the safeguard. Instead of imposing temporary relief, it would be better to require periodic review or a sunset clause that could be revoked in case the problem continues. This way trade restrictions or regulations that hamper other countries' interests are less likely to become ossified.

The issue of compensating the trade partner is trickier. When a country adopts a safeguard measure, the logic goes, it revokes a "trade concession" it had previously granted to other countries in an internationally binding agreement. Those other countries are entitled to receive equivalent concessions or to revoke some of their own concessions in return. In a dynamic world with near constant change, the nature of the concessions that a country grants to others cannot be predicted perfectly. This uncertainty turns international trade agreements into "incomplete contracts." When unforeseen developments change the value or cost of trade flows – because of new technologies (genetic engineering), say, or new values (on the environment), or new understandings (on desirable development strategy) – who controls rights over those flows? The requirement of compensation provides those

rights exclusively to exporters; the exporter can continue to demand market access on the original terms. But we might just as legitimately argue that the value of the original concessions depends on the circumstances under which they were provided. Under this interpretation, an exporter could not claim a benefit that did not exist, nor the importer be forced to suffer a social loss that was not originally contemplated, when the agreement was signed. This would bring control rights closer to nation states and sharply limit the amount of compensation that exporters could expect.

Authoritarian regimes likely will become easier targets for safeguard action when their exports cause problems. Even though some of their labor practices, for example, will be easy to justify, others may not be. Minimum wages significantly lower than in rich countries can be rationalized in the domestic debate by pointing to lower labor productivity and living standards. Lax child labor regulations are often justified by the argument that it is not feasible or desirable to withdraw young workers from the labor force in a country with widespread poverty. In other cases, arguments like these carry less weight. Basic labor rights such as non-discrimination, freedom of association, collective bargaining, and prohibition of forced labor do not cost anything. Compliance with these rights does not harm, and indeed possibly benefits, economic development. Gross violations constitute exploitation of labor and will open the door for safeguards on the ground that they generate unfair distributional costs.

Our proposal aims to delegitimize unwarranted protectionism (against developing countries in particular) by enabling trade restrictions in that relatively narrow range of circumstances where they are warranted on social grounds. Broadening safeguard action in this manner would not be without its risks. The possibility that the new procedures are abused for protectionist ends and open the door to unilateral action on a broad front, despite the high threshold envisaged here, has to be taken into account. But as we have already seen in the last four years in the U.S., protectionism can also be the result of excessive labor-market disruption and the sense of unfairness that may result.

A deepening backlash against trade may in fact be rendered more likely in the absence of a clause against social dumping. Absent creative thinking and novel institutional designs, the tensions created by globalization will not ease. That would be far worse than the safeguard regime we have just described. Moreover, qualms about the protectionist slippery slope have to be tempered by considering the abuse that occurs under the existing rules, without great detriment to the system. Notably, the existing anti-dumping regime is an explicitly protectionist mechanism with little economic justification. It has not destroyed the multilateral trade regime, operating instead as a highly imperfect, but much needed safety valve. It is not clear why a well-designed safeguard clause that extends to genuine social fairness concerns would have consequences that are worse.

We note that France has already passed legislation to incorporate human rights and environmental considerations in French firms' international operations. In 2017 France became the first country in the world to adopt legally binding human rights and environmental due diligence obligations on large French companies with foreign activities. Firms are required to prepare vigilance plans based on the U.N. Guiding Principles on Business and Human Rights and face civil liability if they do not meet them.[1] Importantly, the requirement applies not only to firms' own operations but also to suppliers with whom the company maintains an "established commercial relationship." By 2019 such vigilance plans on covered companies' global supply chains were already under assessment, and the first civil claims on alleged failures had already been filed. The Act also applies to foreign firms with a significant business presence in France (Ruggie et al., 2020). However, it does not cover imports by firms unaffiliated with large French corporations.

We end by pointing out an important complementarity between our anti-social dumping proposal and other recommendations in the report. Protection against imports will achieve little unless there are strong *domestic* policies that further equity and reduce economic insecurity through the kinds of tax and labor market policies we have discussed. For occasional protection to work, there must be something worth protecting. On the other hand, when such policies are in place, it is important that trade not serve as a backdoor for undermining them. Hence sound trade safeguards are a complement for domestic policies of inclusion.

[1] An English translation of the law can be found on the Respect International website.

SECTION 5

POST-PRODUCTION POLICIES

1. Rethinking Tax Systems

A priori, globalization and the rising mobility of capital makes the latter harder to tax. Governments have increasingly tried to use taxes on the less mobile bases to finance government spending and the burden has fallen more and more on labor. Social security and payroll taxes have increased by four percentage points as a share of GDP in the G7 countries since 1970. The growth in the tax revenue to GDP ratio in rich countries has been financed mostly through taxes on labor. As a result, despite the increased wealth and capital income since the 1980's, capital income taxes on individuals play a much more limited role than before 1980.

And yet, several shorter and longer-term developments should prompt France to rethink its taxation of capital. First, as inequality and polarization have increased as described in Section 1, dissatisfaction with globalization and the perceived unequal gains of capital and labor are growing. A push for policy change is underway and is likely to increase. Second, the Covid-19 crisis has and will continue to increase the pre-existing inequalities and deepen the fault lines described in Section 1. It will also exacerbate revenue needs and reduce the public tolerance for tax evasion or avoidance by capital and wealth in light of pressing societal needs. Third, this comes on top of a secular rise in public revenue needs due to population aging and demographic changes. Finally, there is actually more scope for taxing capital income now than there was for the last decades. Important progress made on the exchange of information between countries on the incomes of individuals and companies opens up new avenues for taxing capital that were considered impossible for a long time. The fatalistic attitude of the last decades that it is hopeless to try and tax internationally mobile capital and companies in a globalized world may need to be reconsidered.

Taxing better

Our general push in this proposal is to "tax better." France already has a high tax burden relative to other OECD and EU countries, and there is little scope for further fiscal weight. In fact, France Stratégie (2020c) recently even linked the high fiscal burden in France to the sharper decline in manufacturing. Instead, we provide ideas for broadening tax bases, improving compliance, and leveraging new tools to improve the efficiency of the tax and transfer system. From the outset, we want to make it clear that in this report, we do not discuss the level of taxes. A gold standard tax system in terms of efficiency and effectiveness is hard to design, let alone implement successfully. But renewed international cooperation, exchanges of information, technology, and data analytics provide big opportunities to improve the taxation of capital, labor, transfers of property, and companies.

Major guiding principles: a primer

It is worth briefly revisiting some key principles from tax analysis that can inform the thinking on tax issues.[1]

In a nutshell, tax theory tells us that the right tax on any income flow (labor earnings, capital income, inheritances) or asset (housing, financial assets) depends on its efficiency costs in terms of economic activity and on its distributional impacts. The efficiency costs depend on how much an asset or income flow can respond to taxation. Something that is very elastic and responds strongly cannot be taxed as much purely due to feasibility reasons. The responses of incomes or assets to taxes define what is feasible. The distributional impacts of a tax depend both on which people own the asset or receive the income and on how society values one euro transferred to these individuals relative to everyone else (i.e., the so-called "social marginal welfare weight" on these individuals). Thus, ineluctably social justice and fairness views will come into play. There is no answer possible to "what should a tax be?" that does not involve a fairness and social justice judgment on who, ultimately, "deserves" to receive a transfer or pay a tax. Social fairness views are complex and have been studied in France and in other countries in recent years (Saez and Stantcheva, 2016). Yet, a lot more needs to be done on understanding them and we address this point in Section 6.

The right tax is the one that will balance the efficiency costs from distortions to economic behavior against the gains in revenues or redistributive benefits. These forces can sometimes point in different directions. For instance, real estate and housing are generally less mobile and slower to adjust to tax changes than are holdings of financial assets. From an efficiency point of view, this means that taxes on real estate holdings or their

[1] A simple conceptual framework for how to think about labor and capital taxation in a clear way comes from Saez and Stantcheva (2018), which this section draws on.

associated income flows should be higher, all else equal. Yet, the pull of distributional factors is in the other direction, as real estate is typically more evenly distributed than financial assets. The more equal distribution of real estate makes it less attractive to tax.

But the elasticity of incomes or assets to taxes is not exogenously given and policymakers should not have a fatalistic attitude about it. There are policies that shape it. For instance, international exchanges of information can reduce the appeal for capital to move across countries for tax evasion or avoidance purposes. Sometimes the high responses are caused by the tax system itself, for example, by having too many loopholes or income shifting opportunities. In these cases, the overall right policy response is typically to first reduce the elasticity and reduce avoidance responses by closing loopholes and enforcing compliance. We discuss these issues extensively here.

In the policy debate, efficiency and fairness arguments are often mixed, and fairness views are hidden behind efficiency statements. For instance, saying that it is impossible to tax high capital incomes because capital is very mobile and will easily avoid taxes is an efficiency and feasibility statement. The accuracy of it is an empirical question and can be checked in the data – it is not a matter of opinion. To the contrary, saying that high capital income earners should not be taxed because they are deserving of their incomes and should be entitled to keep them is a fairness and social judgement statement; it is not an empirical question. On that front, we can verify using survey data the prevalence of different justice and fairness views among citizens (Section 6).

Many people would agree that it is desirable to have at least some progressivity in the overall tax and transfer system. A major principle to follow is to think of the tax and transfer system overall, rather than consider a given tax in isolation. Proportional or even slightly regressive taxes such as the value-added tax (VAT) may increase the overall progressivity of the tax and transfer system if they finance spending targeted precisely at those on lower incomes. In isolation, a given tax does not say much about progressivity or regressivity, or about economic incidence.

In addition, one indirect way of making taxes more progressive without changing tax rates is to enforce compliance, stop avoidance, and close loopholes. Tax expenditures can be regressive, especially if uncapped or if the cap is set too high. This is because many such gaps and avoidance opportunities in the tax system tend to benefit higher-income households more.[1] Hence, in general, reducing such opportunities indirectly benefits lower-income households and can be progressive. We discuss loopholes in more detail below.

[1] To take a stark example to make this point salient, a very broad-based system with a flat tax and an exemption level could actually be more progressive than a system with increasing rates, but that excludes the income from many assets (if the latter are disproportionately held by high-income households).

In general, it can be problematic if the tax gap between two related tax bases becomes too large. For instance, it could be counterproductive to have too different taxes on capital and labor. At the most basic level, such large gaps can cause income shifting between tax bases, such as a self-employed person choosing to become incorporated or wages from working in one's private business being paid out in the form of dividends. In principle, such shifting can be minimized with proper regulation and tax code design. Concretely, the tax code should not allow for what is essentially the same income to be classified in two different bases and for people to engage in tax arbitrage by selecting the most advantageous tax base for any given income. Those opportunities appear to be rarer in France than in the U.S., but do exist for businesses and entrepreneurs.[1] It is conceivable that they could be exploited more as shifting incentives have increased after 2018 (with the flat tax (*prélèvement forfaitaire unique*, PFU) and programmed fall in the corporate tax).[2] In general, a progressive income tax cannot be sustained very well when the corporate tax becomes too low, because higher-income individuals especially can incorporate and receive income through their company, taxed at the low corporate tax rate. Earnings can be retained for a (very) long time within the corporation and thus avoid individual income taxes. It has been shown that a lot of equity income like this is untaxed at the individual level as it is kept within corporations or not realized.

More fundamentally, as explained above, tax burdens have generally been shifting away from capital and towards labor, and this may have reinforced some existing trends. In the short run, financing all or most social programs by labor taxation and social security contributions on labor income can create an incentive to shift away from labor income, reduce labor market participation, increase labor market duality (e.g., between standard and non-standard employment), and diminish labor productivity and growth. On the other hand, shifting at least part of such financing to general tax revenue (that could cover all

[1] In the U.S., a prime example of a shifting opportunity between the labor and capital bases is the choice between the S-corporation status (taxed as a pass-through entity, under the personal [labor] income tax) and the C-corporation status (taxed as an incorporated business, under the corporate income tax). While there are some legal and regulatory distinctions between these two forms of business, they are largely identical for a wide range of companies, allowing for a lot of tax arbitrage between the labor and capital tax bases. Plenty of empirical evidence has shown the shifting between these corporate statuses based on the gap between personal (labor) income and capital income taxes. This type of shifting opportunity, itself engineered by the tax code, should be avoided to the extent possible.

[2] The papers by Boissel and Matray (2019); Bach et al. (2019); Lefebvre et al. (2020) find little evidence for shifting between dividends and salaries, for instance, in France. One explanation is that taking into account all tax rates, excluding social insurance contributions, the tax rates on salaries and dividends pre 2017 were not very different, thus not presenting many incentives to shift income. This is no longer true if social contributions for retirement are taken into account, but those give rise to benefits in the future and are hence more ambiguous. Post 2018, the gap between labor and capital income taxes is likely to rise with the adoption of the PFU and the programmed fall in the corporate tax thus opening up new incentives to shift income.

income, including capital) could reduce these trends.[1] In the longer run, if taxation keeps propping up the cost of labor relative to that of capital, the incentives to innovate in labor-savings technologies and invest in automation and robotization can increase, thus perpetuating and reinforcing the shift away from labor (Acemoglu, Manera, and Restrepo, 2020). France has taken some small steps in the direction of shifting some of the financing of social insurance to general taxation with the *Contribution sociale généralisée* (CSG), which has been added to the personal income tax. France still relies heavily on labor taxation.

Finally, there is an issue of timing. In most countries, capital income is taxed based on flow rather than on stock. Thus, capital gains are taxed upon realization, rather than on accrual. For instance, capital gains are taxed when an asset is actually sold, even though the asset may have been appreciating in value for a long time. This means that taxpayers have some flexibility in timing the realization of their capital gains and there can be deferral of realizations for tax purposes. A few countries in the world have a wealth tax, which is a tax on the stock of capital rather than on its flow. A wealth tax taxes the value of the stock of capital (i.e., wealth) as it changes (i.e., on accrual). France has a partial wealth tax on a subset of wealth. In particular, given that it has recently excluded financial assets from the wealth tax base, it is now in the same position as many other countries that are trying to grapple with the question of how best to tax capital gains. Proponents of taxing on accrual point out that capital gains can accumulate for a possibly very long time without being realized and that the tax system on realization can distort the decisions to sell and buy assets. Opponents of it highlight the difficulties in valuing assets that are not (yet) sold, especially on an on-going basis. They also point to the potential liquidity problems that can ensue if a large tax is owed without a corresponding income flow. It is not coincidental that many of these issues are also the ones raised in opposition to a wealth tax, as a capital gains tax system that is based on accrual becomes closer in spirit to a wealth tax. A well-functioning inheritance tax is sometimes considered a backstop to the accumulation of capital gains, i.e., a one-time wealth tax (per generation), but in practice features many exemptions and special treatments as discussed above that diminish this role. The issue of how best to tax capital gains will merit a lot more work in the future.

What do people think about personal income taxes?

In our *2020 Taxes and Policy Survey*, we asked people what they believed the objectives for taxation should be. 71% of respondents agreed that one of the reasons for taxation is to finance public services; 44% agree that they are meant to redistribute income; and 39% agree that they are supposed to incentivize or disincentivize certain economic behaviors

[1] For contributions which are less directly linked to earnings, such as those financing health or family-related benefits, the OECD advocates a shift to general taxation including capital income that could be beneficial.

and foster economic activity. Close to 70% of respondents rank France in the top 5 among the 27 EU countries in terms of total tax rates (taxes and social insurance contributions). In terms of knowledge of the tax system, people underestimate the top personal income tax rate (the average perception is 35%, the reality is 45%).[1]

We found that only 51% of respondents believe that the current system is progressive enough in that high-income households pay their fair share or more in taxes. On the other hand, half of respondents believe that the middle class pays more than its fair share. 73% of respondents believe that inequality in (pre-tax) incomes is a serious problem.

2. Personal Taxation: Capital Income and Labor Income

In this part, we discuss policy directions on personal taxation, focusing on capital and labor taxes. We discussed inheritance or gift taxation earlier in the report in Section 3, point 1.

2.1. Pushing further the exchange of information on capital

The biggest opportunity for improving capital taxation lies in the recent progress on the Automatic Exchange of Information (AEOI) implemented and pushed by the "Global Tax Forum." Appendix 3 reviews its parameters and effects to date across different countries. France itself has already gained and has a lot more to gain from such a transparency mechanism.

This exchange of information means that it is possible to tax capital in a way that was not feasible before. In particular, it is much more conceivable to explore the possibility of progressive taxes on capital, as the incomes in various countries of a given taxpayer can now be tracked. Of course, people can still move their tax residency to another jurisdiction altogether, but that is less easy and immediate than simply shifting capital income abroad. 11 OECD countries have adopted a progressive rate on capital income, including Australia, Canada, Ireland, the U.S., the UK, and Spain (OECD, *Taxation of Household Savings*, 2018).

The first order priority is for France to continue to be a key player in fostering the automatic exchange of information. In addition, in its current shape, the exchange of information does not cover all major types of assets. A recommended push to be given (ideally at the OECD level) is for automatic exchanges of information to happen for all classes of assets, including real estate and private business assets. It should be noted that the current EU

[1] Respondents were asked for the top tax rate excluding the CSG.

regulations regarding AEOI between member states have a broader scope than the OECD's and already include some non-financial assets such as immovable property.[1]

This can also help relieve the evolution seen in many OECD countries and that we described above, namely, that taxes are falling more and more on labor, as is the case with social insurance contributions. For those contributions, which are less linked to earnings – like contributions towards health or family-related programs – the OECD advocates a shift to general taxation on overall income (which includes capital income).

It is worth emphasizing that the recent wealth tax reform in France is likely to have shifted the tax burden away from capital, although other recent reforms may have had different consequences. The wealth tax reform is still being evaluated by France Stratégie and it is hence impossible to draw definitive conclusions.[2] The preliminary report shows that the impact in distributional terms has been quite regressive, an impact that is likely to remain true in the medium term. The OECD is currently also scoring the reform in terms of its distributional impacts, building on their methodology in their "Taxation of Household Savings" publication from 2018 and finds that it moved France from a relatively progressive capital tax system in 2016 to a much flatter one in 2019. While France is now more aligned to some extent with other OECD countries, the opportunities for capital taxation with the new AEOI and compliance improvements could lead to an overall revision of these trends.

2.2. Capital tax base broadening: taking a critical look at the *niches fiscales*

By now, it may sound almost cliché to state that the capital tax base needs to be broadened and that loopholes need to be closed. Yet, this recommendation keeps being emphasized from many sides for a good reason: it is both inefficient and regressive to have a lot of tax code loopholes. A hard look needs to be taken at the loopholes and tax expenditures more generally (the *niches fiscales* and *dépenses fiscales*) related to capital income in France.

A crucial first step would be to have a clearer picture of what the *niches fiscales* are actually doing. Even the Cour des comptes complains that there are only scarce estimates of their costs, use, and effects.[3] In theory, there is a cap (of €10,000) on overall benefits that people

[1] European Commission (2018), *Report from the Commission to the European Parliament and the Council – on overview and assessment of the statistics and information on the automatic exchanges in the field of direct taxation*, December.

[2] France Stratégie (2020d), Comité d'évaluation des réformes de la fiscalité du capital, deuxième rapport.

[3] « Au-delà des seuls chiffrages, qui demeurent imparfaits, les dépenses fiscales doivent faire l'objet d'évaluations afin de s'assurer de leur efficacité et de leur efficience. Or celles-ci sont quasi inexistantes et incomplètes, ce que les documents budgétaires relèvent d'ailleurs ». Cour des comptes (2019), "Les dépenses fiscales. Note d'analyse de l'exécution budgétaire."

can receive through the loopholes, but a number of tax reliefs are not subject to this cap, and it is not clear how well-traced or enforced this is.

As a general rule, there is no need to have unlimited exemptions outside of very exceptional cases. Hence, the scope of the exemption cap could be broadened and enforced. Another general rule is that loopholes, tax exemptions, and tax expenditures, once established, are very difficult to remove, as can be seen from the increase of such tax provisions over time. Indeed, it is harder to remove an advantage already granted than it is to oppose granting it in the first place, given special interest and lobby groups' understandable resistance to give up acquired privileges. Thus, for newly proposed tax exemptions and special treatments, it is very important to think critically and estimate their anticipated costs and benefits *before* they are implemented.

Given the lack of precise data on the distributional and efficiency impacts of loopholes in France, we can recommend thinking about them through the following lens and applying different solutions to these three distinct types of cases (described in more detail in Appendix 3). This kind of reasoning should also be applied to newly proposed special tax treatments that need to be rigorously evaluated before they are implemented. The first case type is exemplified by the uncapped exemption on capital gains on the primary residence. This exemption can make sense from a distributional perspective given that a large share of the wealth of the middle and upper middle class is tied up in real estate, especially a primary residence. Yet, it is not necessary for distributional reasons that this exemption be uncapped. To the contrary, it should apply only to property values below a certain threshold, where the latter could be set high enough to leave the middle class largely unaffected.

The second type is exemplified by the tax exemption of the *Plan d'épargne en actions* (PEA) which provides tax relief for returns on financial market investments up to €150,000 if those are held for more than five years. This type of exemption is likely not disproportionately benefitting higher-income households, as it is capped, and it may even have some positive efficiency effect. While all of these statements need to be evaluated rigorously, this is a type of capped, a priori not complicated exemption that may be satisfactory as it is. The third type is showcased by the *loi Pinel* that provided tax exemptions for investments in a given type of new construction. Although the tax benefit is capped, this exemption is likely not very progressive. Its original goal is to be "corrective" and efficiency improving by providing incentives for investments that are considered to have positive social externalities and are hence underprovided. The recommendation for such types of exemptions is to have very rigorous evaluations to see whether they are, in fact, fulfilling their intended role. If this is the case, citizens and policy makers may need to live with some level of regressivity as long as the corrective, efficiency-improving effect is worth it. If not, there may be a need for further restrictions, rules, or caps on the tax advantages. However, there is no way of knowing this on a general basis without much more rigorous

evaluation of each such tax expenditure.[1] We come back to the need to policy impact evaluations and best practices in this area below.

2.3. EU-level coordination and fighting preferential tax regimes

Labor can also be mobile, especially when it comes to higher-income, higher-skilled people working in professions with transferrable human capital. Kleven, Landais, Munoz, and Stantcheva (2020) review the evidence. Preferential tax regimes for foreigners are widespread. As a result, in many countries, the top tax rate for foreign high-income earners is below that for domestic high-income domestic earners (see Appendix 3). While this can be beneficial for each country individually, such policies are beggar-thy-neighbor policies, akin to "tax dumping." Currently, there is limited retaliation from other countries, perhaps because the countries imposing such schemes are relatively high-tax countries to start with. Yet, there could be a race to the bottom if those schemes spread more systematically, and as both inequality and revenue needs increase. Such schemes may also become more attractive both to countries and to taxpayers if remote work and inequality continue to rise. Like for capital income taxes and corporate taxes covered later, there is a lot to be said in favor of some amount of international cooperation on labor income taxation.

More generally, cooperation and coordination of the EU on the taxation of mobile high earners could be considered. Overall tax rates on top earners are set differently in different countries because of their particular circumstances and considerations. Hence, homogeneity is by no means the ultimate goal and there are many arguments in favor of tailoring tax policy to local settings. Yet, avoiding blatant tax dumping seems beneficial, and such preferential schemes are a good place to start fostering intra-EU cooperation.

3. Reducing Fiscal Leakages: Tax Compliance and Productivity of the Public Sector

We now address distinct, but related issues on the tax side: how to harness data sources and analytics tools, and better info and methods to recover fiscal leakages. Fiscal leakages are qualitatively different from loopholes created by the tax system itself, which we

[1] To give more concrete examples based on the *loi Pinel*: Appendix 3 summarizes the evidence by Bono and Trannoy (2019) and the report of *Inspection générale des finances* (2019) on the *loi Pinel* and the *loi Scellier*. In particular, the authors show that part of public money is actually pushing up prices rather than stimulating extra investment. This ultimately depends on the elasticity of housing and property supply, which also vary at a highly local level. Such careful evaluations are needed on much broader scale in order to assess the impacts of special tax expenditures. In addition, there are other competing tools to foster more affordable housing and these need to be horse-raced against a simple tax expenditure for investors as this one (Trannoy and Wasmer, 2013).

addressed above, or tax avoidance opportunities, and are about taxpayers not complying with the tax system, going above and beyond, and potential evasion territory. On the spending side, we discuss efficiency measures, such as public sector productivity review, staff, and better procurement, fraud reduction.

3.1. Improving tax compliance

Improve and expand third-party reporting

Research has shown over and over again that there is barely any evasion when it comes to third-party reported assets or income flows. Yet, many areas are still not properly subject to third-party reporting. Indeed, while regular workers are mostly the recipients of wages and employee income that is third-party reported, higher income individuals receive much more of their income in the form of capital gains, dividends, rental income, and proprietorship or business income. These forms of income have much higher rates of non-compliance. Key challenges revolve around private businesses and partnerships. Sarin and Summers (2020) propose a way to resolve those. According to this scheme, business owners and entrepreneurs that earn above a given threshold could be required to report their bank accounts that host business income. Banks could then act as third parties and be charged with reporting the flows and a summary of deposits and disbursements on those accounts to the tax authority, which could be used to verify that taxes are properly paid.

Data analytics to identify non-compliance

The tax authorities should start more systematically exploiting opportunities for big data and analytics to detect fraud and track taxpayers. There have been large advances in predictive algorithms, machine learning, and AI. Combined with the tax data available in France, these data analytics methods could allow for better and more cost-efficient tracking and enforcement of compliance, as well as for better targeting of the tax authority's scarce labor and material resources. Two example cases in which such techniques could fruitfully be deployed are as follows. First, for small- and medium-sized enterprises it is possible to combine data sets across years and sources (e.g., different agencies) and use predictive models to estimate the expected revenues of businesses. The tax authority could then flag businesses which fall short of that expected revenue target and focus efforts on those. Similarly, a lot of progress has been made in the private sector (e.g., finance and private equity), in research to value assets (even relatively illiquid ones), and to estimate capital income tax flows. Such techniques have been employed for instance by the Australian Tax Office in an attempt to reduce the number of refunds paid out due to error or fraud. It created algorithms built on social network analysis and visualization tools to model and

understand relationships between individuals, trusts, and partnerships and prevented incorrect payments worth $500 million in one year alone.

Experimental approaches to test compliance interventions

In addition to identifying non-compliance, the tax authority can then leverage new experimental methods to test enforcement mechanisms. In several countries, hard enforcement actions (like audits followed by penalties) and soft reminders and educational communications have been tested (De Neve et al., 2020; Hallsworth et al., 2018; Koumpias, 2017). Testing has included outreach to taxpayers and their advisers and varied the channels used (mail, phone calls, and mobile messages) as well as the messaging and the actions initiated. For example, authorities sent some businesses a request for self-correction, others a request for limited additional information, and some a notice of audit conducted by mail or in person. Socially minded messages have also been tested.

It is worth mentioning that when it comes to implementing such new and innovative practices, we do not recommend a big bang approach here, but rather a "test and learn" approach. An iterative approach is also less likely to disorient employees of the public sector and the taxpayers themselves.[1]

Making data available and fostering cooperation with researchers

In addition, thanks to the new availability of tax data for researchers (through the *Centre d'accès sécurisé aux données*, or CASD), there are lots of brains already put to work on tax questions. This represents a big opportunity to be pushed further. Additional datasets – especially as merged across years and sources – should be made available, and many more interactions with academia and researchers – in economics, data science, and statistics – could be exploited to improve the tax administration's compliance and enforcement. There are many high-quality academic papers being written on avoidance and evasion by individual taxpayers, small businesses, or large corporations. They flag behaviors and markers for them that can be used by the tax authority to identify non-compliance. They also estimate models of taxpayers' or firms' behaviors that can be used to predict non-compliance. To give even just one example in France, researchers have identified "bunching" (i.e., an excess of income) at the kinks generated by the tax code for small entrepreneurs, and a sharp movement of the excess mass as the kinks change over time (Aghion et al., 2017). A flag for misreporting is thus being located close to the bunching point, and this behavior tends to occur more for some sectors and types of businesses. The key point is that there are lots of patterns in the data that can help the tax administration identify evasion and avoidance if

[1] The McKinsey public sector practice has studied and implemented a number of initiatives with governments all over the world in recent years and has summarized a lot of findings in a series of publications ("Adapting tax collection for uncertain times," "Reimagining tax authorities for the future" - 2020).

proper research techniques are applied to them. Researchers that are armed with data and in cooperation with the tax administration can help with this. Involve them! (See also the *Areas of Research Interest* published by UK government departments under the guidance of the "What Works" centers, described below.)

Giving resources to tax enforcement

The tax administration needs resources to be able to make the best out of the new data and analytics opportunities. This requires overhauling the technology infrastructure and building advanced analytical capacity through investments in appropriate digital technology (software and hardware). It also involves regular staff training to stay up to date with the fast advances in data analytics, as well as interactions with researchers. To give the example of the U.S., Sarin and Summers (2020) point out the very outdated information technology of the Internal Revenue Service (IRS). They also describe a recently piloted return review program (RRP) that improves the matching of taxpayer filings with information returns to identify and freeze fraudulent refunds. The program had a gigantic 50-1 return, substantially more than traditional enforcement programs.

Deterrence of future evasion and multiplicative benefits

All of the aforementioned investments in compliance may have higher returns than suggested, because they also cause deterrence in the future. As the probability of being detected and penalized rises, and as taxpayers foresee the tax authority's higher capacity to catch tax fraud, the incentives to evade diminish. Hence, the future impacts of such compliance interventions and capacity-building are likely to multiply.

3.2. The spending side: rethinking the public sector's productivity[1]

Although not the immediate issue that comes to mind, it would actually be a big omission to not discuss public sector productivity in this report. We are in a period where budgets are very tight and will be made even tighter by the Covid-19 crisis. Hence, we need to urgently discuss the fact that revenues are sometimes wasted and that some expenses are unproductive. In the end, the questions cannot only center around whether to raise a given set of taxes or cut a given set of social spending, but also need to be about how the public sector absorbs and then spends the revenues. It is worth emphasizing and re-emphasizing that the government's and the public sector's efficiency can also contribute to or harm the budget in many ways. The size of government and the public sector in France as measured by revenues as a share of GDP is already among the largest in the

[1] This part draws heavily on a series of reports by the McKinsey Public Sector practice, https://www.mckinsey.com/industries/public-and-social-sector/our-insights.

world relative to its economy. An aging population and demographic shifts, as well as the developments outlined in the introduction are driving increases in health-care costs, pension obligations, and social insurance (forecast by the IMF to represent another 5% of global GDP by 2050). In addition, the implementation and enforcement of all these proposed policies, as is clear in each subsection of the report, ultimately depends on the government's efficiency.

In line with our suggestion to rethink public finance management itself, the Cour des comptes (2019) notes that there is a "disappointing" management of fiscal spending, with a lack of explicit link between spending and political objectives, a complexity of measures. They also note the lack of piloting strategy and ownership with little testing and evaluation and poor metrics to measure performance. They push strongly in favor of rekindling public policy evaluation and adjustment as a function of testing results.[1]

Governments do not and should by no means have the same objectives as private businesses. Yet, citizens would likely gain (and possibly gain a lot) if governments adopted some of the best efficiency practices of private businesses and adopted more efficient procedures. These involve public sector productivity reviews, staffing and talent management strategies, better procurement, fraud reduction and smart finance decisions. While beyond the scope of this report to outline detailed steps, the following aspects should be considered.

Finance

The finance function of the government needs to go beyond the traditional "treasury" role of budgeting and financial stewardship and into actively driving investments; measuring outcomes and mapping inputs to outputs (through data analytics, to estimate returns on investment); reviewing spending comprehensively and frequently; and actively managing the government balance sheet (that is made of billions of assets and liabilities).[2]

[1] "*Par ailleurs, comme les années précédentes, la Cour fait le constat d'une articulation insuffisante entre les dépenses fiscales et les objectifs des politiques publiques auxquelles elles sont censées concourir. La complexité des dispositifs rend parfois leur appréhension délicate. La stratégie de pilotage est lacunaire et souffre d'un défaut d'appropriation : les règles et les effets concrets des dispositifs sont souvent méconnus, voire en contradiction avec les objectifs des politiques publiques auxquels ils sont rattachés, peu de dépenses fiscales sont évaluées et les outils de mesure et de suivi déployés pour contrôler leur efficience sont défaillants. L'action menée pour évaluer et réduire en conséquence les dépenses fiscales doit être relancée*" (Cour des comptes, 2019).

[2] Sweden engages in government portfolio reviews that involve a deep analysis of state-owned assets and liabilities to determine whether they satisfy predetermined, strict criteria for continue public ownership.

Better procurement and project management

McKinsey estimates that "smarter procurement" – via supply management, demand control, and processes such as e-tendering portals – "can save governments around 15 percent of addressable spending[1] while simultaneously boosting outcomes."[2] A better governance for state-owned enterprises and improved management of the major IT, defense, and infrastructure projects can also not be overlooked.

Moving towards digital and data-enabled governments

France has already taken major steps to move in the direction of more data-driven and digital government. More can be done to digitize interfaces with citizens (to reduce access time and improve contact between governments and citizens), to automate processes in the background, and to share data with and involve citizens in the solution (see Section 6 for our proposals on this).

Testing, evaluating, and experimenting

Many advanced economies have been moving forward with public policy evaluations. France has also done this, but the momentum needs to be sustained and the practice encouraged decisively. The countries which are best examples in the field of impact assessment as identified by France Stratégie are the U.S., Canada, the UK, Sweden, and Germany.[3] In line with the Cour des comptes' push for more evaluation of public spending and better metrics, France Stratégie has identified three of the key factors for success as i) the existence of formal mechanisms promoting assessments; ii) the degree of dissemination and influence of these assessments on the public as well as on decision-makers; and iii) the openness of the administrative environment to economic researchers.

While there is not a single institutional model that works, good practices require the need for a better link between the demand for and production of evaluations; the definition of common standards to guarantee independence, credibility, and transparency of the impact assessments; and the sharing and diffusion of the results, practices, and challenges of the policy evaluations with a broad and large audience. In the spirit of these good practices, France Stratégie also points to several concrete examples to inspire the use of impact

[1] McKinsey (2020), "The opportunity in government productivity", April 18.

[2] For instance, Denmark's government procurement program saved about $80 million in yearly expenditure in its first wave that focused on computer hardware, office supplies, equipment, and furniture.

[3] See the summary "Public policy impact assessment: what can France learn from the most advanced countries?" (France Stratégie, 2020) and the Working Paper "Vingt ans d'évaluations d'impact en France et à l'étranger. Analyse comparée des pratiques dans six pays" (France Stratégie, *Document de travail*, No. 2019-16, December).

assessment in France. In the U.S., the *Intergovernmental Personnel Act Mobility Program* fosters career mobility between research communities and the public administrations. The British Treasury provides detailed methodological guides on impact assessment, which has the added benefit of ensuring a common framework. In Canada, evaluation competencies receive accreditation (the *Accredited Appraiser* designation). In Anglo-Saxon countries, the "What Works" centers have been centralizing the results of impact assessments and classifying public systems based on effectiveness. They have also engaged in outreach to diffuse these results to a large and broad audience. In the UK in particular, "What Works" has stimulated government agencies to publish *Areas of Research Interest* to signal to researchers which areas are in need for scientific evidence.

4. Corporate Taxation

Motivation and principles

Today's corporate tax system in France and most other countries is outdated for multinationals. On the one hand, it allows savvy companies to exploit loopholes and misalignments in countries' tax rules, leading to profit shifting and tax avoidance. On the other hand, the playing field is not level and companies may be confronting double taxation and tax uncertainty. Hence, double taxation and non-taxation coexist. Clearly, the taxation of multinationals is a highly complex issue that requires paying attention to a myriad of important dimensions. Yet, it is not inevitable that globalization will make the taxation of companies impossible and there are excellent initiatives already underway and to be fostered further.

It is critical to review the taxation of companies and particularly multinationals, because, first, the revenue shortfall from not being able to tax them is potentially large for many countries, including France. Second, there is a social fairness dimension to this issue in the eyes of many citizens. Multinationals and their shareholders are considered by many to be among the winners of globalization. Not taxing their profits appropriately could lead to a lot of resentment and backlash that could potentially be minimized with an efficient and just tax system. These fairness issues are only exacerbated by the revenue needs post-Covid-19 and the fact that many companies will – in one way or the other – have benefitted from extensive government help during the crisis. It is important to say straight away that the goal should be not only to appropriately tax "foreign" companies that operate in France – as was recently in the debate centered around U.S. digital companies, but also to make French companies operating domestically and abroad pay their fair share. Worth noting is also that despite sometimes simplistic statements about a company's "nationality" the ownership of multinationals and of large companies more generally is actually quite complicated and crosses (many) national lines: a French company can be owned partially

by foreigners, whether it operates in France or not; French shareholders can hold stock in foreign companies operating in France or abroad.

What are people's views on corporate taxes?

In our *2020 Taxes and Policy Survey*, we find that people are much more supportive of raising taxes on large French companies and those that provide digital goods and services (around 33% of respondents are favorable to such tax increases) than on small or medium-sized French companies (only 11% support such tax increases). 57% of respondents supports increasing taxes on foreign companies operating in France (including those that hire workers in France). In general, taxes on small and medium-sized companies are unpopular and considered unfair, while those on large French companies or foreign enterprises are more popular. Bear in mind, however, that the "nationality" of companies is a complex issue to start with, as explained above.

Current big directions of reform: The "BEPS" Pillars 1 and 2

The important Base Erosion and Profit Shifting (BEPS) initiative by the G-20 and the OECD in the Global Tax Forum has produced and pushed a set of recommendations to ensure a better taxation of multinationals. We have put together a very detailed appendix (Appendix 4) that describes these initiatives, analyzes the best impact assessments available to date, and explains the challenges ahead for France and the EU.

In brief, the BEPS initiative is based on two pillars. Pillar 1 focuses on the allocation of taxing rights (which country or countries will be allowed to tax the profits of a given company? Based on what?) and seeks to review coherently the profit allocation and tax nexus rules. Multinationals are currently mostly taxed where they reside and where they have physical presence (e.g., production facilities and employees). Yet, a growing share of people believes that the market countries, where the companies sell goods and services, even without having a physical presence there, should be entitled to get at least some share of tax revenues.

Pillar 2 – the so-called "GloBE" (Global Anti-Base Erosion) proposal – focuses on multilateral rules that would give countries the right to "tax back" in cases where other jurisdictions have not exercised their primary taxing rights, or where the tax payment by the company has been "too low" according to some benchmark. This pillar represents a backstop for tax authorities. It has a lot of similarities with GILTI (Global Intangible Low-Taxed Income) implemented by the U.S. (also described in Appendix 4). The OECD framework would consider GILTI a "compliant income inclusion rule" under Pillar 2, allowing both mechanisms to co-exist.

Negotiations about the technical aspects of Pillar 1 are at an advanced stage, and technical specificities were presented in detail in October 2020. However, discussions are not

complete, and the OECD notes that "political decisions are required on a number of issues." Although the negotiations are being led by the OECD, the scope of both pillars are much broader since more than 130 jurisdictions are currently involved. The OECD hopes that a final agreement will be reached by mid-2021. Similarly to Pillar 1, negotiations about the final details of Pillar 2 are still ongoing regarding important aspects of the measure, such as the rate at which countries could tax foreign residual profits (the OECD has done simulations based on a rate of 12.5%) or the scope of industries impacted.

These comprehensive initiatives are extremely important and valuable and should be pushed forward. France needs to continue being a leader in and a supporter of these initiatives.

Alternative proposals

Some have expressed concerns that in the short or medium run, there may be challenges to implement the full set of measures recommended. Alternative proposals have been advanced that may possibly have some scope for moving ahead without extensive international coordination. Alternative proposals are mainly based on backstops, i.e., minimum taxes, akin to Pillar 2. While Pillar 1 would create a better coordinated, harmonized international tax system, these proposals give a right to tax back without coordination and without changing definitions of taxable profits, similarly to the current GILTI system in the U.S. Yet, they are no panacea – especially not for single or smaller countries, whose companies can more easily change fiscal residence. Thus, international coordination remains highly desirable and optimal. On Pillar 1, other ideas have been floated to make tax residency depend more strongly on sales of companies. While it makes a lot of sense to put some weight on sales, big changes to the status quo taxing rights are bound to generate conflicts between countries and disagreements on who should have the right to tax.

One of these alternative proposals comes from a recent study by Clausing, Saez, and Zucman (2020) in the form of a minimum tax. The idea is that in extremis it could be implemented possibly even unilaterally by a block of countries such as the EU (or a large economy such as the U.S.). For a country like France alone, however, this is hardly an option at all. The tax proposed is a country-by-country minimum tax, not a global minimum tax (i.e., taking into account that the destination countries have different tax rates). Essentially, a given country would act as the "tax collector of last resort" for its companies operating abroad and would collect the tax differential that foreign countries chose not to collect relative to some "desired" tax rate for its domestic companies. That desired tax rate could either be the prevalent corporate tax rate to level the playing field with companies operating domestically – and to reduce any incentive to shift activity outside of the national borders – or a lower rate if the goal is to not put domestic multinationals at a disadvantage abroad. This system does not require any more information than is already made available

with the provisions of the OECD BEPS reporting requirements (through which companies are required to report their profits and taxes on a country-by-country basis).[1] It is important that all foreign income is included in the tax base of the minimum tax, unlike the U.S. GILTI minimum tax which only applies to foreign income in excess of a 10% return on capital. This exclusion incentivizes the shift of capital investments abroad to lower the tax base and reduces revenues.

In principle, the consequences of a big block of countries such as the EU of implementing such a scheme could be far-reaching. First, EU companies would no longer have as strong incentives to relocate activities for tax purposes. Second, tax havens would have reduced incentives to try to keep their tax rates low and may even gain from increasing them, thus leading to a "race to the top" rather than the current race to the bottom. This latter effect will be larger the larger is the block of countries implementing a minimum worldwide tax. International competition may switch to trying to provide better amenities, infrastructure, and human capital to attract companies rather than slashing corporate taxes. From a political economy perspective, minimal taxes seem feasible at a large scale as they have the potential to generate many winners as opposed to losers.

Yet, such a minimum tax would only work if it is adopted in cooperation with at least a large block of other countries, such as the EU jointly with the U.S. (that has GILTI). It is thus not a magic bullet that allows countries to go without international coordination. The risks are that, first, French or EU multinationals start moving their tax residence to countries that do not have a minimum tax. It would need to be accompanied by yet another defensive measure which is to strengthen anti-inversion rules so that French companies cannot easily change their headquarters. But preventing new companies from incorporating abroad would be very difficult. If tax residence depended more on sales rather than on physical presence, these constraints may be relaxed, although even sales, especially digital ones, can be manipulated. Second, this could hurt the competitiveness of French or EU multinationals unless other countries start adopting higher corporate tax rates and minimum tax rates for their own multinationals too.

Do not ring-fence "digital companies"

There has been a lot of distinct discussion about digital companies specifically, and how to treat them particularly. In fact, there have been attempts by EU countries to implement explicit digital taxes unilaterally in the short run. Yet, an important element to bear in mind in the design and implementation of multinational taxation is to not ring-fence and isolate digital companies. Digital *technologies* do pose particular challenges, but they are not

[1] In the longer term, more harmonized and strict protocols for country-by-country reporting with clear definitions of profits, turnover, destination of sales and consolidation rules can be established, and the datasets made available to all participating countries for analysis.

peculiar to digital *companies* only. The lack of physical or permanent presence, the reliance on intangible assets including intellectual property (IP), the participation of customers or users in value creation, and the high value of data are not exclusive to digital companies and start being part of many other so-called "non-digital businesses" models. Ultimately, a large part of the whole economy is becoming digital to some extent and relying on digital goods and services. It is difficult to identify what company is truly a "digital company" and the focus should be much broader, as these international tax issues are affecting and will continue to affect many more companies. Thus, digital companies should not be ring-fenced and there should not be a separate base for taxation of such models or activities. Instead, "digital presence" should be a concept that is broadly applied for all companies.

Additional recommendations: data processing abilities and domestic inter-agency cooperation

In addition to pushing forward on international coordination for corporate taxation, France should take action on two fronts.

First, the ability to process large amounts of data will need to be strengthened to be able to cope with the requirements of the new rules on exchanges of information, country-by-country reporting, and tracking of corporate activity abroad. Boosting the French Tax authority's capabilities will require hiring people with strong quantitative skills (such as statisticians and data scientists), training existing employees to use digital tools, and modernizing the IT infrastructures. Some investment will likely be required. For instance, the IT budget of the French Tax authority, the DGFIP (Direction générale des finances publiques), will be around €550 million in 2020.[1] As a comparison, Crédit Agricole Group, which has about 52 million customers around the world (roughly the size of the French adult population), is expected to sped about €3.75 billion on IT projects in 2020.[2] See also our recommendations in point 3 of this Section.

Second, fighting international tax evasion and fraud effectively requires strong cooperation between the various *départements* of the French administration: the Tax Authority, of course, but also Customs and the relevant offices in the Justice, Interior, and Foreign Affairs ministries.

[1] Giraud Report 2019 (annexe 25).

[2] €15 billion over 4 years, so approximately €3.75 billion per year (Crédit Agricole website).

SECTION 6

A TOOL FOR UNDERSTANDING CITIZENS: SURVEYS

1. Large-Scale, On-Going Surveys as a Policy Tool

Good implementation of the policies in this report and beyond will require data collection, experimentation, and policy evaluations. But we also need data that reveals what is otherwise invisible: namely, what people think. This type of data is not often systematically collected, and, yet, is critical. “Surveys” are a way of getting into citizens’ minds to elicit perceptions, knowledge, understanding, attitudes, and views. These may be context-dependent and require an on-going study. Large-scale surveys should become a continuously used, well-designed, and interactive policy tool with which the government would communicate with citizens. They are not simple “opinion polls.” They are rather a scaled-up version of town halls and debates that could be had. They complement the direct dialogue that can occur between constituents at different levels and leverage mobile phone and internet technologies to reach a large and diverse set of people rapidly.[1]

The basic premise for using large-scale, on-going surveys is that policy needs to listen to people. This is not meant in an idealistic or wishful way, but rather as a rigorous method and tool for policy making. It is also important to give a voice to people that are not always first in line (whether across the income distribution, across socio-economic groups, or across regions) when it comes to asking questions.

It will be key to establish a serious reputation for these surveys and to do them predictably and regularly, so that people know that they will be heard and that policymakers will take

[1] Of course, phone surveys can complement the online technologies to reach populations that are not easily online.

them seriously. Of course, one needs to be cautious to not give the impression that every single request or input can be taken into account and implement. But done for a while, such a communication could improve the trust in government and institutions.

2. Surveys of Firms and Employers

Systematic and regular surveys should also be employed in the communication with firms and employers to explore the various opportunities outlined in Section 2 among others. Firms and employers have valuable inputs to provide, feedback to give, and ideas to suggest. Among others, such surveys could ensure a more equal chance for different sized and types of firms to provide input for the government. For instance, smaller or medium firms do not always get a platform to express their views, explain their difficulties and constraints, or suggest things that could help them.

3. An Iterative Policy Design and Testing Tool

Surveys can be a vital barometer of views before implementing policies (i.e., understand what types of reforms people or firms may or may not agree with), a pulse check during policy implementation (i.e., are things going the way they should? Do people understand the implementation?), and, finally, a way to immediately start assessing policy impact after implementation (Who gains, who loses? Are there elements to troubleshoot?). They are thus a key complement to other evaluation tools. On the ground, they would allow to quickly see effects and roadblocks in implementation. It is a way to involve citizens in the data creation and collection as explained in Section 5 (point 3). This, too, is an area in which the involvement of researchers can be very fruitful. Indeed, this approach has been deployed on a variety of issues by researchers, as exemplified by the studies of the Social Economics Lab ran by one of the authors (S. Stantcheva) at Harvard (socialeconomicslab.org).

4. What Can We Learn from Surveys?

There is a lot to be learned from surveys. When we as citizens decide which policies to support or not, we take into account our own socio-economic circumstances, our complex fairness views, and our underlying perceptions (and often misperceptions) about ourselves, others, the economic system, and policies. Armed with this knowledge, policy makers could first identify gaps in knowledge or misinformation that could be corrected with better information. They could identify difficulties people face with the current system or because of a new reform. They could learn about fairness views that need to be respected. The latter could be highly context-dependent, depending on what other policies are in place, and also differ drastically across the political spectrum or groups of people.

There are very relevant aspects about people's economic circumstances that are exceedingly hard to see in traditional, non-survey data. In fact, the traditional data may even be misleading. Thus, sometimes, the more effective and rapid way to acquire that information is to ask people directly. Consider the example of fuel taxes on households. Economic theory suggests that a fuel tax that is destined to curb the use of fuel will have its intended effect only if people are able to switch away from that type of fuel. For instance, people may be able to reduce fuel consumption by taking the bus instead of their car. But, if people are unable to switch to other modes of transportation, such a tax is going to purely be a negative transfer to (or a tax on) fuel-consuming households. People will not reduce fuel consumption (since they are unable to) and they will hence have to reduce other spending, possibly at a very high cost in terms of well-being. In other words, households may be hurt without any reduction in pollution. What information would non-survey data, such as transportation data, provide in this case? The data may show that there is a bus network that covers parts of the city. Yet, if people are surveyed, they may directly express their difficulties in actually dropping kids off at school, driving to the doctor in remote rural areas, or going to work night shifts when the bus schedule ends early. The transportation data may also show that very few people switch to public transportation, and a policy maker may then wrongly deduce that the fuel tax is too low and should be further increased. Instead, well-designed surveys could point policymakers to the actual constraints which prevent people from switching and which have to be resolved first before an effective fuel tax can be implemented.

5. Knowledge Gaps, Misperceptions, and Outreach

Policymakers can use surveys to identify where better information and educational outreach to citizens may be needed. As we saw throughout this report and as has been shown repeatedly in research, many economic policies that affect people's daily lives are deeply misunderstood. Public information campaigns that are pedagogical, neutral, and appealing can help improve understanding of key policies. Giving citizens the tools to grasp and reason about the economic world around them should be a goal of policymakers.

Throughout this report, we have illustrated the use of surveys with results from the *2020 Jobs, Inequality, and Insecurity Survey* and the *2020 Taxes and Policy Survey*. We have highlighted misperceptions and lack of knowledge about the current policies, and some of the aspirations and difficulties of respondents. In addition, we also asked respondents about their views on communicating with the government, to which we turn next.

6. Citizens Are Favorable to Surveys for Public Policy Purposes

In our *2020 Jobs, Inequality, and Insecurity Survey*, we asked a series of questions to understand how citizens perceive the communication and dialogue with the government and what they would hope to see improved.

We find that only 20% of respondents agree that the government takes into account the views of "citizens like them" in designing public policies or that the government is sufficiently exploring the views and opinions of citizens on policy issues. Only 21% trust the government to design policies that will benefit "people like them." A similarly low share believes that the decisions taken by the government are transparent.

This suggests that there is a lot of scope for improving the feelings of being heard and represented by policy makers. More than 60% of respondents say they would be either favorable or very favorable to a government conducting regular surveys on pressing public policy questions, which would be recurring, anonymous, and done online. 87% of respondents say that if such surveys were to be launched, they would take the time to respond. 50% of respondents believe that they have some new and original perspective to bring to bear upon public policy issues. 84% believe that the government needs to increase and foster data collection so as to improve the design of public policies. We also find that those aged 50-69 are a bit more favorable to such initiatives than are younger citizens. Overall, there seems to be strong support for using direct surveys as a tool to get citizens' views and inputs and to foster a feeling of representativeness and inclusiveness.

References

Acemoglu, D. (2020). "Redirecting AI."

Acemoglu, D., C. Lelarge, and P. Restrepo (2020). "Competing with robots: Firm-level evidence from France." *AEA Papers and Proceedings* 110, May, pp. 383-388.

Acemoglu, D., A. Manera, and P. Restrepo (2020). "Does the U.S. tax code favor automation?" BPEA Conference Drafts. *Brookings Papers on Economic Activity*, March 19.

Acemoglu, D., and P. Restrepo (2018). "Artificial intelligence, automation and work." *NBER Working Paper Series*, No. 24196, National Bureau of Economic Research, January.

Acemoglu, D., and P. Restrepo (2019). "The wrong kind of AI? Artificial intelligence and the future of labor demand." *Cambridge Journal of Regions, Economy and Society* 13, No. 1, pp. 25-35.

Aghion, P., U. Akcigit, M. Lequien, and S. Stantcheva (2017). "Tax simplicity and heterogeneous learning." *NBER Working Paper Series*, No. 24049, National Bureau of Economic Research, November.

Aghion, P., C. Antonin, S. Bunel, and X. Jaravel (2020). "What are the labor and product market effects of automation? New evidence from France." *CEPR Discussion Paper*, No. 14443, March.

Aghion, Philippe, Antonin Bergeaud, Richard W. Blundell, and Rachel Griffith (2019). "The innovation premium to soft skills in low-skilled occupations." *Working Paper*, Banque de France, November.

Akcigit, U., and S. T. Ates (2021). "Ten facts on declining business dynamism and lessons from endogenous growth theory." *American Economic Journal: Macroeconomics* 13, No. 1, January.

Alvarez, S. (2018). "Inside Tesla's 'Tent'-based Model 3 Line that set a path to profitability." *Teslarati*, December 10.

Andrews, D., C. Criscuolo, and P. Gal (2016). *The Best versus the Rest: The Global Productivity Slowdown, Divergence Across Firms and the Role of Public Policy*. Paris: OECD Publishing.

Anelli, M., I. Colantone, and P. Stanig (2019). "We were the robots: Automation and voting behavior in Western Europe." *IZA Discussion Paper Series*, No. 12485, Institute of Labor Economics (IZA), July.

Atkinson, A. B. (2015). *Inequality: What Can Be Done?* Cambridge, MA: Harvard University Press.

Austin, B., E. Glaeser, and L. Summers (2018). "Jobs for the heartland: Place-based policies in 21st-century America." *Brookings Papers on Economic Activity*, Spring, pp. 151-255.

Autor, D., D. Dorn, and G. Hanson (2019). "When work disappears: Manufacturing decline and the falling marriage market value of young men." *American Economics Review: Insights* 1, No. 2, pp. 161-178.

Autor, D., D. Dorn, and G. H. Hanson (2016). "The China shock: Learning from labor market adjustment to large changes in trade." *Annual Review of Economics* 8, pp. 205-240.

Autor, D., D. Dorn, and G. Hanson (2013). "The China syndrome: Local labor market effects of import competition in the United States." *American Economic Review* 103, No. 6, pp. 2121-68.

Autor, D., D. Dorn, G. Hanson, and K. Majlesi (2020). "Importing political polarization? The electoral consequences of rising trade exposure." *American Economic Review* 110, No. 10, October, pp. 3139-83.

Bach, L., Bozio, A., Fabre, B., et al. (2019). "Follow the money! Combining household and firm-level evidence to unravel the tax elasticity of dividends." December.

Ballard-Rosa, C., A. Jensen, and K. Scheve (2018). "Economic decline, social identity, and authoritarian values in the United States." November.

Barone, G., and H. Kreuter (2019). "Low-wage import competition and populist backlash: The case of Italy." Working Paper. *FiFo Discussion Paper* 19-05.

Bartik, T. J. (2020). "Bringing jobs to people: Improving local economic development policies." Aspen Institute, August.

Bartik, T. J. (2020). "Using place-based jobs policies to help distressed communities." *Journal of Economic Perspectives* 34, No. 3, Summer, pp. 99-127.

Bartik, T. J. (2019). "Should place-based jobs policies be used to help distressed communities?" Kalamazoo, MI: W.E. Upjohn Institute for Employment Research, August 1.

BMW Group (2013). "Innovative human-robot cooperation in BMW group production." Press release, September 10.

Boissel, C., and Matray, A. (2019). "Higher dividend taxes, no problem! Evidence from taxing entrepreneurs in France." July 10.

Bonnet, F., H. d'Albis, and S. Sotura (2020). "Les inégalités de revenu entre les départements français depuis cent ans." April.

Bono, P. H., and A. Trannoy (2019). "The impact of the 'Scellier' income tax relief on building land prices in France." *Economics and Statistics* 507-508, pp. 91-114.

Briant, A., M. Lafourcade, and B. Schmutz (2015). "Can tax breaks beat geography? Lessons from the French enterprise Zone Experience." *American Economic Journal: Economic Policy* 7, No. 2, pp. 88-124.

Buigues, P.-A., and E. Cohen (2020). "The failure of French industrial policy." *Journal of Industry, Competition and Trade* 20, No. 2, June, pp. 249-77.

Busso, M., J. Gregory, and P. Kline (2013). "Assessing the incidence and efficiency of a prominent place based policy." *American Economic Review* 103, No. 2, pp. 897-947.

Caliendo, M., and R. Schmidl (2016). "Youth unemployment and active labor market policies in Europe." *IZA Journal of Labor Policy* 5, No. 1, Institute of Labor Economics (IZA).

Card, D., J. Kluve, and A. Weber (2010). "Active labor market policy evaluations: A meta-analysis." *The Economic Journal* 120 (November): F452–77.

Case, A., and A. Deaton (2020). *Deaths of Despair and the Future of Capitalism*, Princeton, NJ: Princeton University Press.

Chaudey, M., and M. Dessertine (2018). "Impact sur l'emploi de la participation aux projets de R&D des pôles de compétitivité. Méthode et résultats." *Revue d'économie industrielle* 162, June 15, pp. 73-98.

Clausing, K. A., E. Saez, and G. Zucman (2020). "Ending corporate tax avoidance and tax competition: A plan to collect the tax deficit of multinationals." August.

Cohen, J. (2020). "Good jobs." MIT Work of the Future Project Working Paper, October.

Colantone, I., and P. Stanig (2018). "The economic determinants of the 'cultural backlash': Globalization and attitudes in Western Europe." October.

Colantone, I., and P. Stanig (2018). "The trade origins of economic nationalism: Import competition and voting behavior in Western Europe." *American Journal of Political Science* 62, No. 4, April, pp. 936-953.

Colantone, I., and P. Stanig (2018). "Global competition and Brexit." *American Political Science Review* 112, No. 2, March, pp. 201-218.

Cour des comptes (2020). "La gestion de Pôle emploi, dix ans après sa création."

Cour des comptes (2019). "Les dépenses fiscales. Note d'analyse de l'exécution budgétaire."

Criscuolo, C., A. Hijzen, C. Schwellnus, et al. (2020). "Workforce composition, productivity and pay: The role of firms in wage inequality." *IZA Discussion Paper Series*, No. 13212, Institute of Labor Economics (IZA), March.

Criscuolo, C., R. Martin, H. G. Overman, and J. Van Reenen (2019). "Some causal effects of an industrial policy." *American Economic Review* 109, No. 1, pp. 48-85.

Dal Bó, E., F. Finan, O. Folke, et al. (2019). "Economic losers and political winners: Sweden's radical right." February 2019.

DeBord, M. (2017). "Tesla's future is completely inhuman — and we shouldn't be surprised." *Business Insider*, May 20.

De Neve, J. E., C. Imbert, J. Spinnewijn, et al. (2019). "How to improve tax compliance? Evidence from population-wide experiments in Belgium." *Saïd Business School WP* 7, May 5.

di Tella, R., and D. Rodrik (2020). "Labor market shocks and the demand for trade protection: Evidence from online surveys." *The Economic Journal* 130, No. 628, May, pp. 1008-1030.

Dippel, C., R. Gold, S. Heblich, and R. R. Pinto (2018). "Instrumental variables and causal mechanisms: Unpacking the effect of trade on workers and voters." *CESifo Working Paper Series*, No. 6816, January 17.

Duhautois, R., C. Erhel, M. Guergoat-Larivière and M. Mofakhami (2020). "More and better jobs, but not for everyone: Effects of innovation in French firms."

Ehrlich, M., and H. G. Overman (2020). "Place-based policies and spatial disparities across European cities." *Journal of Economic Perspectives* 34, No. 3, Summer, pp. 128-49.

European Commission (2020). "European industrial strategy package." March 10.

European Commission (2019). *European Network of Public Employment Services. Assessment Report on PES Capacity*.

European Commission (n.d.). "European semester thematic factsheet: Active labor market policies."

European Commission (2017). *Horizon 2020 Report*. September 13.

European Commission (2019). *Youth Guarantee Report*.

European Union (2013). "Guidelines on regional state aid for 2014-2020." *Official Journal of European Union* 209, No. 1, July 23, pp. 1-45.

Evans, P. B. (1995). *Embedded Autonomy: States and Industrial Transformation*. Princeton, NJ: Princeton University Press.

Fernández-Arias, E., C. Sabel, E. H. Stein, and A. Trejos (2016). *Two to Tango: Public-Private Collaboration for Productive Development Policies*. Washington, D.C.: Inter-American Development Bank.

France Stratégie (2020a), "Polarisation du marché du travail : y a-t-il davantage d'emplois peu qualifiés ?", Jolly, C. and C. Dherbécourt, *La Note d'analyse*, No. 98, December.

France Stratégie (2020b), "Inégalités primaires, redistribution : comment la France se situe en Europe". Rousselon J. and Viennot M., *La Note d'analyse*, No. 97, December.

France Stratégie (2020c). *Les politiques industrielles en France - Évolutions et comparaisons internationales*, report for Assemblée nationale, November.

France Stratégie (2020d). *Comité d'évaluation des réformes de la fiscalité du capital. Deuxième rapport*, October.

France Stratégie (2020e). "Social mobility in France: What do we really know?", Dherbécourt, C., September.

France Stratégie (2020f). "Quelle influence du lieu d'origine sur le niveau de vie ?", Dherbécourt, C., and G. Kenedi, *La Note d'analyse*, No. 91, June.

France Stratégie (2020g). "Promoting learning work organizations: Issues and challenges for France", S. Benhamou et E. Lorenz, April.

France Stratégie (2018). "La fiscalité des héritages: connaissances et opinions des Français." Grégoire-Marchand, P., *Document de travail*, No 2018-02, January.

France Stratégie (2017a), "Dynamique de l'emploi et des métiers : quelle fracture territoriale ?", Lainé F., *La Note d'analyse*, No. 53, February.

France Stratégie (2017b). "Is a France where privilege trumps merit inevitable?", Dherbécourt, C., *La Note d'analyse*, No. 51, March.

France Stratégie (2016). "Quels principes pour une fiscalité simplifiée?". Gouardo C., Le Ru N., Sode A., and A. Trannoy, *Note Enjeux 2017-2027*, August.

Frieden, J. A. (2016). *Global Capitalism: Its Fall and Rise in the Twentieth Century*. New York: Norton.

Friedman, B. M. (2005). *The Moral Consequences of Economic Growth*. New York: Knopf.

Fuest, C., M. Parenti, and F. Toubal (2019). "International corporate taxation: What reforms? What impact?" *Notes du conseil d'analyse économique* 54, No. 6 (November): 1-12.

Ghezzi, P. (2017). "Mesas ejecutivas in Peru: Lessons for productive development policies." *Global Policy* 8, No. 3: 369–80.

Gilson, R. J., C. F. Sabel, and R. E. Scott (2009). "Contracting for innovation: Vertical disintegration and interfirm collaboration." *Columbia Law Review* 109, No. 3 (April) : 431–502.

Guiso, L., H. Herrera, M. Morelli, and T. Sonno (2018). "Populism: Demand and supply." November.

Hacker, J. S. (2011). "The Institutional foundations of middle-class democracy." *Progressive Governance*. 33–37.

Hakobyan, S., and J. McLaren (2016). "Looking for local labor market effects of NAFTA." *Review of Economics and Statistics* 98, No. 4 (October): 728–741.

Hallsworth, M., J. A. List, R. D. Metcalfe, and I. Vlaev (2017). "The behavioralist as tax collector: Using natural field experiments to enhance tax compliance." *Journal of Public Economics*, 148, 14-31.

Hausmann, R., D. Rodrik, and C. Sabel (2008). "Reconfiguring industrial policy: A framework with an application to South Africa." *CID Working Paper*, n° 168, Center for International Development at Harvard University, August.

Heckman, J. J., R. J. Lalonde, and J. A. Smith (1999). "The economics and econometrics of active labor market programs." *Handbook of Labor Economics* 3A, pp. 1865-2097.

Howse, R. (2000). "Democracy, science, and free trade: Risk regulation on trial at the World Trade Organization." *Michigan Law Review* 98, No. 7, June, pp. 2329-2357.

INSEE (2019). "Activité, emploi et chômage en 2019 et en séries longues." June.

Inspection générale des Finances (2019). "Évaluation du dispositif d'aide fiscale à l'investissement locatif Pinel."

Kleven, H., C. Landais, M. Munoz, and S. Stantcheva (2020). "Taxation and migration: Evidence and policy implications." *Journal of Economic Perspectives* 34, No. 2: 119–42.

Kluve, J. (2010). "The effectiveness of European active labor market programs." *Labor Economics* 17, No. 6 (December): 904–18.

Kluve, J., and C. M. Schmidt (2002). "Can training and employment subsidies combat European unemployment?" *Economic Policy* 17, No. 35 (October): 409–48.

Koumpias, A. M. (2017). "The effects of compliance reminders on personal income tax payments in Greece; Evidence from a regression discontinuity design." *National Tax Journal* 110.

Lefebvre, M-N., E. Lehmann, M. Sicsic, and E. Zanoutene (2020). "Évaluation de la mise au barème des revenus du capital."

Lerner, J., and R. Nanda (2020). "Venture capital's role in financing innovation: What we know and how much we still need to learn." *Journal of Economic Perspectives* 34, No. 3 (Summer): 237–61.

Linder, N. (2020). "Digital technology helped create the skills gap. Here's how it can help close it." World Economic Forum Annual Meeting, January 20.

Maguire, S., J. Freely, C. Clymer, et al. (2010). *Tuning In to Local Labor Markets: Findings from the Sectoral Employment Impact Study*. New York, NY: Public/Private Ventures.

Malgouyres, C. (2017). "Trade shocks and far-right voting: Evidence from French presidential elections." *EUI Working Papers*, No. 2017-21.

Mas, C., R. Faquet et G. Roulleau (2020). "L'innovation en France peut-elle bénéficier aux employés peu qualifiés?" *Trésor-Éco*, No. 260 (May).

Mathieu, N. (2018). *And Their Children After Them*. Translated by William Rodarmor. Arles: Actes Sud.

Mayer, T., F. Mayneris, and L. Py (2017). "The impact of urban enterprise zones on establishment location decisions and labor market outcomes: Evidence from France." *Journal of Economic Geography* 17: 709–52.

McKinsey (2020). "Adapting tax collection for uncertain times."

McKinsey (2020). "Reimagining tax authorities for the future."

McKinsey Global Institute – MGI (2020). "The future of work in Europe: Automation, workforce transitions, and the shifting geography of employment." June.

McKinsey Global Institute – MGI (2018). "Skill shift: Automation and the future of the workforce." May.

MDRC (2016). *Encouraging Evidence on a Sector-Focused Advancement Strategy: Two-Year Impacts from the WorkAdvance Demonstration*. August.

MIT (2019). "The work of the future: Shaping technology and institutions." Fall.

Muraközy, B., and Á. Telegdy (2020). "The effects of EU-funded enterprise grants on firms and workers." *IZA Discussion Paper Series*, No. 13410, Institute of Labor Economics (IZA), June.

Nolan, B., J. C. Palomino, P. van Kerm, and S. Morelli (2020). *The Wealth of Families: The Intergenerational Transmission of Wealth in Britain in Comparative Perspective*. Nuffield Foundation Report.

OECD (2020a). "Regards sur l'éducation 2020."

OECD (2020b). "Perspectives des politiques de l'éducation."

OECD (2018a). *A Broken Social Elevator? How to Promote Social Mobility*.

OECD (2018b). *TALIS 2018 Results*, Vol. I: *Teachers and School Leaders as Lifelong Learners*.

OECD (2018c). *Good Jobs for All in a Changing World of Work: The OECD Jobs Strategy*.

OECD (2017). *Investing in Youth: Japan.*

OECD (2015). "Back to work: Sweden: Improving the re-employment prospect of displaced workers."

OPET (Bundesamt für Berufsbildung und Technologie BBT) (2008). *Evaluation Lehrbetriebsverbünde. Resultate*.

Osterman, P. (2018). "In search of the high road: Meaning and evidence." *ILR Review* 71, No. 1 (January): 3–34.

PES (2010). "Mutual learning programme." *Autumn Peer Reviews*, October.

Rademacher, I., M. Bear, and M. Conway (2001). *Project QUEST: A Case Study of a Sectoral Employment Development Approach*. Washington, D.C.: Aspen Institute.

Rea, D. and T. Burton (2020). "New evidence on the Heckman Curve." *Journal of Economic Surveys* 34, No. 2: 241-262.

Remes, J., J. Manyika, J. Bughin, et al. (2018). "Solving the productivity puzzle: The role of demand and the promise of digitization." MGI, February.

Remus, D., and F. Levy (2016). "Can robots be lawyers? Computers, lawyers, and the practice of law." November 27.

Robalino, D., J. M. Romero, and I. Walker (2020). "Allocating subsidies for private investments to maximize jobs impacts." *IZA Discussion Paper Series*, No. 13373, Institute of Labor Economics (IZA), June.

Roder, A., and M. Elliott (2019). "Nine year gains: Project QUEST's continuing impact." Economic Mobility Corporation, April.

Roder, A., and M. Elliott (2018). "Escalating gains: The elements of project QUEST's success." Economic Mobility Corporation, May.

Rodrik, D. (2021). "Why does globalization fuel populism? Economics, culture, and the rise of right-wing populism." *Annual Review of Economics*, vol. 13, forthcoming.

Rodrik, D. (2019). "Towards a more inclusive globalization: An anti-social dumping scheme." *Economics for Inclusive Prosperity.* Research Brief, February.

Rodrik, D. (2018). "Populism and the economics of globalization." *Journal of International Business Policy* 1: 1–22.

Rodrik, D. (2008). "Normalizing industrial policy." *Commission on Growth and Development Working Paper* 3.

Rodrik, D. (2007). "Industrial policies for the twenty-first century." In: *One Economics, Many Recipes: Globalization, Institutions, and Economic Growth*, by Dani Rodrik. Princeton, NJ: Princeton University Press.

Rodrik, D., and C. Sabel (2019). "Building a good jobs economy." November.

Ruggie, J. G., C. Rees, and R. Davis (2020). "Making 'stakeholder capitalism' work: Contributions from business & human rights." *HKS Working Paper*, No. RWP20-037, November.

Sabel, C. (2007). "Bootstrapping development: rethinking the role of public intervention in promoting growth." In: Nee, V. and R. Swedberg (eds.), *On Capitalism*, Stanford: Stanford University Press, pp. 305-341.

Saez, E. and S. Stantcheva (2016). "Generalized social welfare weights for optimal tax theory." *American Economic Review* 106, No. 1, pp. 24-45.

Saez, E. and S. Stantcheva (2018). "A simpler theory of optimal capital taxation." *Journal of Public Economics* 162, June, pp. 120-142.

Sarin, N., and L. H. Summers (2020). "Understanding the revenue potential of tax compliance investment." *NBER Working Paper Series*, No. 27571, National Bureau of Economic Research, July.

Schaberg, K. (2017). "Can sector strategies promote longer-term effects? Three-year impacts from the WorkAdvance demonstration." New York, NY: MDRC, September.

Shaffer, G. (2019). "Reconceiving trade agreements to address social inclusion." *Illinois Law Review* 35, No. 1, pp. 36-55.

Shore, J., and J. Tosun (2019). "Assessing youth labor market services: Young people's perceptions and evaluations of service delivery in Germany." *Public Policy and Administration* 34, No. 1, pp. 22-41.

Slattery, C., and O. Zidar (2020). "Evaluating state and local business incentives." *Journal of Economic Perspectives* 34, No. 2, Spring, pp. 90-118.

Stantcheva, S. (2020). "Understanding tax policy: How do people reason?" *NBER Working Paper Series*, No. 27699, National Bureau of Economic Research, August.

Stolper, W., and Paul A. Samuelson (1941). "Protection and real wages." *Review of Economic Studies* 9, No. 1, pp. 58-73.

Temin, P. (2017). *The Vanishing Middle Class: Prejudice and Power in a Dual Economy*. Cambridge, MA: MIT Press.

Ton, Z. (2014). *The Good Jobs Strategy*. Amazon Publishing.

Trannoy, A., and E. Wasmer (2013). "La politique du logement locatif." *Notes du conseil d'analyse économique* , No10, pp. 1-12.

Tuzel, S., and M. B. Zhang (2019). "Economic stimulus at the expense of routine-task jobs." May 14.

Villani, C. (2018). "For a meaningful artificial intelligence: Towards a French and European strategy." Parliamentary mission's report.

Waldman-Brown, A. (2020). "Redeployment or robocalypse? Workers and automation in Ohio manufacturing SMEs." MIT Work of the Future Working Paper. April 9.

Webb, M. (2020). "The impact of Artificial Intelligence on the labor market." January.

Wilson, H. J., and P. R. Daugherty (2018). "Collaborative intelligence: Humans and AI are joining forces." *Harvard Business Review* 96, No. 4, July, pp. 114-123.

Wilson, W. J. (1996). *When Work Disappears: The Work of the New Urban Poor*. New York, NY: Knopf.

World Economic Forum (in collaboration with McKinsey) (2019). "Global Lighthouse Network: Insights from the forefront of the Fourth Industrial Revolution." White Paper, December.

World Economic Forum (in collaboration with McKinsey) (2019). "Fourth Industrial Revolution: Beacons of technology and innovation in manufacturing." White Paper, January.

Young, A. R. (2019). "Two wrongs make a right? The politicization of trade policy and European trade strategy." *Journal of European Public Policy* 26, No. 12, pp. 1883-1899.