

# EUROPEAN TECH INSIGHTS 2020

Unveiling the technological future  
that citizens want and their  
concerns in a changing world



# INSTITUTIONAL MESSAGE

Technology is transforming the world around us. This brings a combination of excitement and opportunity but also challenges to our way of life, labor and how we safeguard what is ours. While we benefit from some of the opportunities it creates—from internet connection and food delivery platforms to the artificial intelligence that helps to make diagnosis in hospitals—change brings undeniable disruption to much of what we hold dear. The COVID-19 pandemic is one of the most significant events in decades that will shape key processes for years to come. However, there is no simple picture of how the pandemic will impact us and the development of technology. While change will accelerate in certain sectors—healthcare or the digital transformation of work and pleasure—it will decelerate or halt other processes, such as global trade, supply-chains, movements of people and energy markets.

Technological change does not happen by itself to outcomes beyond human agency. Rather, humans shape its development in order to satisfy specific purposes and applications. We still do not know enough about how technological change affects people’s lived experiences and perceptions, both what they find positive and what they are anxious about. This knowledge will be at the core of crafting a strategy to manage technological change. The political upheavals that we have seen around the world have been characterized by an inability to

foresee change and a struggle to maintain legitimacy among its citizens as common themes.

From the very beginning, we saw that it was essential for **the Center for the Governance of Change** to build that knowledge base, and therefore we launched European Tech Insights. We do this alongside our ten research programs and many other initiatives at the intersection of technological change and policy on topics from the future of healthcare, data integrity, AI strategies as well as the future of education and skills.

In this second edition of European Tech Insights we delve deeper into what future that European citizens want on topics at the center of their life, such as the future of work and automation, the growth and regulation of technological companies, the gig economy, global supply chains or the climate. This includes understanding particularly what they do not want, how they differentiate between the effect that change will have on them versus on their country. It also probes inconsistencies between what they say they want and how they act. Moreover, as the first surveys were done before the pandemic, we also updated the report with a re-run of key questions plus additional ones on four of the hardest-hit countries on how the pandemic has changed perceptions of technology, and what are legitimate ways to manage it.

In this edition, we also thought it was important to contrast the European findings with the perceptions of the US, Chinese and Mexican publics.

We hope readers will find this survey insightful and surprising as some of our findings give them food for thought. But we particularly hope to spark and inform conversations that take into account how citizens experience the numerous facets of change.

**Diego del Alcázar Benjumea,  
Vice President of IE University,  
Co-chair of the Center for the  
Governance of Change.**





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# KEY FINDINGS

Our research shows **that citizens of the hardest-hit countries by COVID-19 are changing their attitudes and becoming more willing to make concessions in terms of privacy and freedom of movement.** An overwhelming majority of Italians (79%) and Spaniards (67%) support the implementation of restrictive tracking systems like the ones deployed in China. **The number of citizens that are willing to reduce their privacy through more CCTV or social network surveillance by governments has also grown** in the span of three months by 19% in China, 15% in Italy, and 4% in Spain.

**79% of Italians and 67% of Spaniards support a Chinese-style restrictive tracking system.**

There is a generational divide in perceptions on limiting automation in order to save jobs. **For citizens under 55 there is a majority who supports limiting automation, whilst for those over 56 are less supportive of limitations (49% against and 32% for).** The most notable outlier is France, where 59% of citizens support limitations and just over 20% is against. **After the**

**onset of the pandemic, support for limiting automation almost doubled in China, from 27% to 54%,** and there was a 14% increase in Spain as well. At the same time, **a majority of Europeans—with as many as 70% of Britons—find confidence in their own skills and think that robots and computers will not be able to do their jobs better than them within the next 10 years.**

**A majority under 55 supports limiting automating to save jobs.**

37% of young Europeans (18-35 years old) are excited about the possibility of **using digital avatars** with access to our data to profile our values to represent their interests in national parliaments instead of politicians. By contrast, only 19% of older cohorts are excited about that option. **In China, support is significantly higher with 61% being excited about digital avatars.**

Europeans are increasingly sceptical of the tech behemoths: 31% of Europeans believe that **governments should limit the size or even deescalate the GAFa companies** because “they are bad for competitiveness and

democracy”. 45% of Europeans find ethically regrettable to use services like Uber and Deliveroo due to the way these companies treat their workers, and **more than half of them favor forcing them to comply with the same labor rules than traditional companies.** 53% of Italians and 40% of Spaniards favor raising taxes on big tech companies to enable governments to finance the recovery post-COVID, whereas the US and China, home of the most tech companies, are in favor of raising taxes for all companies—not just tech ones.

**Europeans are increasingly skeptical of large tech companies.**

The impact of labor-saving technologies is not felt by Europeans. Most Europeans (56%) think that there is a low or very low probability of their countries **shortening the workweek to four days.**

Before the pandemic, 47% of Europeans believed that governments should **not share their citizens' health records** with companies, but now willingness to share has increased by 12% in Spain and 10% in Italy, the US and China.

**Chinese citizens see a bigger potential in technological change.**

There is a notable cultural split on perceptions to technological change. Chinese citizens see a bigger potential in technological change leading to job loss, but are also less willing to limit automation. Moreover, Chinese are more supportive of tech giants, less worried about privacy and more optimistic about digital avatars.

**Europeans are increasingly mindful of the source of their products:** 41% of Europeans think that Europe should “follow the US example and raise tariffs on Chinese products to protect its regional economy”. However, very few translate this to action to prioritize buying technology made in Europe. **A majority (49%) of Chinese citizens think that “China should use its political and economic strength to prevent” Europe from raising tariffs.**



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**DATA, PRIVACY  
AND DEMOCRACY**

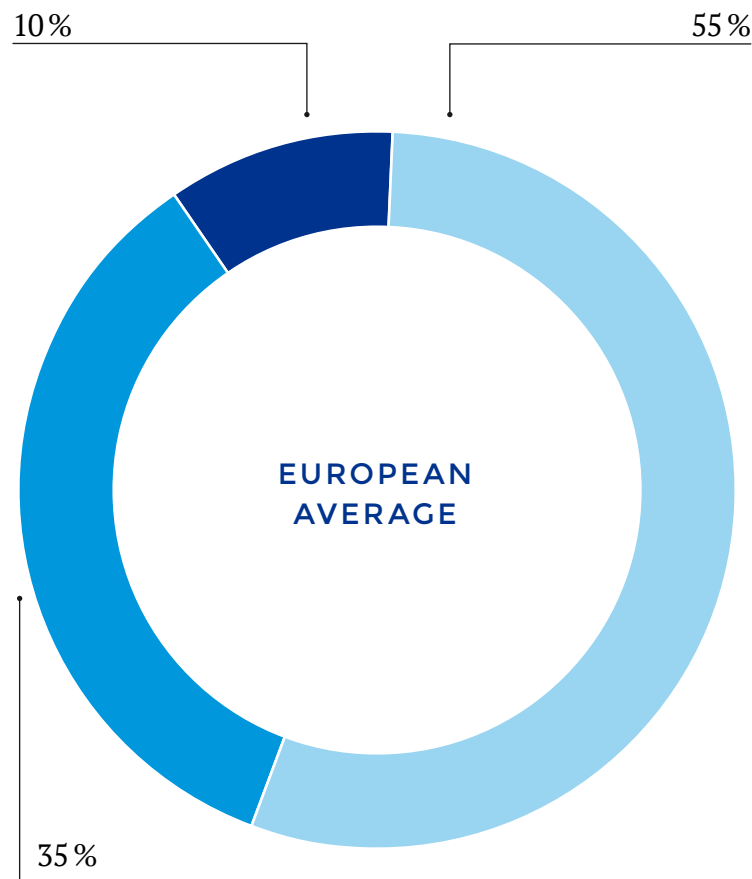


FINDING 1—ON HEALTH DATA

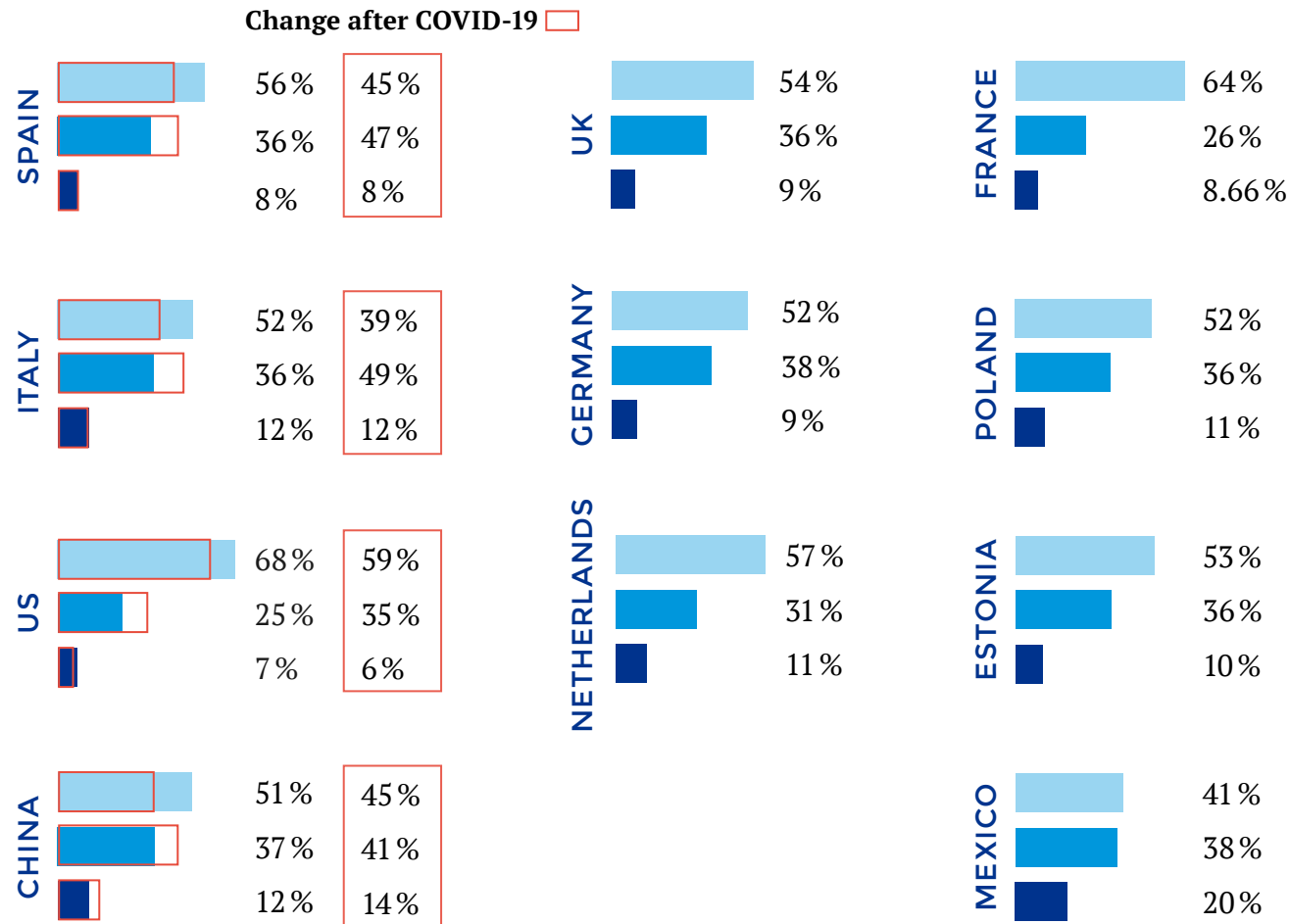
Before the pandemic, **55% of Europeans believed that governments should not share their citizens' health records** with companies like Google without their previous consent, even if that helped developing new treatments and new mechanisms for early detection of diseases. After COVID-19 arrived to Europe, privacy concerns decreased and the number of citizens who agree to share their personal data has grown in the two hardest hit countries with an additional 12% in Spain and 10% in Italy. Similarly, 69% of Americans and 51% of Chinese disagreed with sharing their personal data before COVID-19 and this number has now decreased by 10% points in both countries.

QUESTION:

Some governments are sharing their citizens' health records with companies like Google in order to support the development of mechanisms for early detection of diseases and new treatments.  
How do you feel about this?



SHARING OF HEALTH RECORDS



- I think it is wrong, because my personal data is mine and no institution should be entitled to use it without my previous consent.
- I think it is ok, as long as my personal data is not misused (for instance, for commercial purposes).
- I think it is ok, even if there is a possibility of my personal data being misused, the potential returns are higher than the risks.

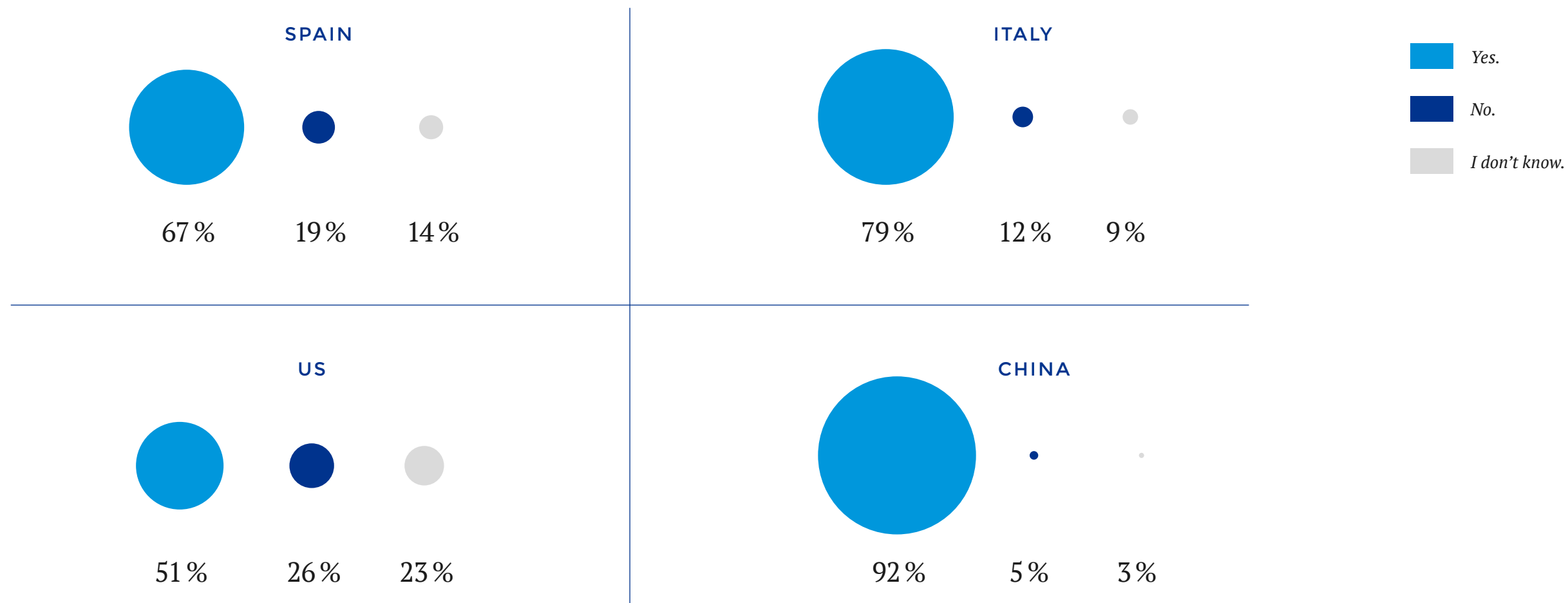
## FINDING 2—ON COVID-19 TRACKING

In two of the European countries with the highest death toll due to Coronavirus, **citizens strongly support the implementation of a color-coded QR system for coronavirus tracking** like the one deployed in China. Almost 80 % of Italians and 67 % of Spaniards would be in favor of their respective governments implementing such restrictive measures, despite concerns over privacy. A majority of US respondents hold the same view. In China, an overwhelming majority (92 %) of respondents are satisfied with the color-coded QR system implemented by their government.

## QUESTION:

In China, residents are assigned coloured QR codes for COVID-19 tracking: green means the user is free to travel, while yellow or red means they must be self-quarantined. Would you be in favor of your government implementing such restrictive measures to contain the virus even if it means restricting your freedom of movement? (For Chinese respondents: Do you agree with the implementation of this system?)

### COVID: USE OF TECHNOLOGY





## FINDING 2—ON COVID-19 TRACKING

The pandemic is reordering the world not only in the direct sense of stopping travel, trade and work, but also the relationship with the individual, companies, the government and international institutions. **Previous concerns about privacy are giving way for support either for surveillance or for sharing health records.** The inadequacies of global governance in the health domain have become apparent and our hopes are placed in national governments to coordinate a response both to the health and the economic crisis. The livelihood and well-being of Europeans are being challenged for years to come as record unemployment figures demand both economic solutions and reskilling of workers.

Whilst technological development has always come, and will continue to come, resistance has increased. It is critical to understand citizens' perceptions of new technologies to understand what is legitimate, both in their long-term development, but also for their role in combating the pandemic. A mismatch between citizens' perceptions and needs can translate into governments taking actions that would lead into the hollowing out of the social contract and the possibility of exploitation by illiberal actors. To bridge this mismatch, we produce European Tech Insights yearly to gauge both EU and other citizen's perceptions to the key issues of our time.

### A mismatch between the citizens' perceptions and needs, and the government's actions can lead to a hollowing out of the social contract.

The most notable outcome of the pandemic is that concerns of **data privacy have given way to an increasing acceptance to allow for intrusions into freedom of movement, privacy and surveillance, as well as increasing support for limiting automation which could lead to more job loss.** However, this only holds for younger participants under 55, whereas the older generation is against limitations. This report also underlines a contradiction between concerns, and unwillingness to take action by paying for services to protect privacy and in buying European products.

**Dr. Oscar Jonsson,**  
**Academic Director of the Center for the**  
**Governance of Change at IE University**





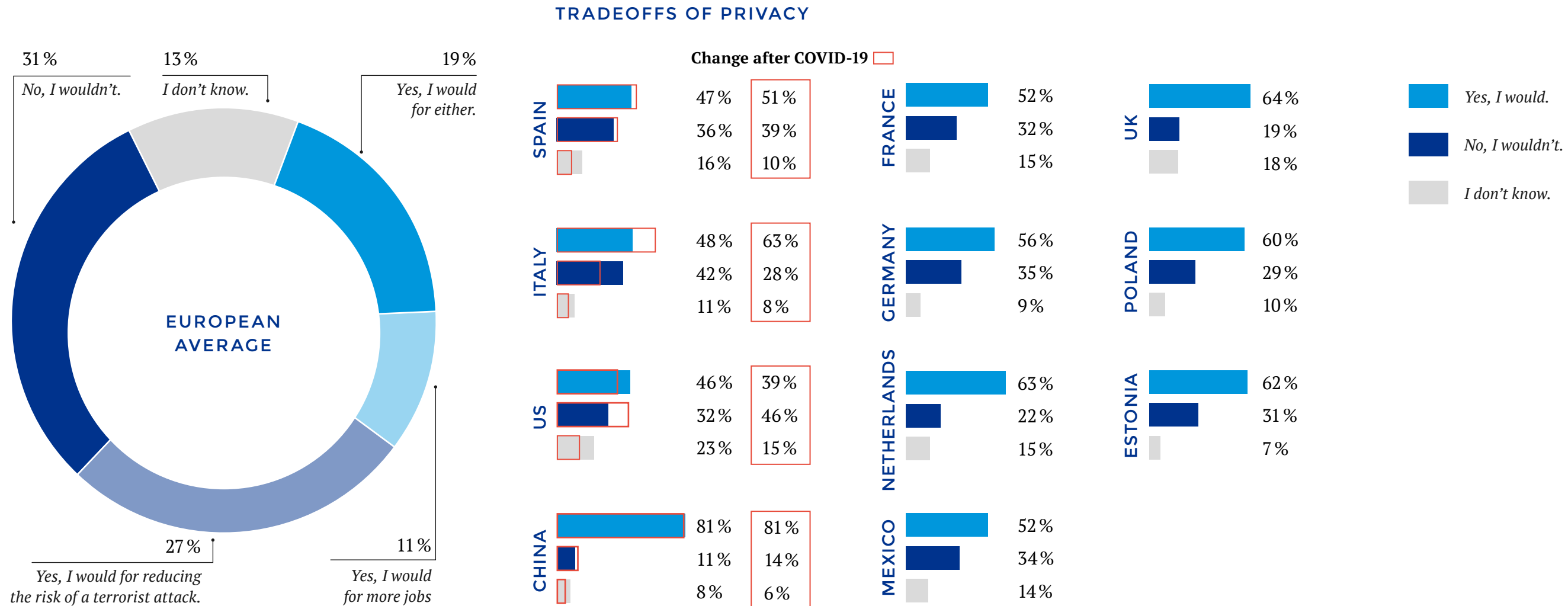
### FINDING 3—ON PRIVACY

Before the current pandemic, a majority of Europeans (56%) were willing to give up part of their privacy rights in exchange for more jobs or public safety. Only 31% of respondents were not willing reduce their privacy. That share was particularly high in Italy (42%), Spain (36%), and Germany (35%). In China, most citizens (81%) didn't mind exchanging privacy for more security and economic growth.

**After the start of the pandemic, there were notably less concerns about reducing privacy and willingness went up in China (19%), Italy (15%) and slightly so in Spain (4%).**

### QUESTION:

Would you be willing to reduce your privacy (for instance, with more CCTV cameras and social network surveillance by governments) if that could increase economic growth in your country (e.g. more jobs) or enhance public safety (e.g. reducing the risk of a terrorist attack)?

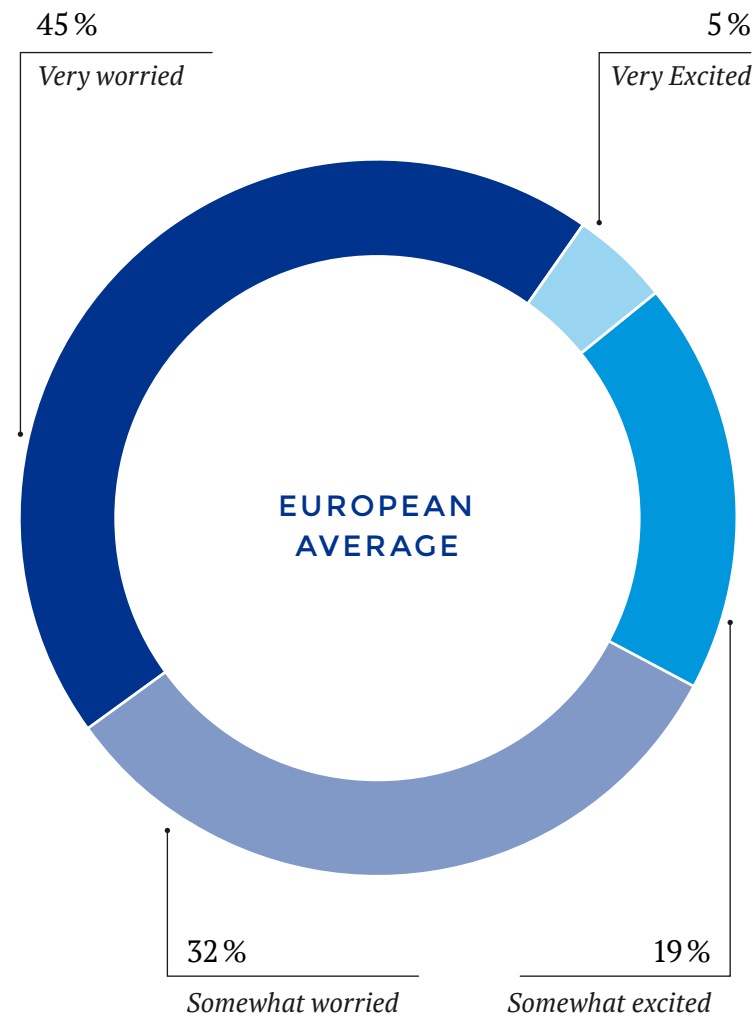


FINDING 4—ON DIGITAL DEMOCRACY

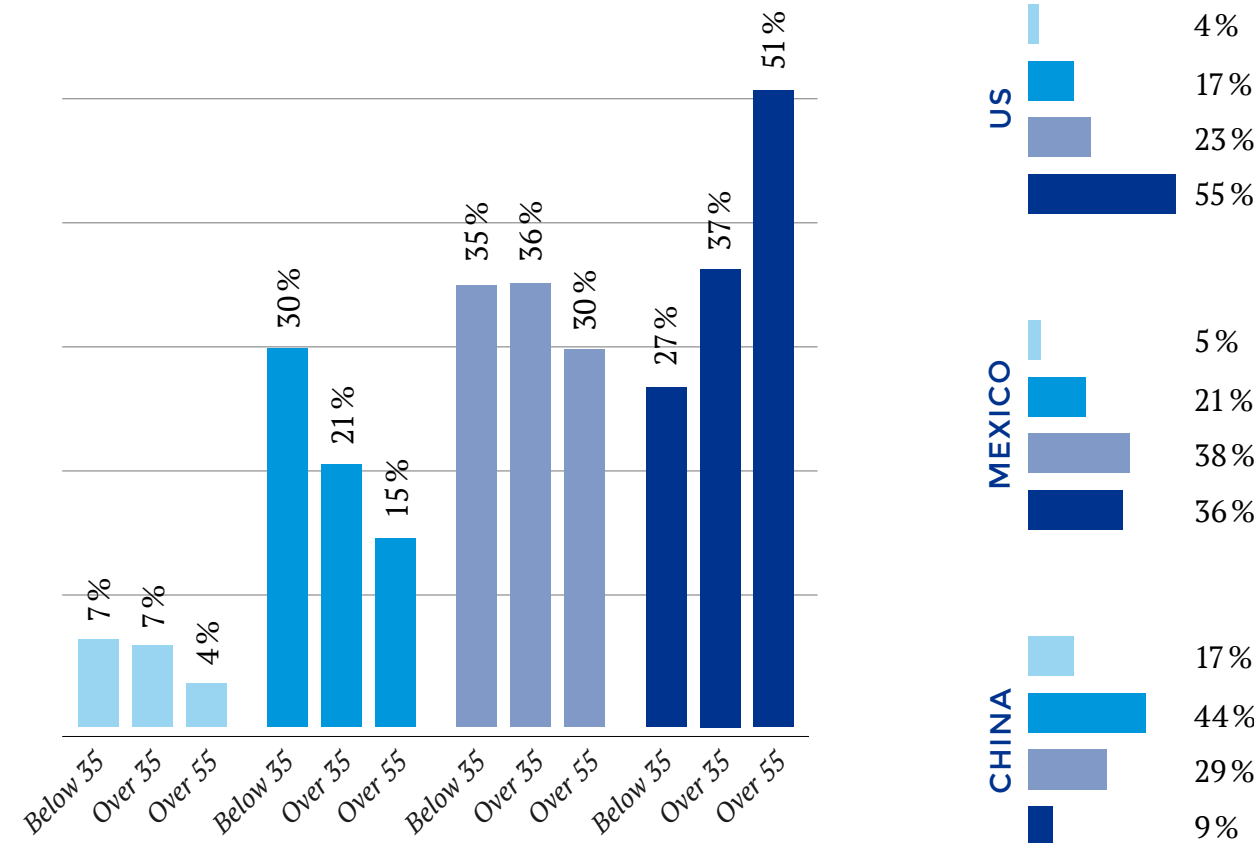
**23% of Europeans are excited about the possibility of using digital avatars** with access to their data to profile their interests instead of politicians to represent their interests in national parliaments—something that worries 77% of respondents. Whilst such avatars would need an access to data, it holds to promise of reducing corruption and ensuring that the best interests of the citizen. However, the results vary dramatically by generation: 37% of Europeans between 18 and 35 years old are excited or very excited of using these AI systems to advance a more direct democracy, 27% of those between 35 and 55, and only 18% of those over 55. Americans and Mexicans have a similar feeling than Europeans on this subject. By contrast, the majority of Chinese (61%) find exciting the possibility of substituting their politicians by digital avatars.

QUESTION:

Some experts are suggesting that we use digital avatars instead of politicians to represent us in national parliaments and advance direct democracy. These avatars would be artificial intelligence systems that would access our emails, browsing history, and social networks and determine what are our values, ideas and political views. They would vote for us in the parliament. How does this proposal make you feel?



DIGITAL AVATARS INSTEAD OF POLITICIANS



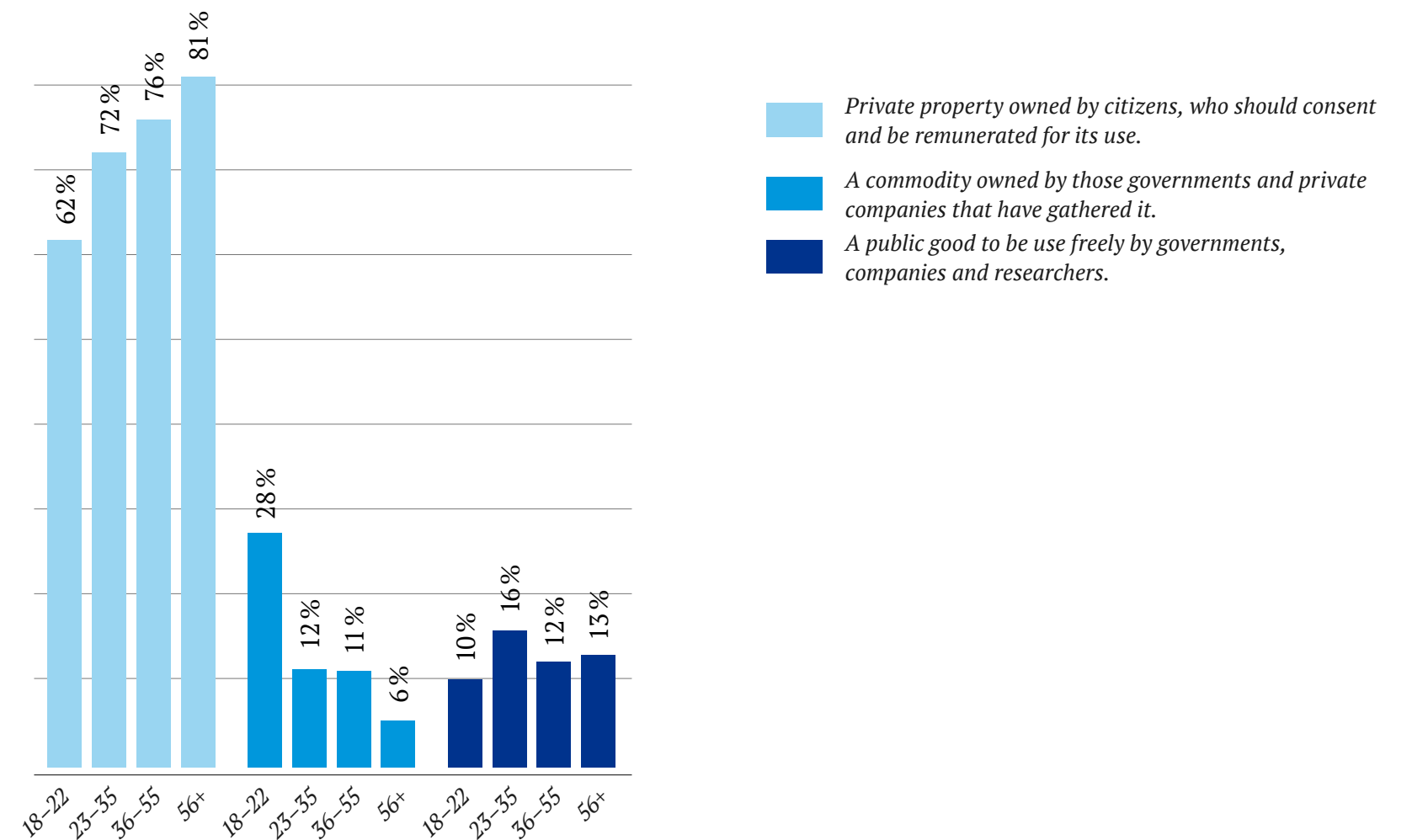
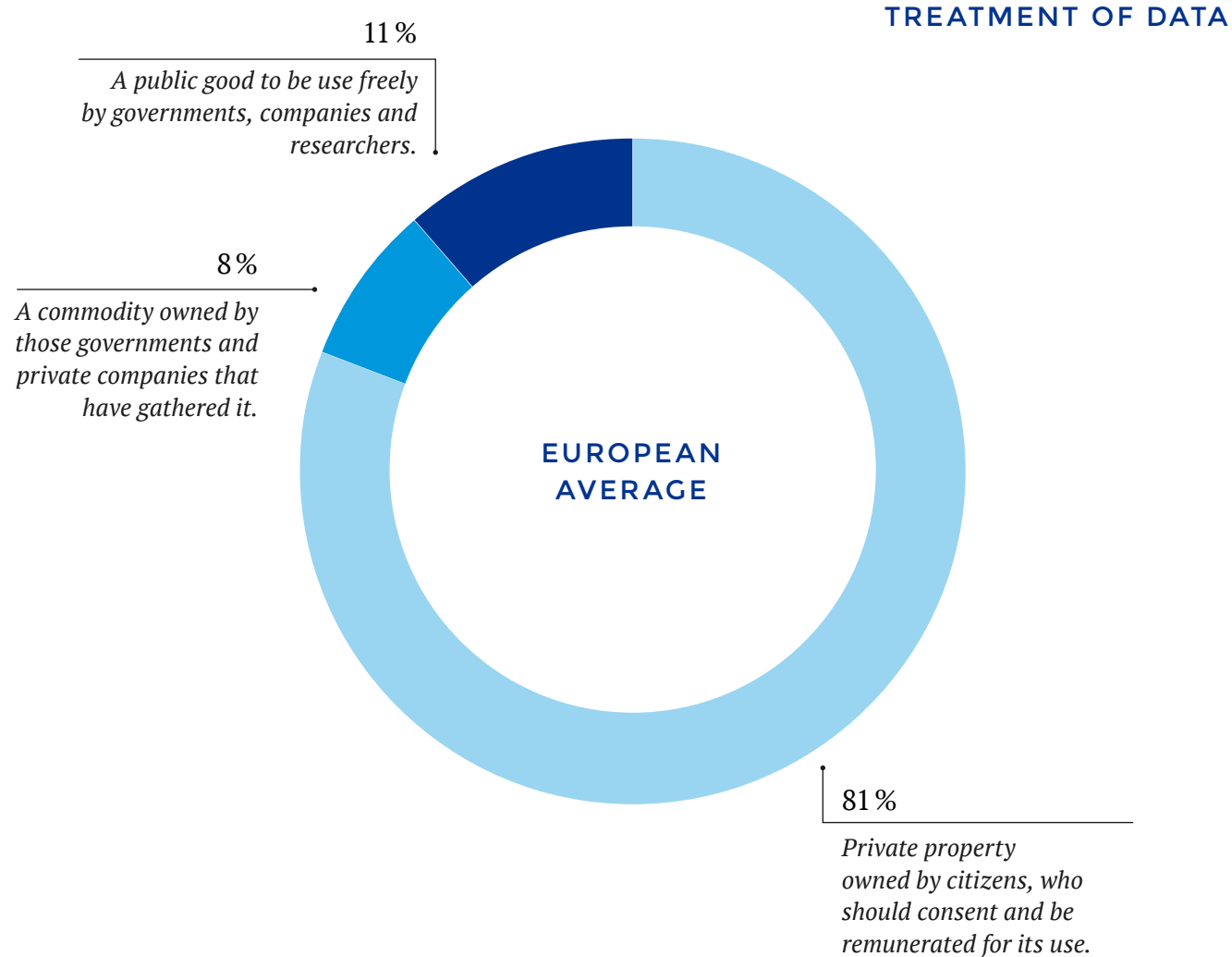


FINDING 5—ON DATA

**The overwhelming majority of Europeans (81 %) shows concerns about data privacy and think that data should be treated as proprietary**—and consequently that citizens should be asked for consent and be remunerated for its use by companies like Google. Less than 8 % think that data should be owned by those governments and private companies that have gathered it. Young people are however slightly more likely to agree with this view: 20 % of the 18–22 year olds, compared to 7 % of those in older age groups (56+). Americans, Mexicans and Chinese feel the same way.

QUESTION:

In your view, personal data gathered by governments and private companies like Google (such as browsing data or viewing data) should be considered and treated as:





## FINDING 5—ON DATA

Big tech companies base their business model around data, but people receive no compensation for it, apart from some “free” services—such as web-searches, email accounts, and social networks. Many experts believe that, if nothing is done, this could lead to a more unequal world and argue that we need to define new mechanisms to remunerate citizens for their data.

In this spirit, Jaron Lanier and others have suggested that big tech companies should make “nanopayments” to each of their users, for data created by them. A compelling idea that, however, conflicts with the argument that the value generated by these data systems (such as Amazon’s recommendations, Google’s traffic predictions, and Uber’s surge pricing) depends largely on advanced tech platforms that users did not create, and the information from millions of individuals. One person’s contribution isn’t worth much and so the fair value of these payments would be vanishingly small; estimates are that, if Facebook divvied up every cent of its profits among its users, each would receive about \$5 for 2016. An alternative systemic proposal is to create an universal basic income based on the data people produce. Eric Posner and Glen Weyl argue in their 2018 book, *Radical Markets*, that paying people for data would raise US household median income by

**Big tech companies base their business model around data, but people receive no compensation for it, apart from some “free” services.**

\$20,000—a bigger increase than the uplift in the post-war era. Putting such system in place, however, wouldn’t be easy, since it would involve solving a number of contradictions, technical challenges, and industrial resistances that, today, seem close to impossible to overcome.

**Dr. Diego Rubio,  
Director of the Spanish Foresight and Strategy  
Office and former Executive Director of the Center  
for the Governance of Change at IE University.**





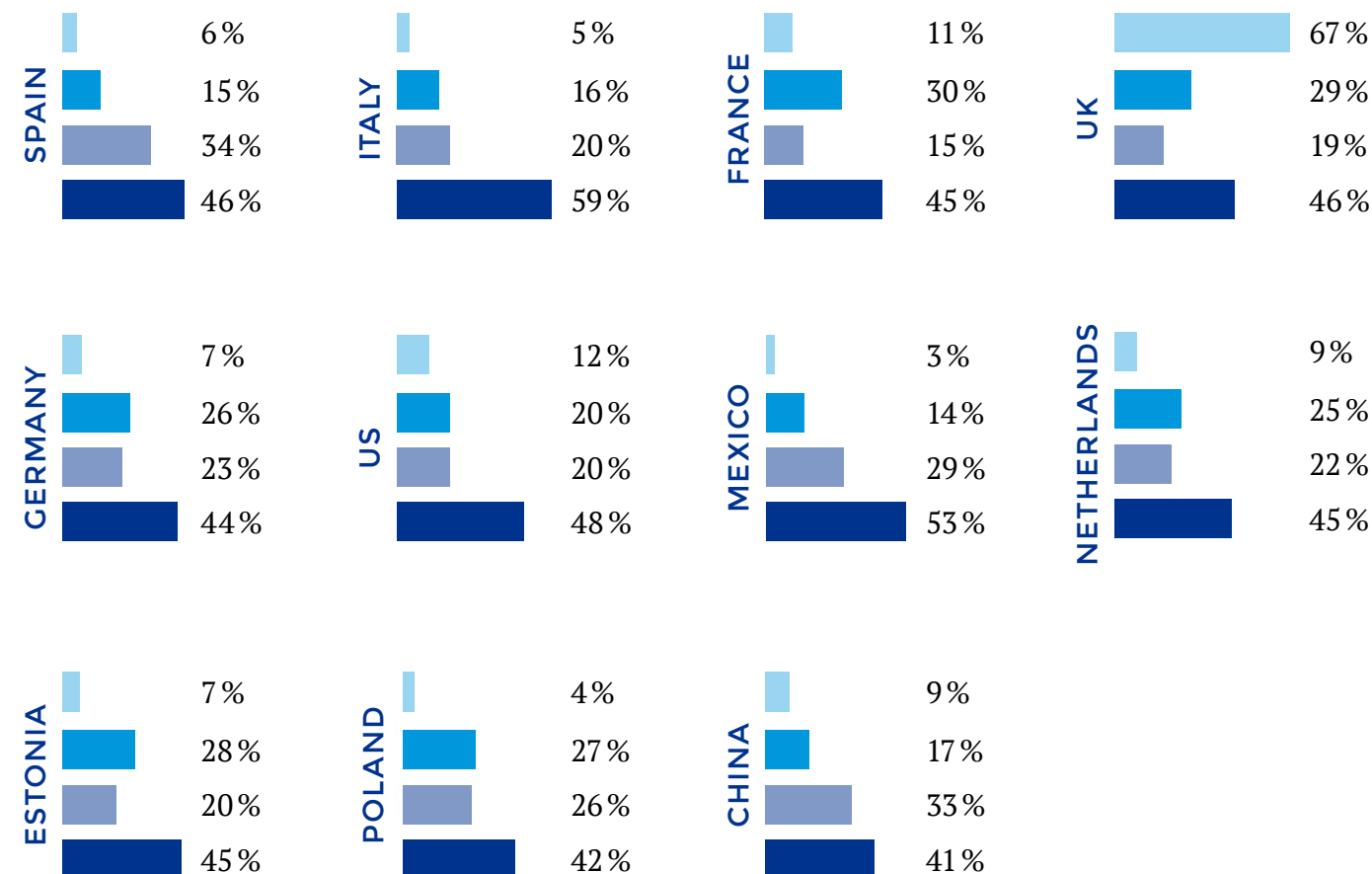
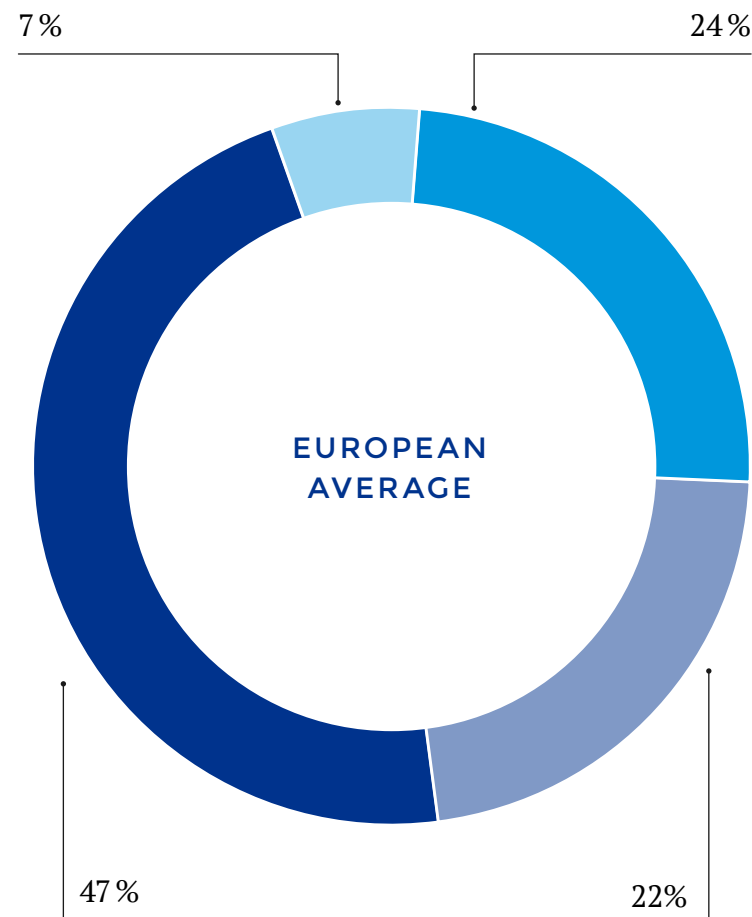
FINDING 6—ON DATA AND SOCIAL MEDIA

**Europeans are concerned about the use that most social media networks (Facebook, Twitter, Instagram, etc.) are doing of their personal data.** However, if given the alternative, only 22 % of those surveyed would be willing to pay for the service in exchange of keeping their personal data safe.

QUESTION:

Many online platforms, including most social media networks (Facebook, Twitter, Instagram, etc.) provide a service without a cost. However, they require that you give them the right to use some of your personal data for commercial purposes. In some cases, this data is being used to influence political choices and sell products to people who might not need them. What is your view on this?

SHARING DATA IN EXCHANGE FOR SERVICES



- I don't care what they do with my data as long as the services they provide continue to be free.
- I am concerned, but I'm ok as long as I don't have to pay for the service.
- I am really concerned and I will be willing to pay for the service in exchange of keeping my personal data safe.
- It depends on the type of data: I would be OK with less sensitive data such as browsing history data.

The vast majority of our respondents (76%) are fine with companies like Facebook using at least their less sensitive data (such as browsing history), even if it might be use to influence political choices and sell them products that they do not need. Of those, a small minority (7%) do not care at all what the companies do with the data if, in return, they can get the services for free. Those citizens with more education are more willing to pay. Americans, Chinese and Mexicans hold similar views.



## FINDING 6—ON DATA AND SOCIAL MEDIA

Read together, this finding, along finding 3 (on data use and the public good) and finding 5 (on payment for data) shows that Europeans' attitudes towards data privacy are still evolving and not always consistent. Of course, this is hardly surprising given that it was not an issue at all even less than a decade ago. In finding 5 we saw that 81 % of Europeans are assertive of the ownership of their data and think that they should be compensated for its use. However, when we flip this question and pose (immediately above) a real world scenario where they are getting services for free (through social media platforms), only 22 % would be willing to take the logical step of paying for those services in exchange for more privacy.

Contrary to the agenda e.g. of the EU's General Data Protection Regulation (GDPR), privacy is a concern but accessing free services is a priority for Europeans. Similarly, in finding 3 we see that the majority of Europeans were ready to give up even more of their privacy rights in exchange for a public good that they may not benefit directly from, such as a stronger economy or public safety. They were even more willing to do so in the aftermath of the pandemic. Americans, however, seem to be much less willing to sacrifice their privacy, with about 50 % declaring that they wouldn't under any circumstances (post-COVID-19).

**Contrary to the agenda e.g. of the EU's General Data Protection Regulation (GDPR), privacy is a concern but accessing free services is a priority for Europeans.**

The views of European are thus mixed with respect to privacy and firmer views that inform policy will require of more public scrutiny and a clear debate of the possible trade-offs.

**Dr. Carlos Lastra-Anadón,  
Assistant Professor at the School of Global and  
Public Affairs and Research Coordinator  
of the Center for the Governance of Change at  
IE University**







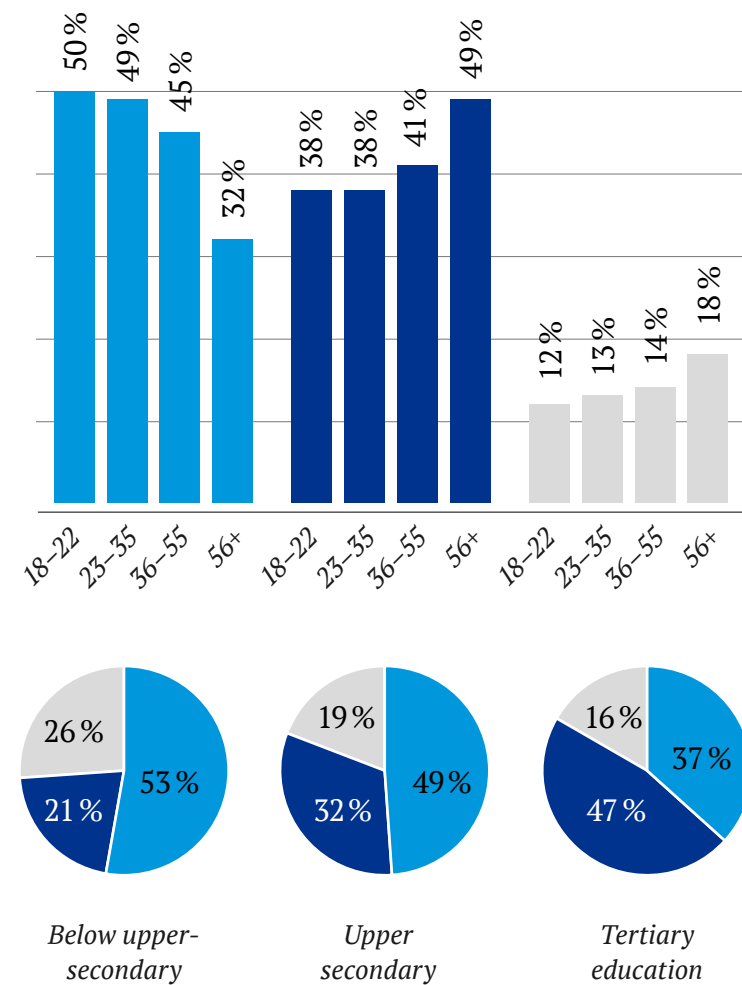
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AUTOMATION

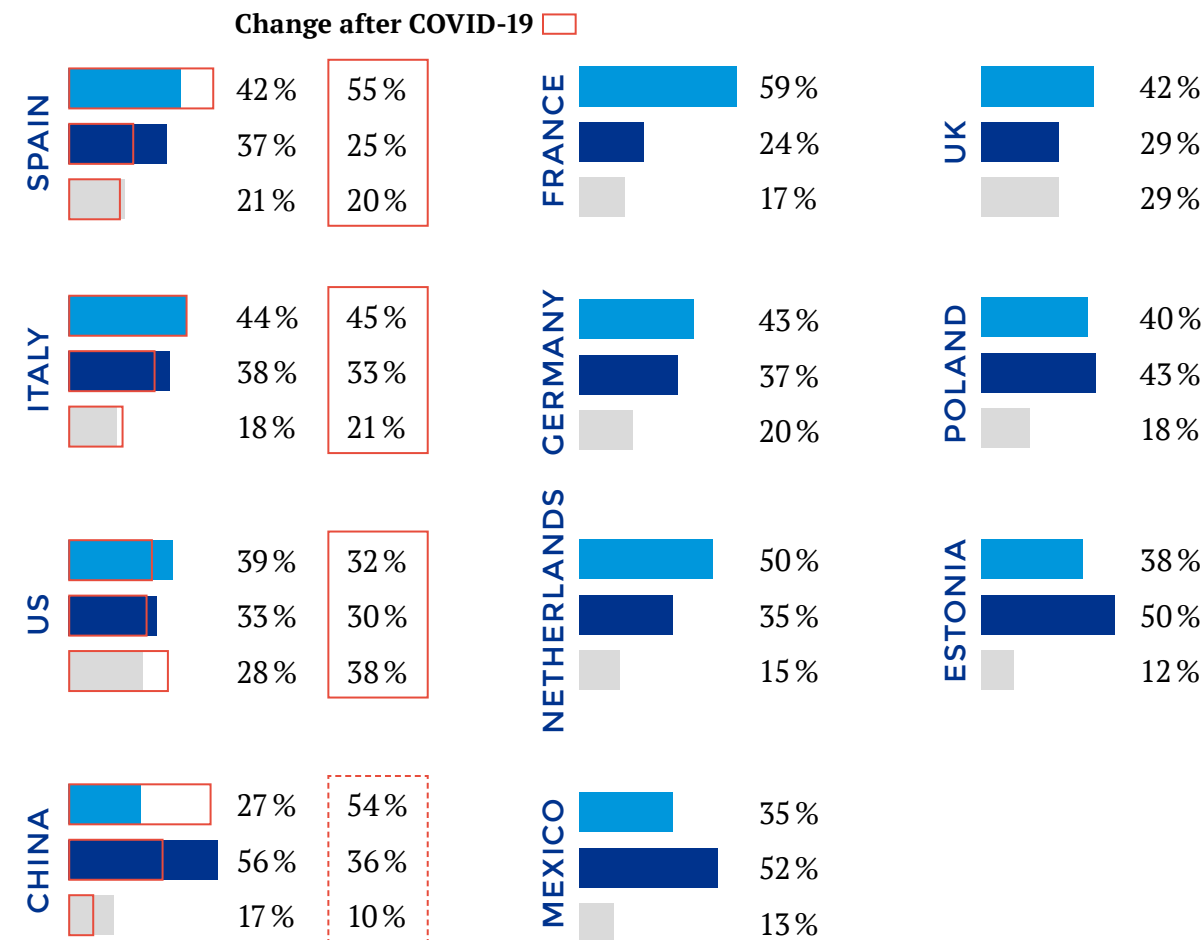


FINDING 7—ON AUTOMATION

**Younger Europeans (under 55) are showing a willingness to limit automation to safeguard jobs**, whereas those older are less worried and in majority against. In aggregate, most European countries are split with the exception of France, where a strong majority of citizens (59%) are very willing to limit automation and only a fifth are against. These attitudes have shifted in some of the countries most affected by the pandemic: **support for measures that limit automation increased by about 14% in Spain and almost doubled in China, from 27% to 54%**. Support for limits on automation is higher amongst respondents with no university degree, whereas those with higher education levels tend to think the opposite. When looking at age groups, we find that the older the people get, the less inclined they are to limit automation by law.

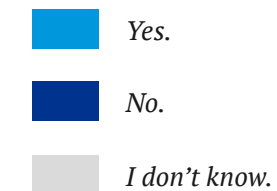


LIMITS ON AUTOMATION



QUESTION:

Should European/US/China/Mexico governments limit automation by law in order to save jobs and prevent technological unemployment





## FINDING 7—ON AUTOMATION

Throughout history, cyclical downturns and depressions have inflamed automation anxiety. Wars, in contrast, have usually ended such fears, even if just temporarily. President Franklin D. Roosevelt warned in his State of the Union address that America had to begin “finding jobs faster than invention can take them away.” Roosevelt had even tried to slow the pace of automation. Of the 280 regulations in the National Recovery Administration, established in 1933, thirty-six included restrictions on the installation of new machines.

COVID-19 is often described as a war-like event which has brought the world economy into recession. So will it end or exacerbate our automation concerns? A key reason why World War II brought machinery angst to an end is that every citizen had to work at full capacity to beat the Axis powers. Recessions have the opposite effect: they leave people with worsening alternative job options, and this makes the prospect of being replaced by a robot seem much worse. Unlike World War II, COVID-19 doesn’t require everyone to work at full capacity. On the contrary, it requires people to stay at home. And as the joblessness claims have skyrocketed across Europe, automation anxiety is set to witness a revival.

In European countries, as the report shows, between 40% (Poland) and 59% (France) think that governments should ban or restrict automation to protect

jobs. To put this in perspective, during the Great Depression, only 5% of those who submitted proposals to the Roosevelt government, advocated measures to restrict automation, despite unprecedented unemployment. Thus, Europeans today have strikingly negative attitudes towards automation.

Looking forward, automation is likely to accelerate as a consequence of the Coronavirus pandemic. Businesses typically accelerate automation during recessions to cut costs, and those jobs don’t come back, leading to jobless recoveries. In addition, cash-stripped consumers tend to trade down to cheaper goods and services, which are

produced with more labor-saving technology, adding to the woes of the recession. And many companies will want to automate in order to pandemic-proof their operations. For example, as e-commerce has boomed, Amazon and other companies have come under pressure over overcrowding in warehouses. The best way of overcoming such bottlenecks will be by using more robots.

When automation accelerates during a downturn, a techlash is likely to follow. The Luddites famously smashed machines, fearing for their jobs. And it is no coincidence that machinery riots in Britain become more common during the Continental blockade (when

## When automation accelerates during a downturn, a techlash is likely to follow.

Napoleon blocked all ports from Brest to the Elbe) which, like COVID-19, disrupted trade. Automation is a key driver of long-run economic growth and improved standards of living. But in a world where workers are also voters, Luddite efforts to avoid the short-term costs of automation could end up denying access to its long-term benefits—something I have called a “technology trap” in my new book. To avoid the technology trap, some form of basic income might be needed across the EU.

**Dr. Carl Benedikt Frey,**  
**Director of the Future of Work Programme,**  
**Oxford University**



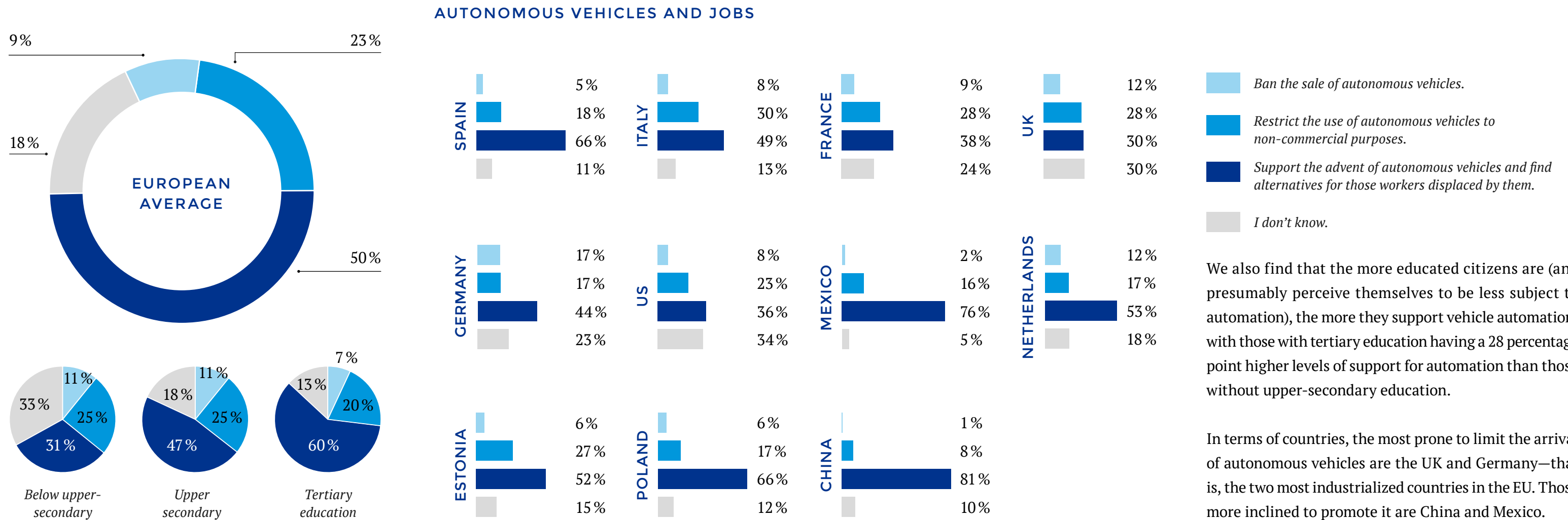
FINDING 8—ON AUTONOMOUS VEHICLES

Whilst there was a split on limiting automation in general, **most Europeans (50%) believe that their government should “support the advent of autonomous vehicles”** even if this “will destroy millions of jobs” and only 32% support either banning or restricting the use of autonomous vehicles for that very reason.

QUESTION:

Some experts believe that the advent of autonomous vehicles will destroy millions of jobs in Europe/US/China/Mexico (e.g. taxi and truck drivers).

In your view, what should your government do to deal with this possibility?



We also find that the more educated citizens are (and presumably perceive themselves to be less subject to automation), the more they support vehicle automation, with those with tertiary education having a 28 percentage point higher levels of support for automation than those without upper-secondary education.

In terms of countries, the most prone to limit the arrival of autonomous vehicles are the UK and Germany—that is, the two most industrialized countries in the EU. Those more inclined to promote it are China and Mexico.

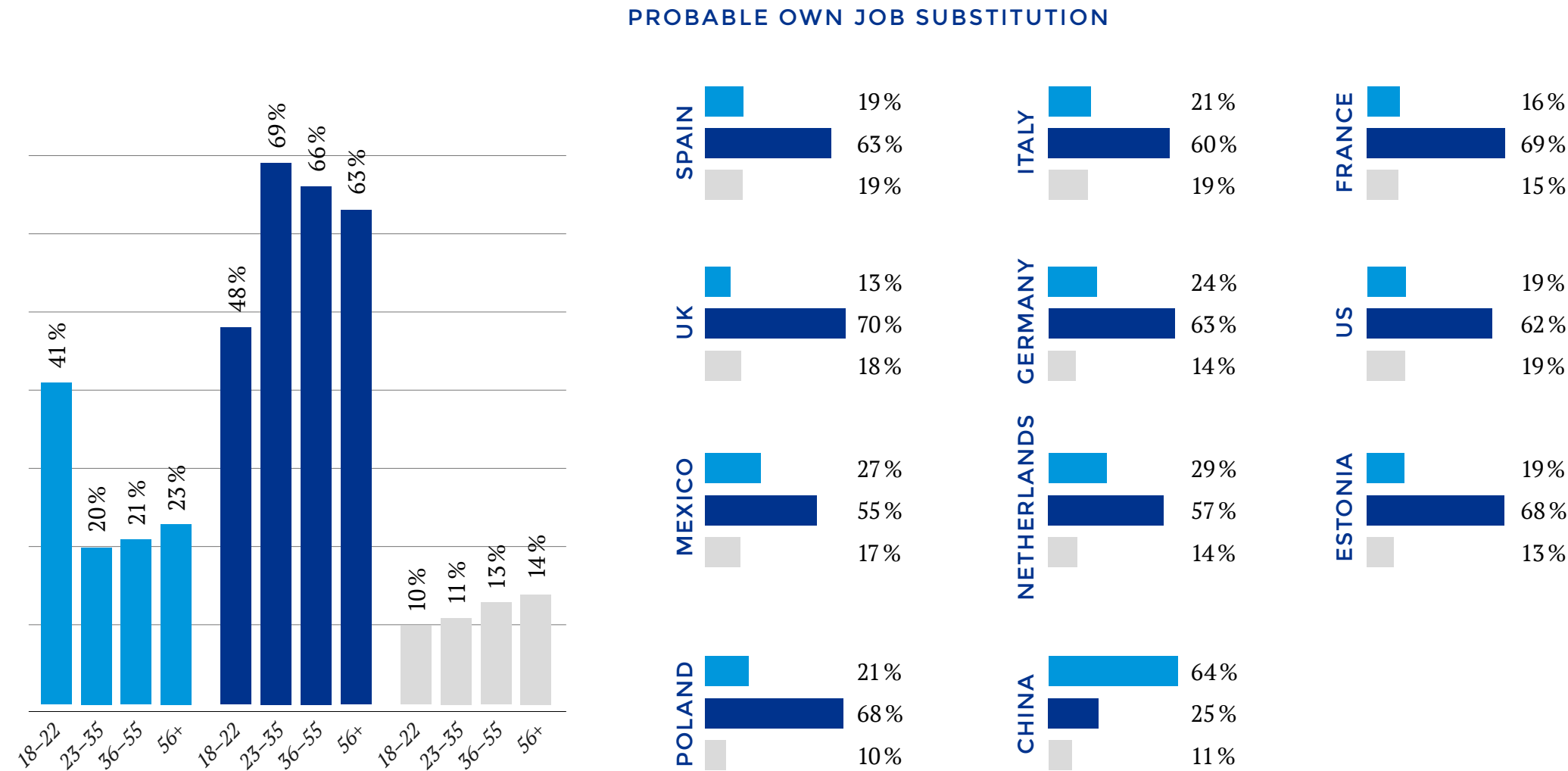


## FINDING 9—ON ROBOTIZATION

In contrast with the concerns about automation, **a majority of Europeans (65%) seem comfortable in their skill sets and believe that no robot or computer will be able to do their job better than them** within the next 10 years. Americans feel the same (62%). By contrast, the majority of Chinese citizens (64%) are more pessimistic and see that their job will likely be done better by a robot or computer, and thus are likely to be automatized.

## QUESTION:

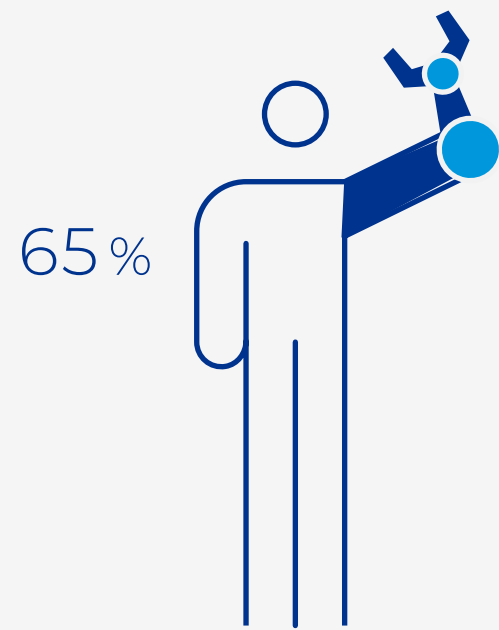
Do you think a robot or a computer will be able to do your job better than you within the next 10 years?



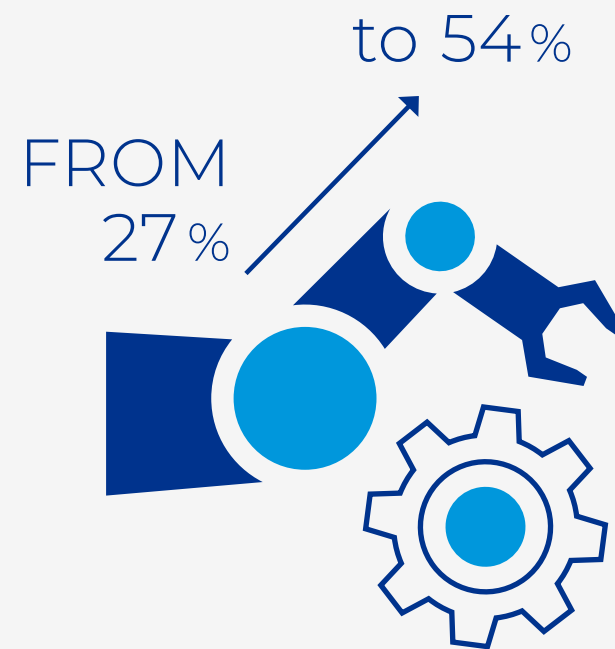
■ Yes  
■ No  
■ I don't know

The share of Europeans that think that a robot or a computer will be able to outperform them in the next decade is actually higher for younger cohorts. This may be due to several factors. On the one hand, younger people might be more aware of the capabilities of new technologies and therefore more inclined to see a potential overtake by machines. On the other, their short professional experience could make them underestimate the complex set of skills and knowledge that most of today's employments require. Moreover, they may currently hold an employment that may most obviously be subject to automation at some point during their careers, because it is already partially automated, such as engineering, data science, or social media consultancy.

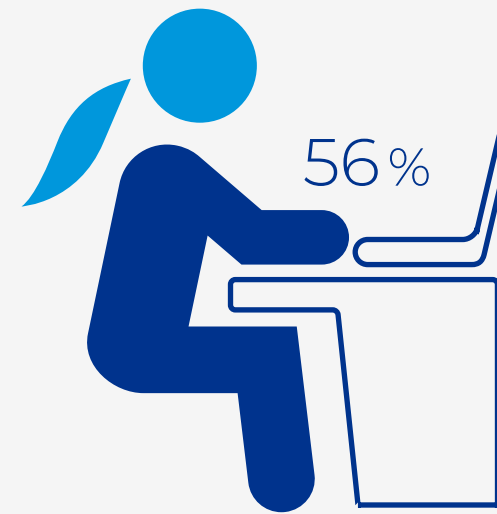
DID YOU KNOW?



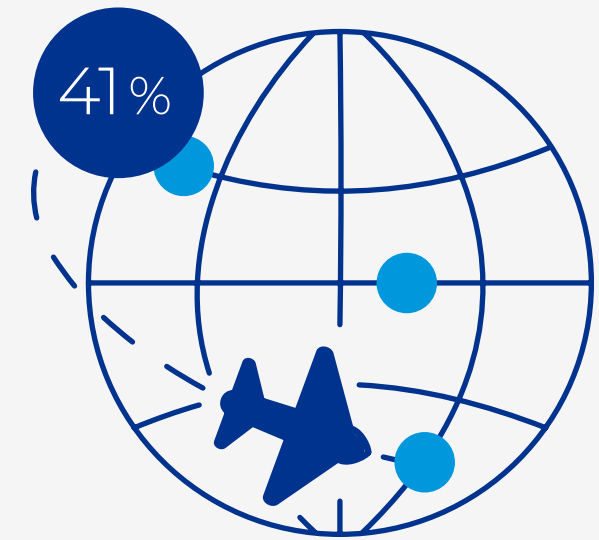
65% of Europeans think that robots and computers **will not be able to do their jobs better** than them within the next 10 years.



After onset of the pandemic, **support for limiting automation** in order to save jobs almost doubled in China (from 27% to 54%).



Most Europeans (56%) think that there is a low or very low probability of their countries **shortening the workweek to four days**.



41% of Europeans think that Europe should **raise tariffs on Chinese products** to protect its regional economy.

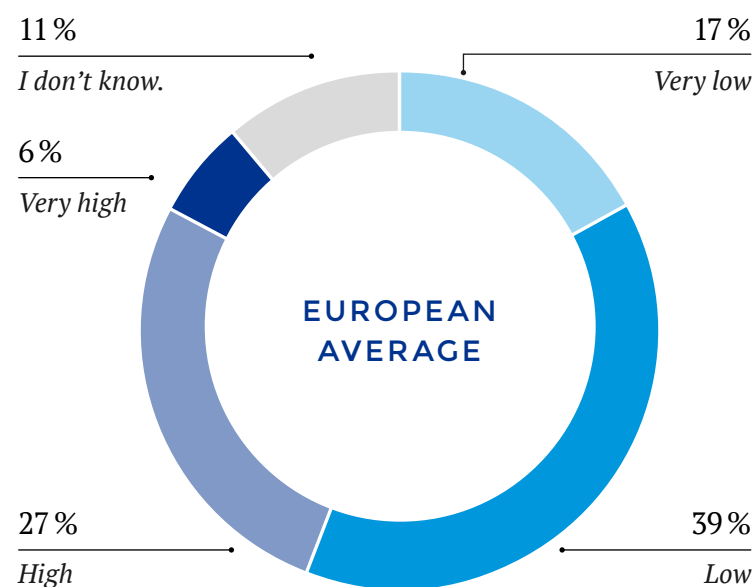


FINDING 10—ON THE WORKWEEK

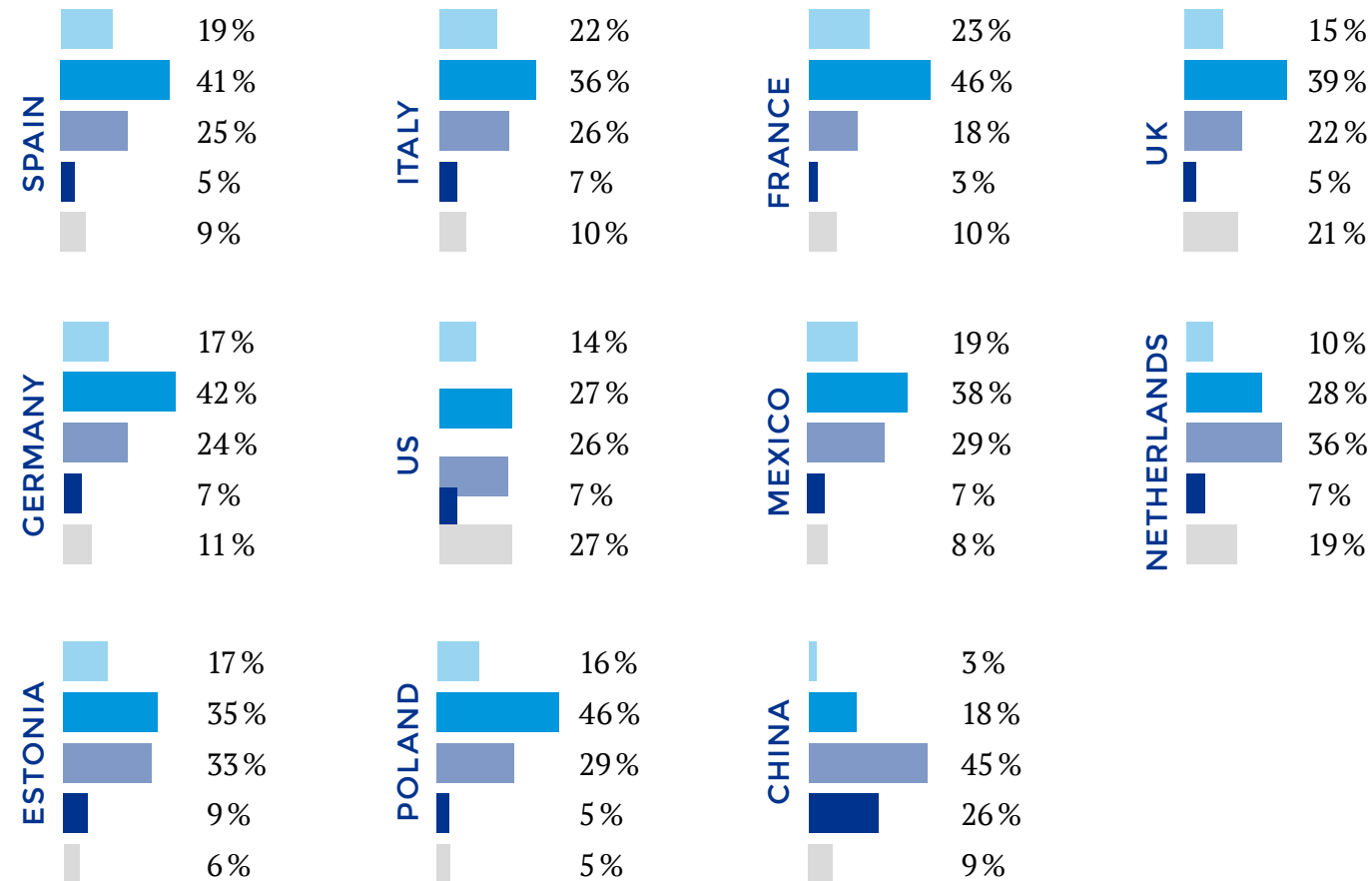
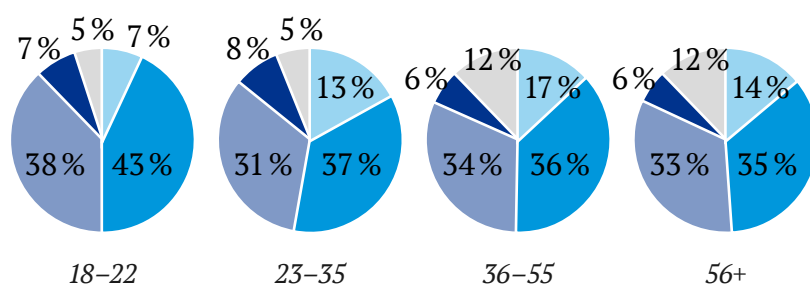
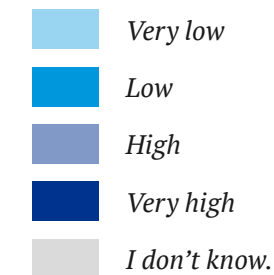
Shortening the workweek has been raised as an alternative for both handling unemployment, but also increasing the quality of life. **Most Europeans (56%) think that the probability of having a shorter workweek (four days instead of the current five) is either low or very low, based on their own experience at work.** By contrast, most Chinese (71%) see that probability as high or very high. In the US, the population is divided, with a notable 27% not having a clear opinion about it. In Mexico, perceptions are closer to the ones in Europe, with a majority predicting their workweek eventually reduced. In the EU, the younger cohorts are more optimistic about the possibility of having a shorter workweek than older ones.

QUESTION:

Some experts claim that the productivity gains caused by the current digital revolution will soon allow European countries reduce the length of the working week down to four days—instead of the current five. Based on your own experience at work, what are the probabilities of this happening in the next decade?



LIKELIHOOD OF SHORTER WORK WEEK

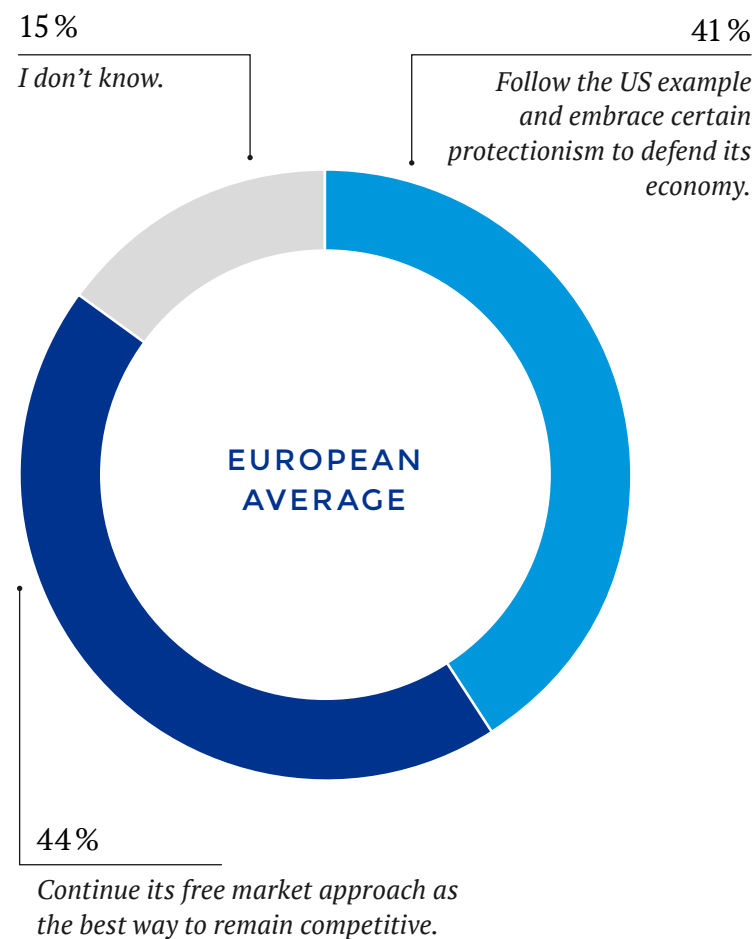


FINDING 11—ON THE TRADE WAR

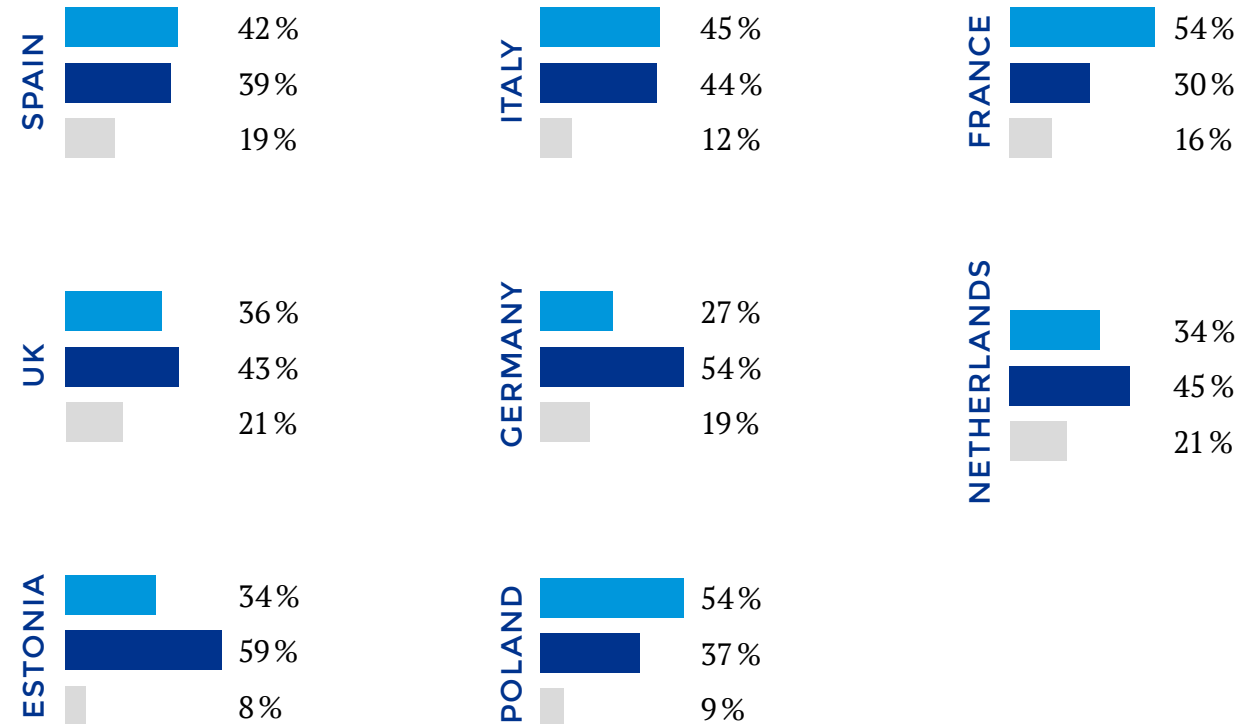
**41 % of Europeans think that Europe should “follow the US example and raise tariffs on Chinese products to protect its regional economy”.** This position is particularly popular in France and Poland, where over 50% of citizens support more trade barriers. In contrast, Germany and Estonia are strongly against. The remaining countries are evenly balanced, and the views are shared by all age and education groups.

QUESTION:

EU: The rise of Chinese competitors is damaging some Western industries, reducing their competitiveness and causing job destruction. The US is raising tariffs on Chinese products to fight this trend and protect its economy. In your view, what should Europe do?



FAVOR IMPORT PROTECTIONS



**Legend:**

- Follow the US example and embrace certain protectionism to defend its economy.
- Continue its free market approach as the best way to remain competitive.
- I don't know.



## FINDING 11—ON THE TRADE WAR

Economists have long recognized that international trade has net positive effects on aggregate welfare. It is now also increasingly recognized that trade—in particular with emerging economies such as China—generates losers in trade-exposed sectors and the labor markets they work in. These views are consistent with recent research documenting substantial adjustment costs in the richer economies in both employment and earnings of workers in trade-exposed industries. As the above findings illustrate, however, this varies across countries. High levels of support for protection in France are consistent with research showing that Chinese import competition has led to substantial decreases in manufacturing employment (Malgouyres 2016). These have been higher than in Germany (Dauth et al. 2014), which shows significant higher levels of support for trade. The dampened employment effect could be due to the sectoral composition of the German manufacturing sector, which is more reliant on higher-skilled workers/exports.

Chinese import competition has also been shown to affect manufacturing wages differently across European countries. Notably, whereas research for Germany and the US shows no evidence of wage effects in the manufacturing sector in response to Chinese import competition (Autor et al. 2013, Dauth et al. 2014), evidence for France shows that wages have uniformly declined in the manufacturing sector (Malgouyres 2016).

### Research for Germany and the US shows no evidence of wage effects in the manufacturing sector in response to Chinese import competition.

In addition to substituting for the production of domestic goods, Chinese import competition can also affect manufacturing employment in a given country through increased competition of Chinese products in foreign markets (where firms from European countries compete with China). This indirect effect can become increasingly important even for net exporters of high-skilled labor such as Germany, particularly as Chinese exports become less reliant on low-skilled labor. This makes it especially important for governments to provide public programs to address the costs of increased competition among workers adversely affected by it if calls for protectionism are to be avoided.

**Dr. Irene Menéndez González,**  
Assistant Professor in International  
Political Economy, IE University





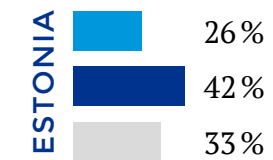
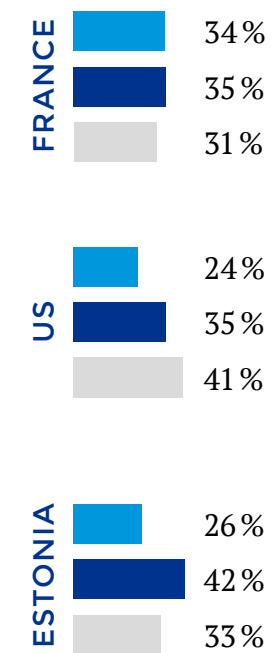
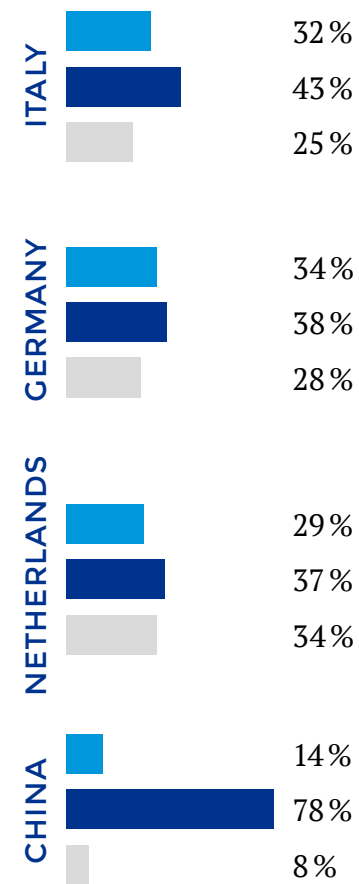
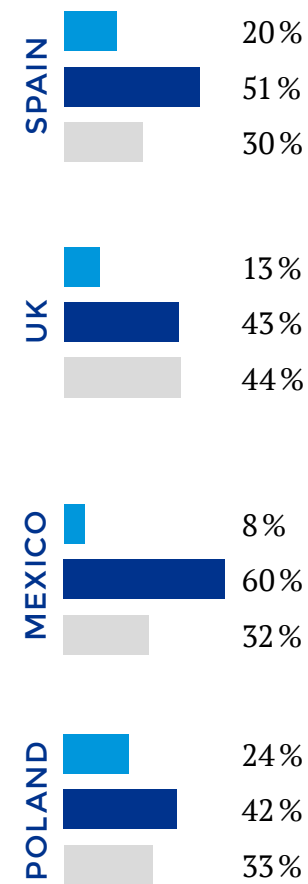
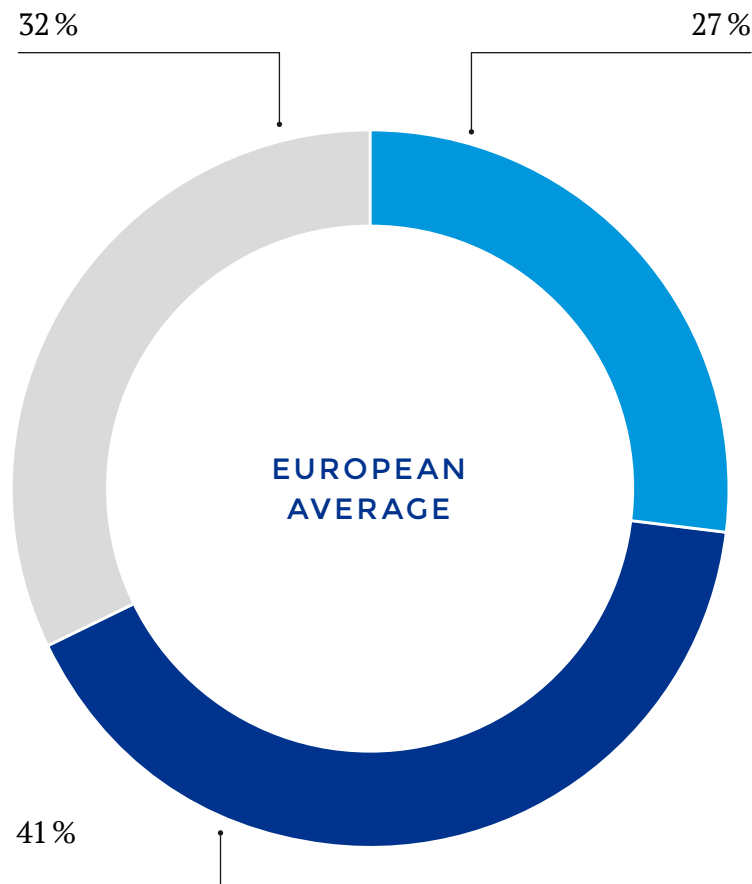
FINDING 12—ON THE TRADE WAR

Nevertheless, the importance of European production is not consistent with Europeans' consumer decisions. **Only 27 % prioritise technological devices (e.g. smartphones, computers, cars) made in Europe** over those made in China or the US. In the UK, that share was even lower at 13%.

QUESTION:

When buying technological devices (e.g. smartphones, computers, cars)...

CONSIDERS COUNTRY OF ORIGIN WHEN BUYING



- I prioritize technological products made in Europe over those made in China or the US, even if they are more expensive.
- Buy the most competitive product, regardless of its country of origin.
- I don't think about the provenance of the product.

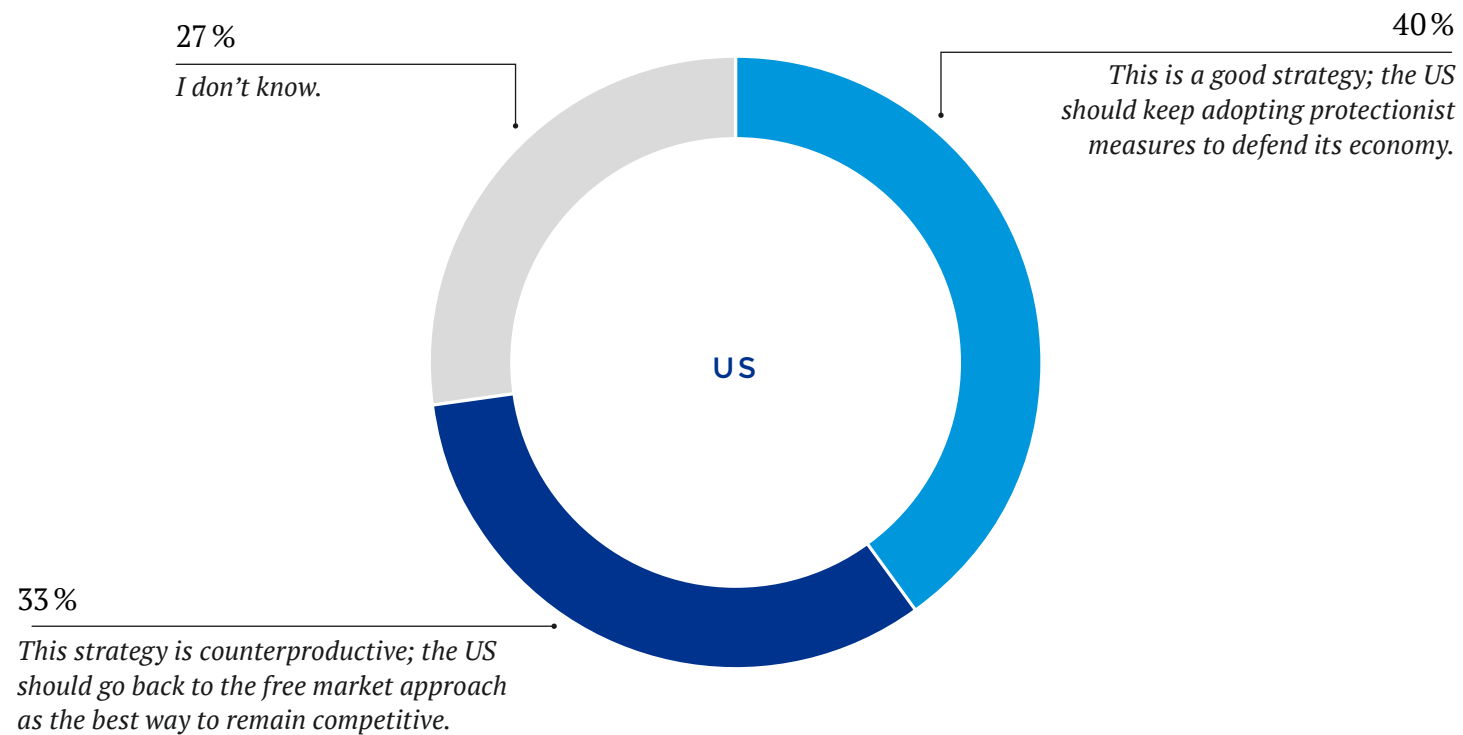


FINDING 13—ON THE TRADE WAR

**The consensus for trade is increasingly fragile across the world.** When asked how should their government respond to a potential European increase of tariffs on Chinese products, 49% of Chinese citizens believe that “China should use its political and economic strength to prevent” that from happening. Similarly, in the US, a plurality of 40% seem to support Trump’s strategy and believe that “the US should keep adopting protectionist measures to defend its economy.” About a third of European countries, and more than half of Polish respondents support this American stance.

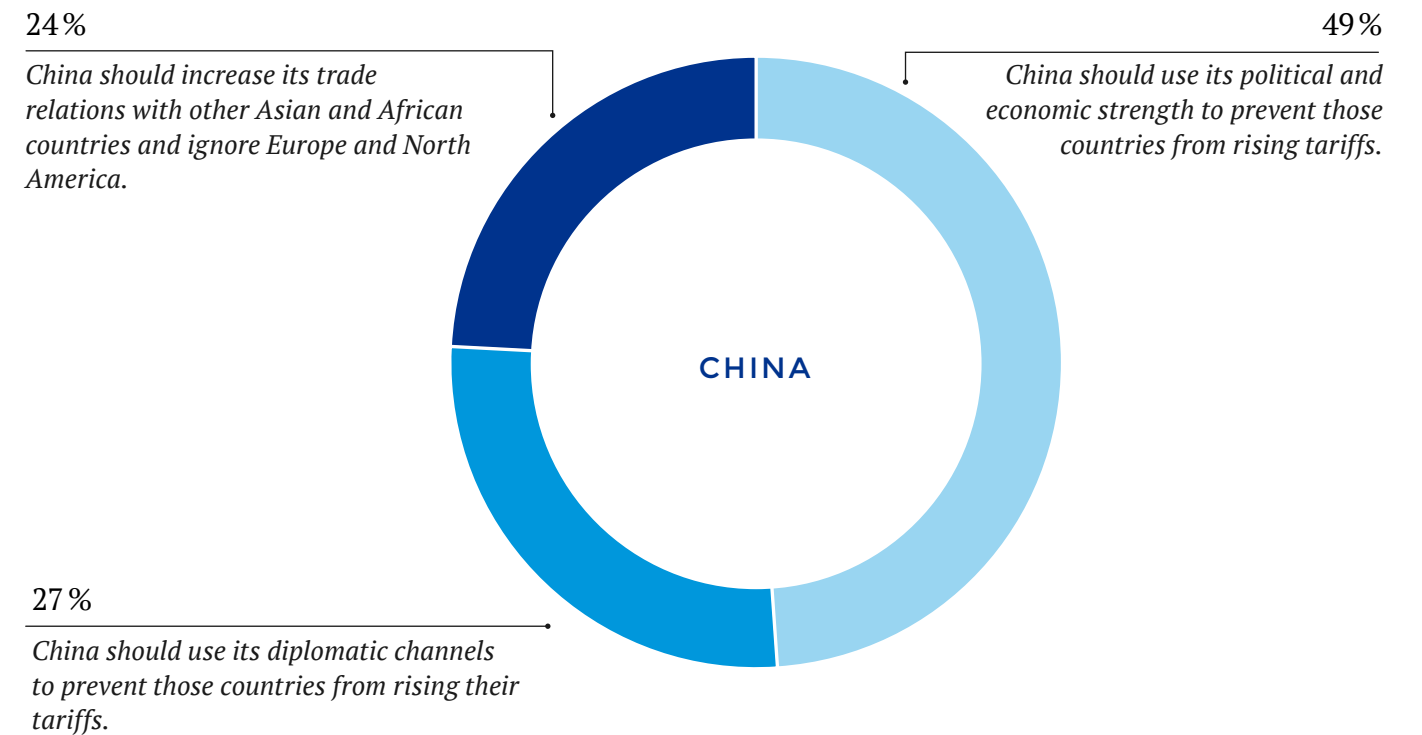
QUESTION:

**US:** The rise of Chinese competitors is damaging for some American industries, reducing their competitiveness and causing job destruction. The US is raising tariffs on Chinese products to try to fight this trend and to try to protect its economy. In your view:



QUESTION:

**China:** Some European countries are considering rising tariffs on Chinese products in order to protect their national industries. In your view, how should China respond?





**3**

**BIG TECH AND  
THE GIG ECONOMY**



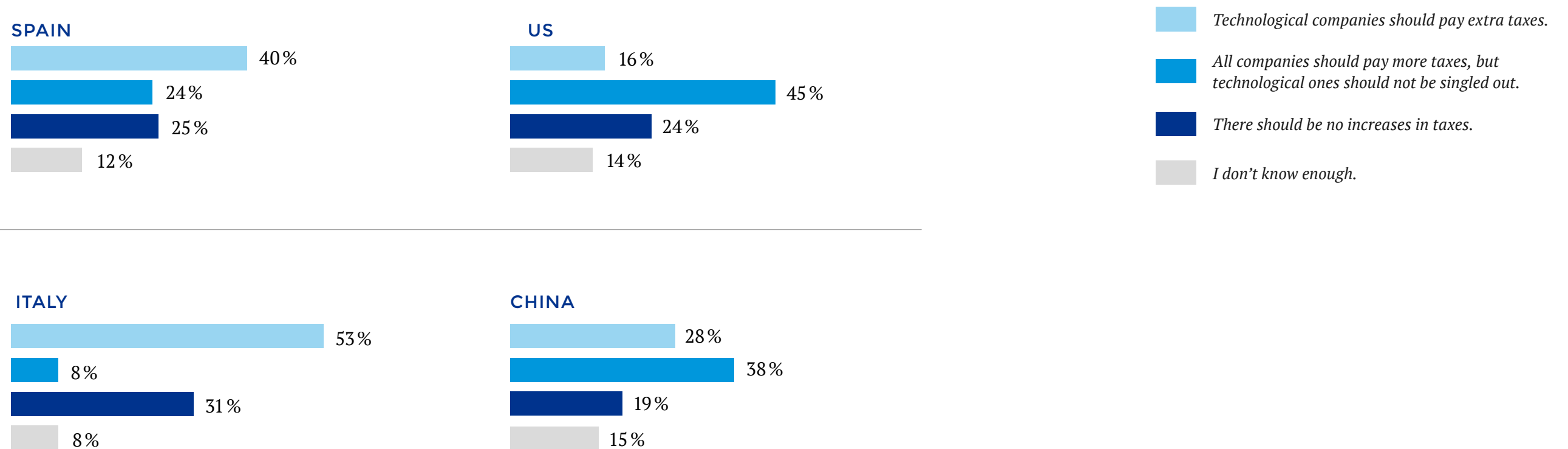
FINDING 14—ON BIG TECH TAXATION

**Citizens of four of the countries most affected by the COVID-19 pandemic strongly support raising taxes for companies.** Europeans favor raising taxes on big tech companies (53% of Italians and 40% of Spaniards think that technological companies should pay more taxes to enable governments to finance the recovery after the pandemic), while US and Chinese respondents think that all companies should be taxed more, not only technological ones. In all four countries, less than 15% of respondents think that there should not be increases in taxes.

QUESTION:

Some people have suggested that technological companies, which have been very profitable in recent years, should pay more taxes to enable governments to finance the recovery. What do you think?

COVID: TECH COMPANIES PAY MORE TAXES

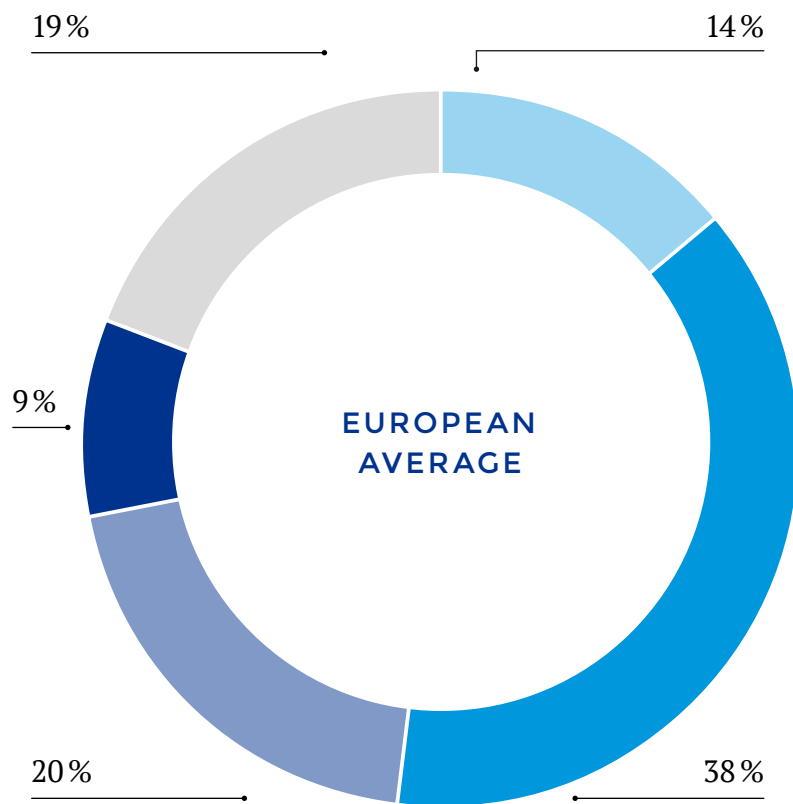


FINDING 15—ON THE GROWTH OF BIG TECH

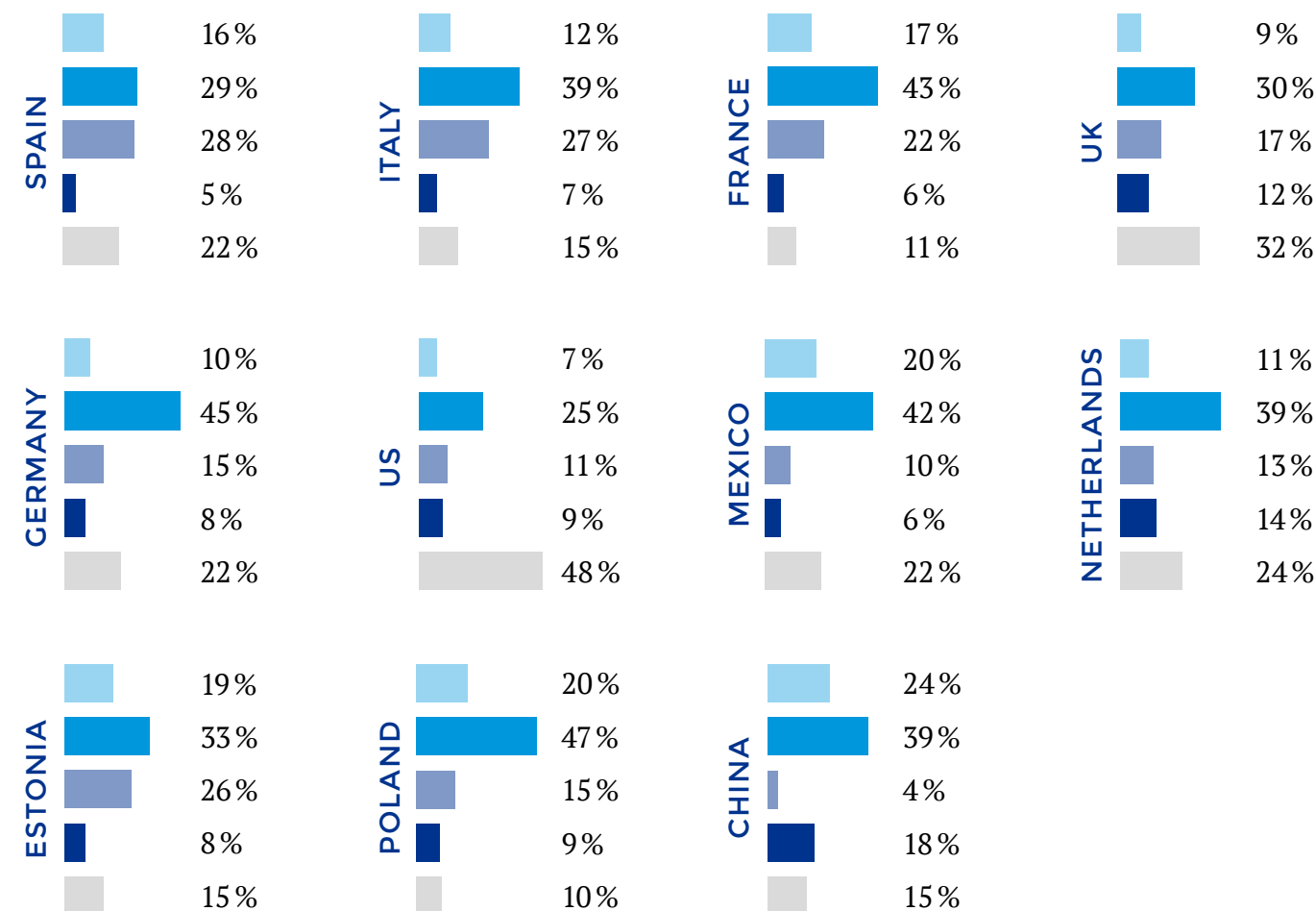
The majority of large tech companies are based in the US and China. We asked respondents why that might be. **Europeans believe that the main reason why only few of the world’s largest, most innovative tech companies (e.g. Google and Huawei) were born in Europe is the burden of regulation (38%),** followed by lack of investors (20%), lack of entrepreneurship (14%), and lack the right technological talent (9%).

QUESTION:

Only few of today’s largest, most innovative tech companies in the world (e.g. Google and Huawei) were born in Europe—most of them coming from the US and Asia. According to you, what is the main reason for this?



REASONS FOR LACK OF TECH IN EUROPE



- Europeans are just not as entrepreneurial as Americans or Chinese.
- Regulation in Europe is more of an obstacle to innovation than in other parts of the world.
- In Europe is much harder to find investment.
- In Europe there is not the right technological talent required.
- I don't know.

The countries more concerned by the negative effect of regulation on innovation are Poland, Germany and France. The UK is the only European country surveyed that considers the lack of talent the main factor. In China and Mexico, citizens also see regulation as the main obstacle to innovation. **By contrast, 48% of Americans believes that it comes from a lack of skills.**



## Europeans see regulation as the main obstacle for more tech companies

This response should not surprise me, yet it does. The notion that regulation stifles innovation seems to be persistent among respondents. Yet there is little evidence that supports this view. Indeed, as much research shows, regulation can create the stability and security that both the market and research need to innovate. Take the Nordic countries as an example. They are highly taxed and thoroughly regulated with high wages, and they come out as some of the most competitive economies in the world. They are the bumblebees that defy the unwritten law that regulation prohibits or limits innovation.

**Dr. Christina Colclough,**  
Expert on the future of work and the politics of technology, former Director of Platform and Agency Workers, Digitalization and Trade at UNI Global Union



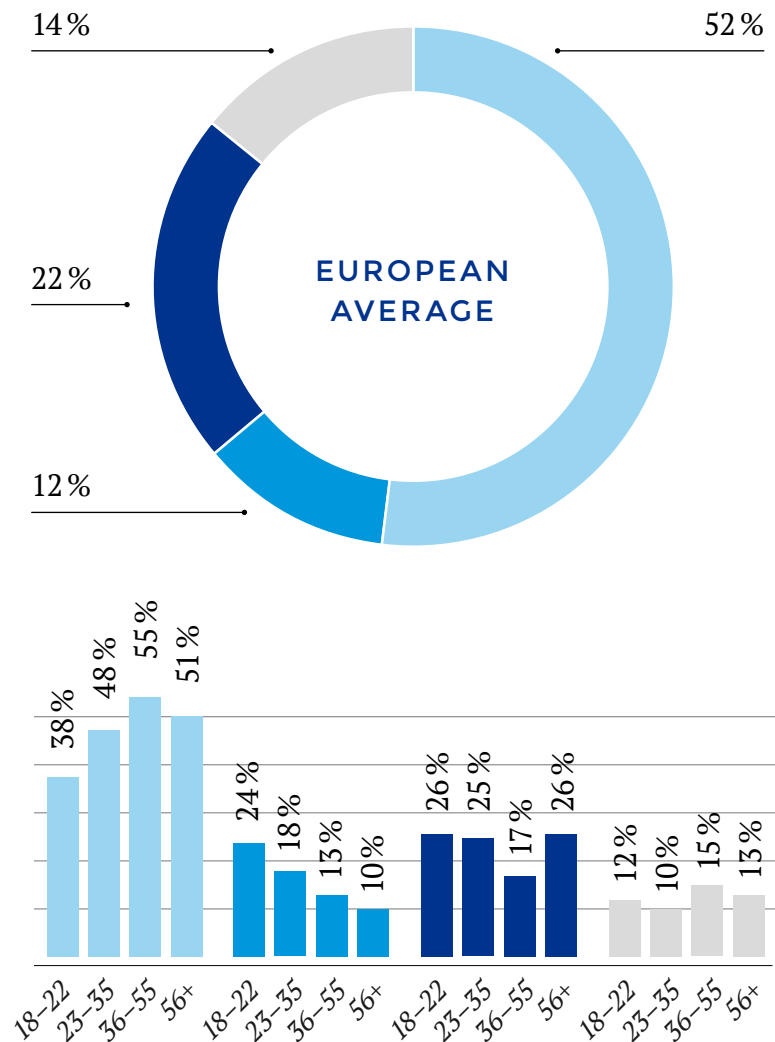


FINDING 16—ON THE GROWTH OF BIG TECH

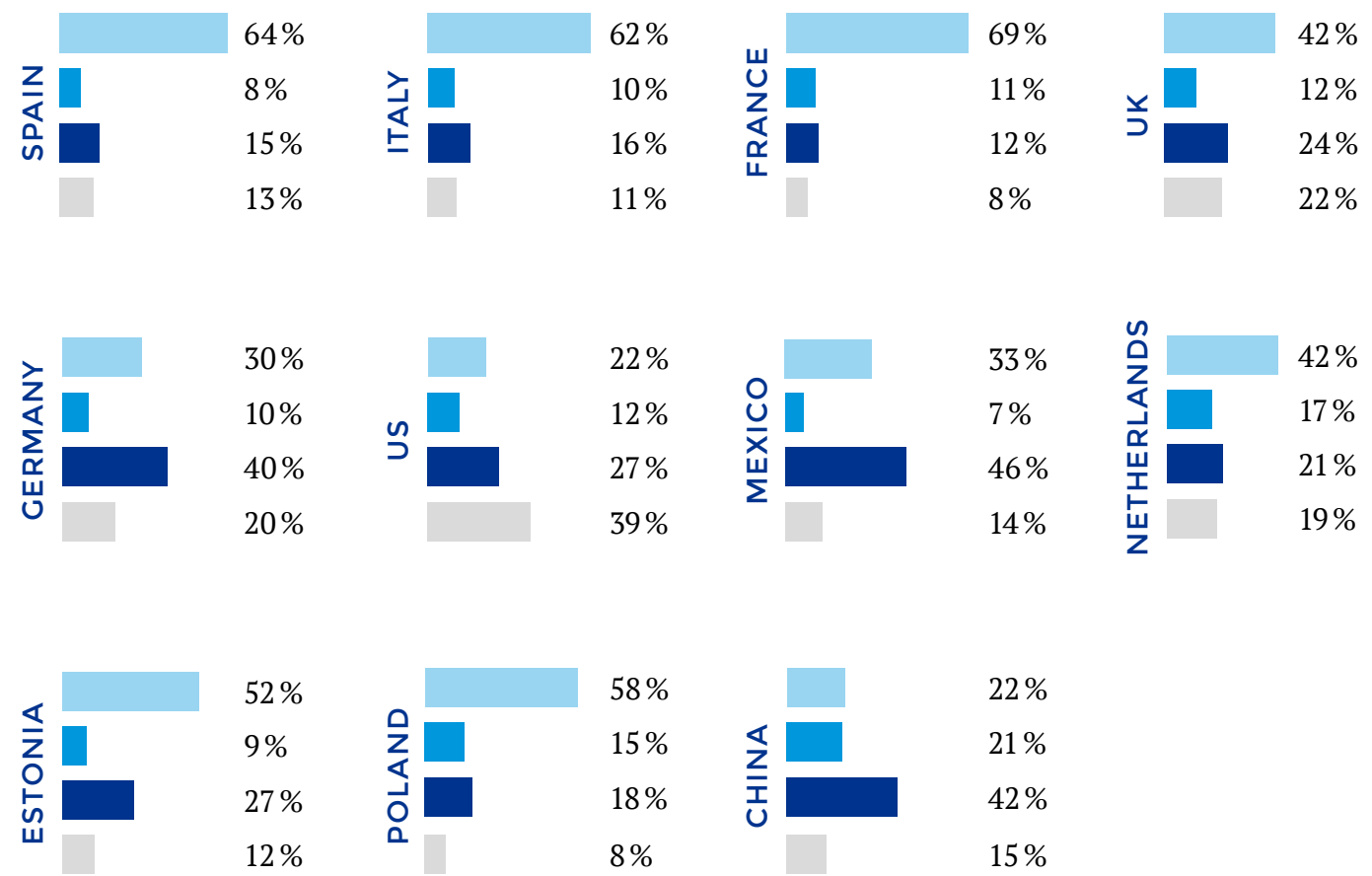
The majority of Europeans (60%) think that having more big tech companies would be positive because they create jobs, pay taxes and strengthen the economy. The sole exception is Germany, where a majority of people (40%) seem to think that it is unimportant, “because they bring opportunities but also challenges to those countries in which they operate.” Mexicans feel the same way. By contrast, respondents in the US and China, where most of these big tech companies are based, have more mixed feelings about this matter: the majority of them think that these companies bring opportunities but also challenges, or do not have a clear opinion on the subject.

QUESTION:

In your opinion, the fact that there are less big tech companies in Europe than in Asia or the US is:



IS LACK OF TECH IN EUROPE GOOD?



- Bad news because these companies could create many jobs, pay taxes and strengthen the economy.
- Good news because these companies don't pay taxes, destroy jobs and weaken democracy.
- Unimportant, because these companies bring opportunities but also challenges to those countries in which they operate.
- I don't know.

**Younger generations have a more critical perception of big tech companies than older ones.** 19% of Europeans below 35 think that the lack of these type of companies in Europe is actually “good news as they don't pay taxes, destroy jobs and weaken democracy”, and an additional 25% thinks “it is unimportant” that they are not there. Among people over 36, this view falls to 11% and 10% (for over 55s).

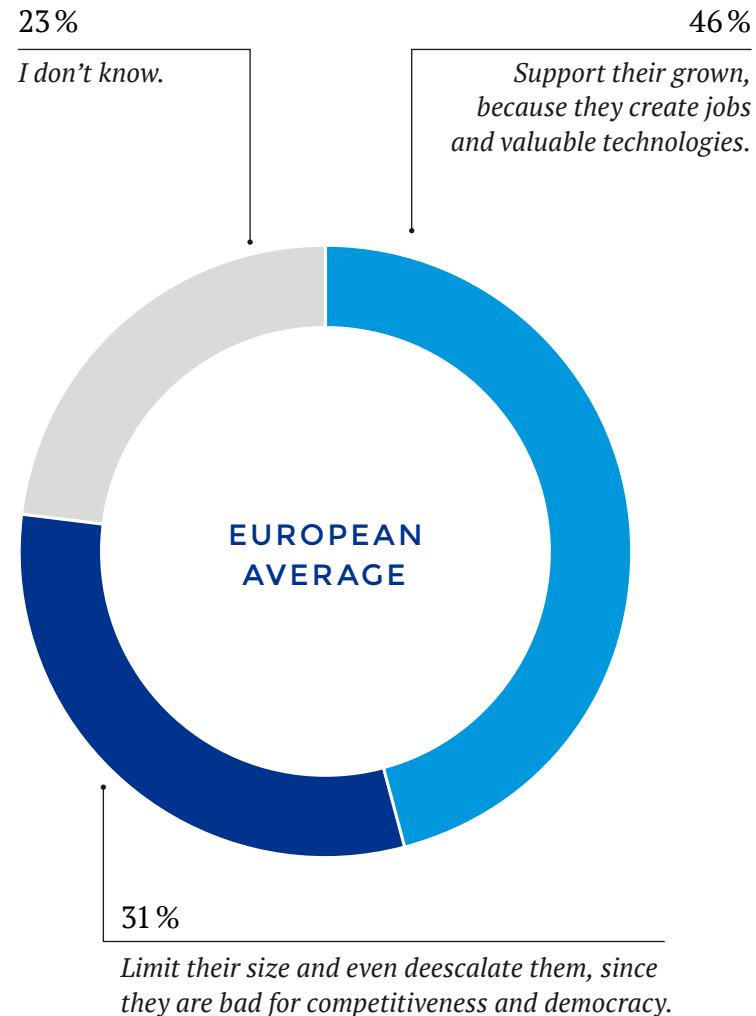


FINDING 17—ON BIG TECH COMPANIES

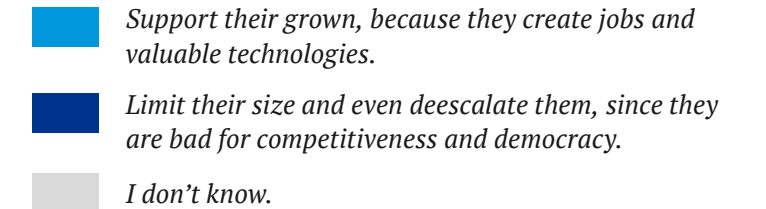
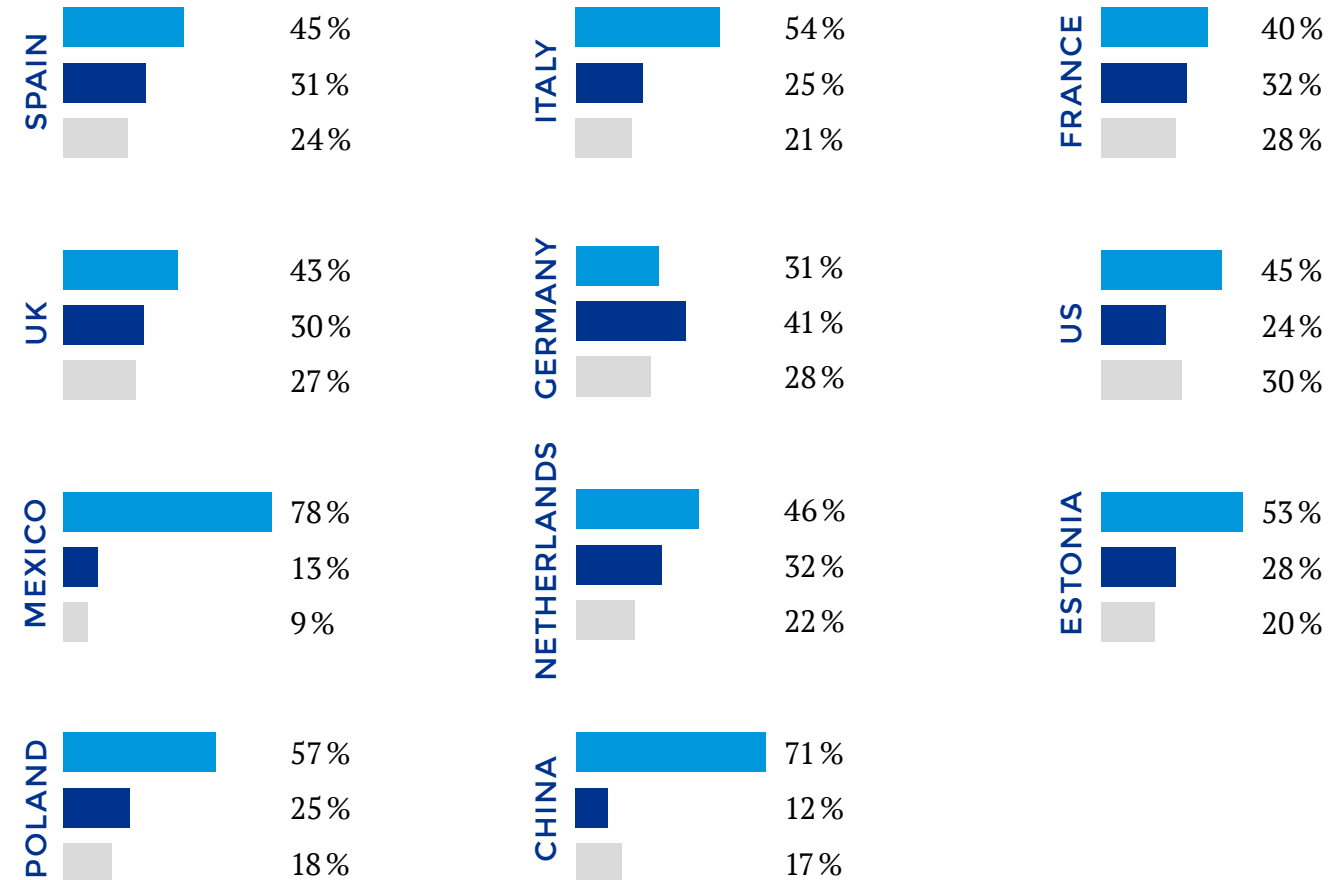
**Europeans are divided in their views on the future of the GAFA companies.** 46 % think governments should support their growth “because they create jobs and valuable technologies”, while 31 % believe that they should be limited on their size or even be deescalated, since “they are bad for competitiveness and democracy”. Older people are slightly more favorable to this second option. In the US, citizens are also split. However, the vast majority of Mexican and Chinese respondents (78 % and 71 % respectively) expect their governments to support GAFA companies.

QUESTION:

In your view, what should EU governments do with the so called GAFA companies (Google, Apple, Amazon and Google)?



GAFA COMPANIES

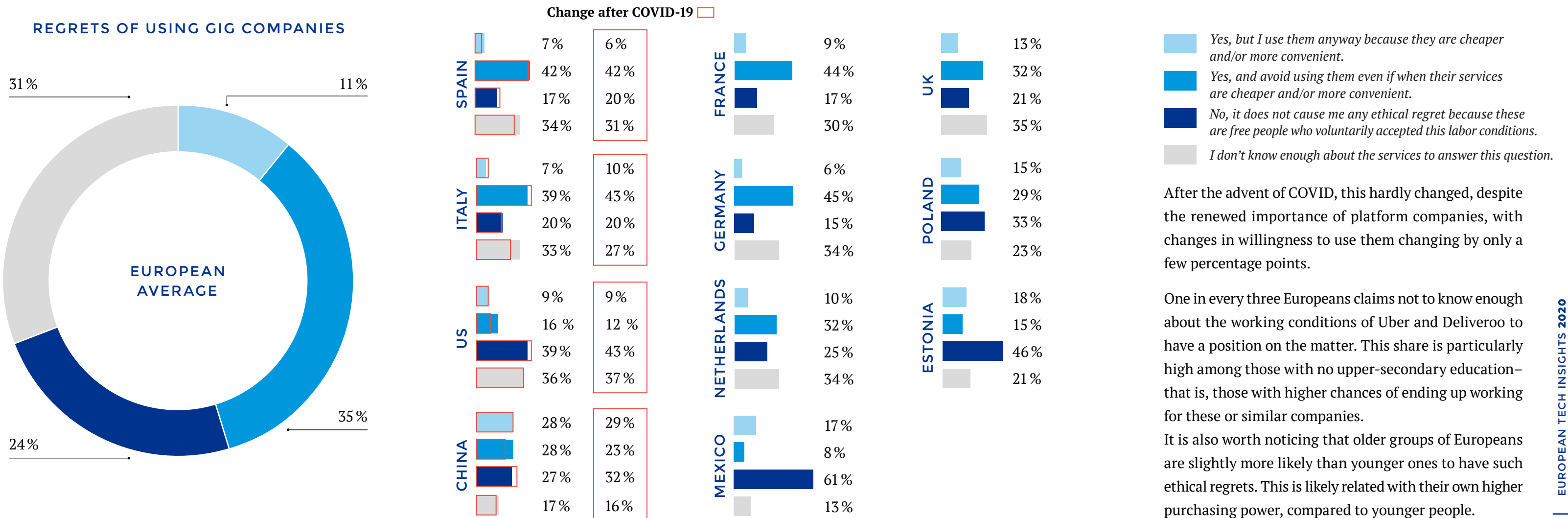


FINDING 18—ON THE ETHICS OF THE GIG ECONOMY

A considerable percentage of Europeans (45%) find ethically regrettable to use services like Uber and Deliveroo due to the way these companies treat their workers but, of those only 35% “avoid using them even if their services are cheaper and/or more convenient”. Again, there is a mismatch between beliefs and willingness to notably change behavior. Over 40% of people in Germany, Italy, France and Spain avoid using companies such as Deliveroo or Uber of the ethical regrets that cause them, “even when their services are cheaper or more convenient”. By contrast, in Estonia, the US and Mexico, less than 15% share that regret it, and the majority considers that the riders of these companies have voluntarily accepted their labor conditions.

QUESTION:

Companies like Uber and Deliveroo mainly rely on “self-employed” workers who are denied some basic labor rights, such as a minimum wage, health insurance, and paid holidays. Does using services like Uber and Deliveroo cause you any ethical regret?



After the advent of COVID, this hardly changed, despite the renewed importance of platform companies, with changes in willingness to use them changing by only a few percentage points.

One in every three Europeans claims not to know enough about the working conditions of Uber and Deliveroo to have a position on the matter. This share is particularly high among those with no upper-secondary education—that is, those with higher chances of ending up working for these or similar companies.

It is also worth noticing that older groups of Europeans are slightly more likely than younger ones to have such ethical regrets. This is likely related with their own higher purchasing power, compared to younger people.

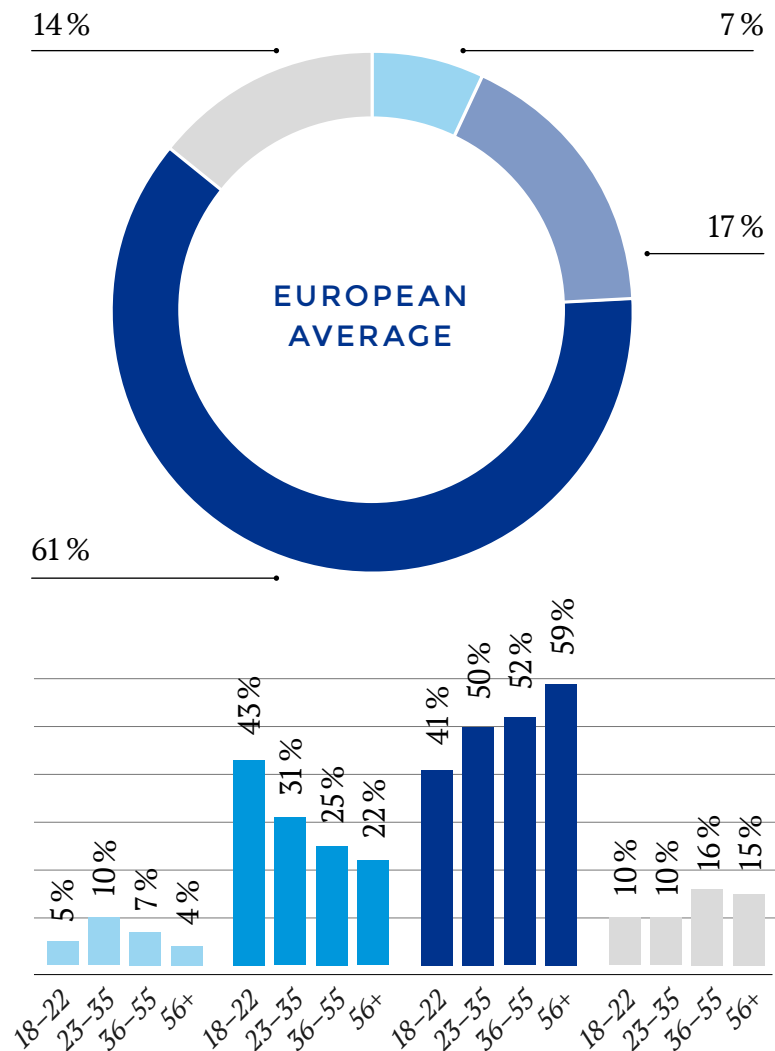


FINDING 19—ON REGULATING THE GIG ECONOMY

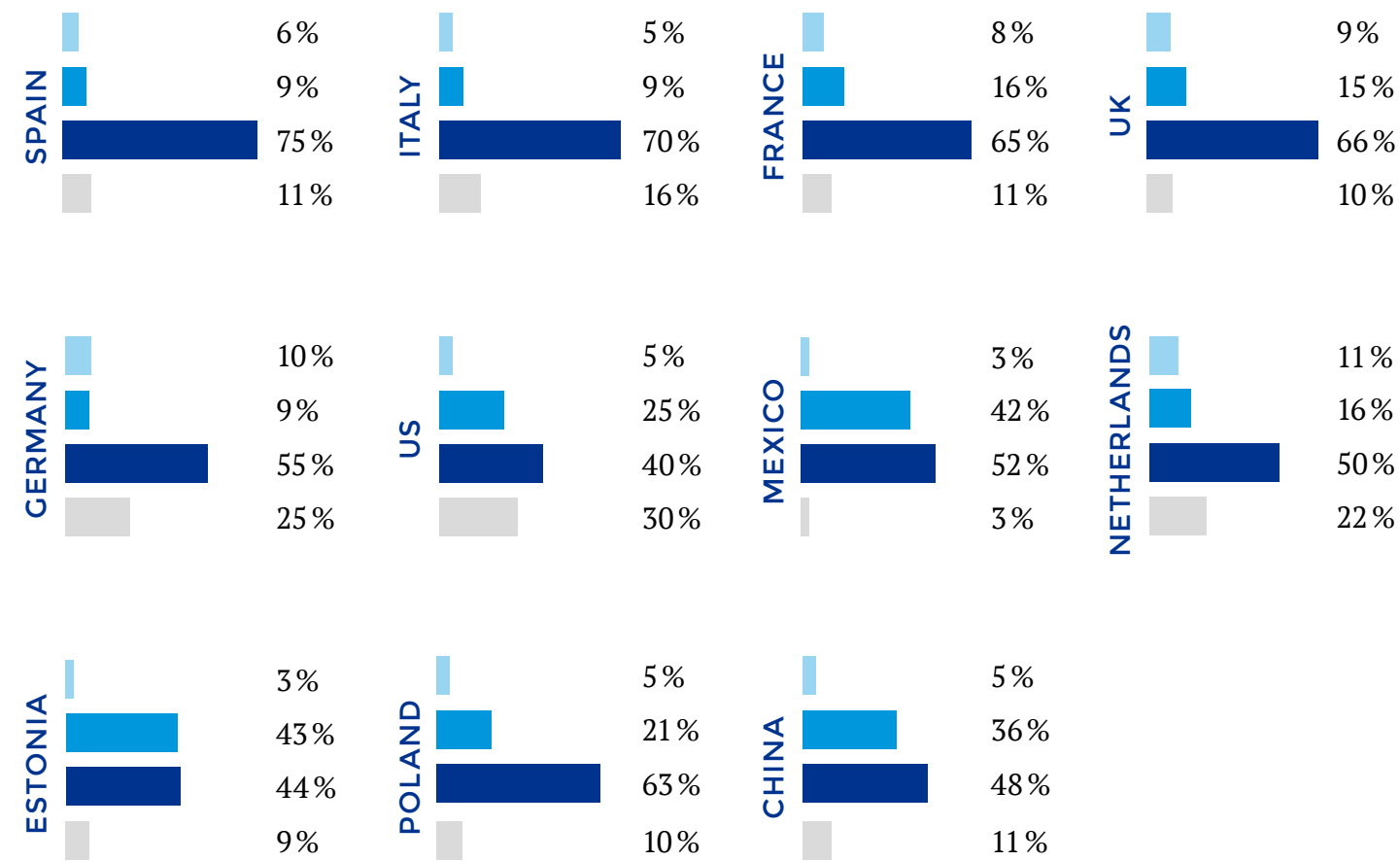
**More than 50% of Europeans think that governments should adopt new regulation forcing companies of the gig economy like Uber and Deliveroo to comply with the same labor rules than traditional companies.** This view is also dominant, although with a lower share, in Estonia (44%), the United States (39%), and China (48%).

QUESTION:

In your opinion, what should governments do with companies of the gig economy like Uber and Deliveroo?



GOVERNMENT TREATMENT OF GIG COMPANIES



- Ban them completely because their new business model only benefits shareholders.
- Support them because their new business model benefits workers and consumers.
- Regulate them so they comply with the same labor rules than traditional companies.
- I don't know.

This view is mainly driven by older groups: those in the 56+ age group are 15% more like to be in favor of regulation than younger cohorts.

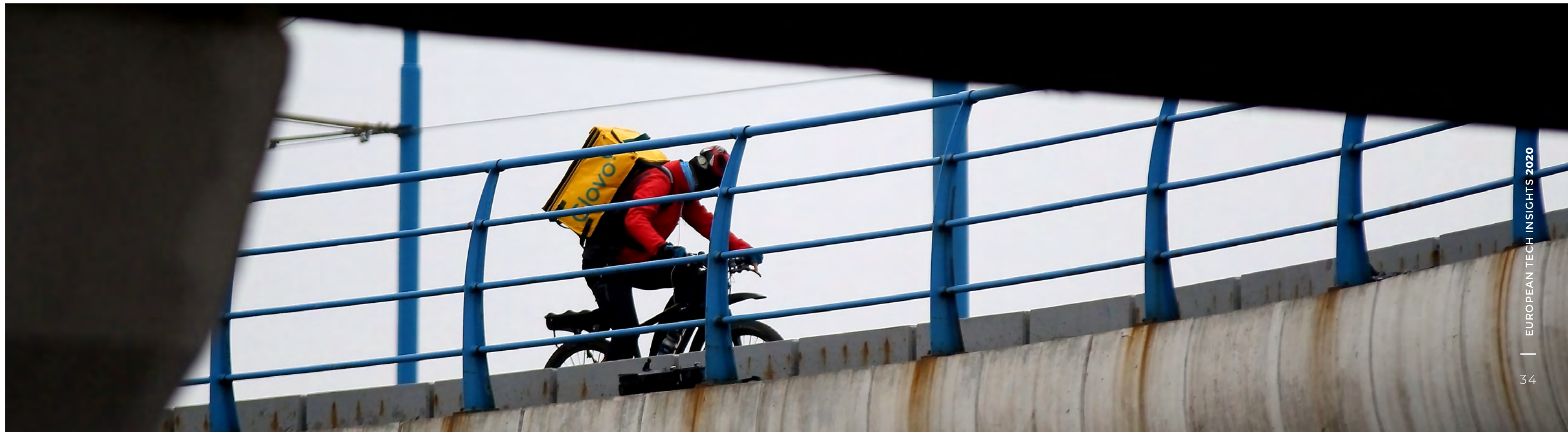
## FINDING 19—ON REGULATING THE GIG ECONOMY

The COVID-19 crisis has emphasized the vulnerability of gig workers. They have no income guarantee and for the majority of cases no social security rights. Even before the crisis, Europeans have become increasingly aware of the unlevel playing field that platforms have leveraged against more regulated businesses. They did so often by circumventing social contributions. Whilst the flexibility of the gig economy is hailed by many as their benefit, it need not be at the cost of social security. It can, and should be both/and. For that to happen, our social security systems need a modernize to match the

modern labor market. Luckily, this notion is supported by a majority of respondents, and particularly so among older age groups. Work is work—no matter how it is conducted and under which contractual form.

**Dr. Christina Colclough,**  
**Expert on the future of work and the politics of**  
**technology, former Director of Platform and**  
**Agency Workers, Digitalization and Trade at**  
**UNI Global Union**

**Our social security systems  
need a modernize to match  
the modern labor market.**





4

TECH AND  
CLIMATE CHANGE



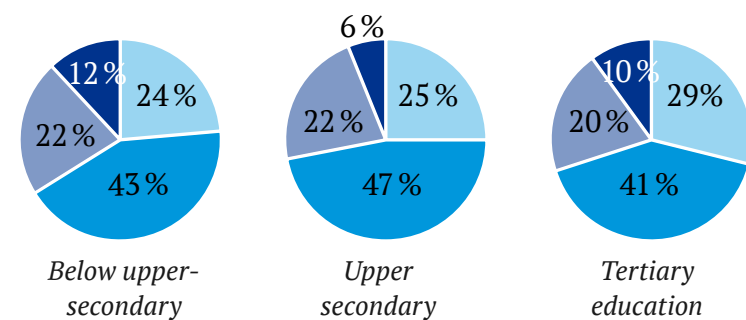
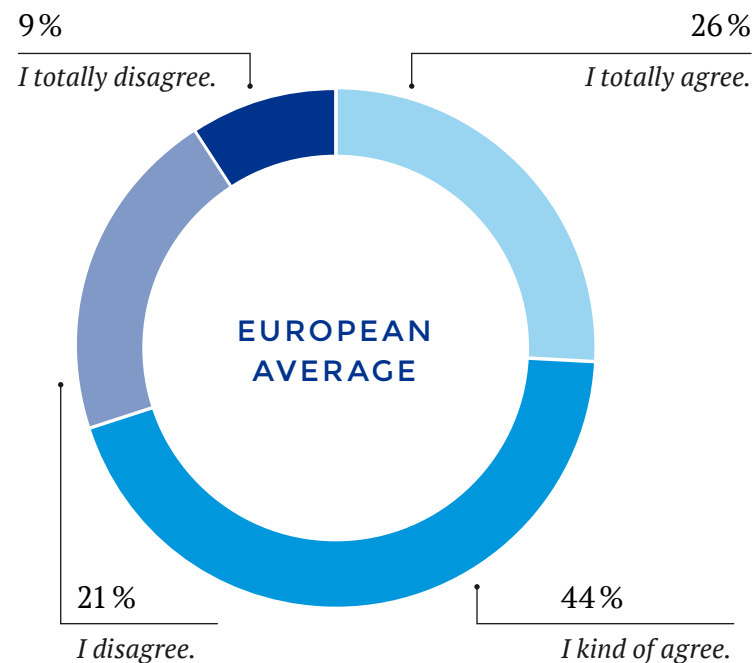


FINDING 20—ON FLY- AND CAR-SHAMING

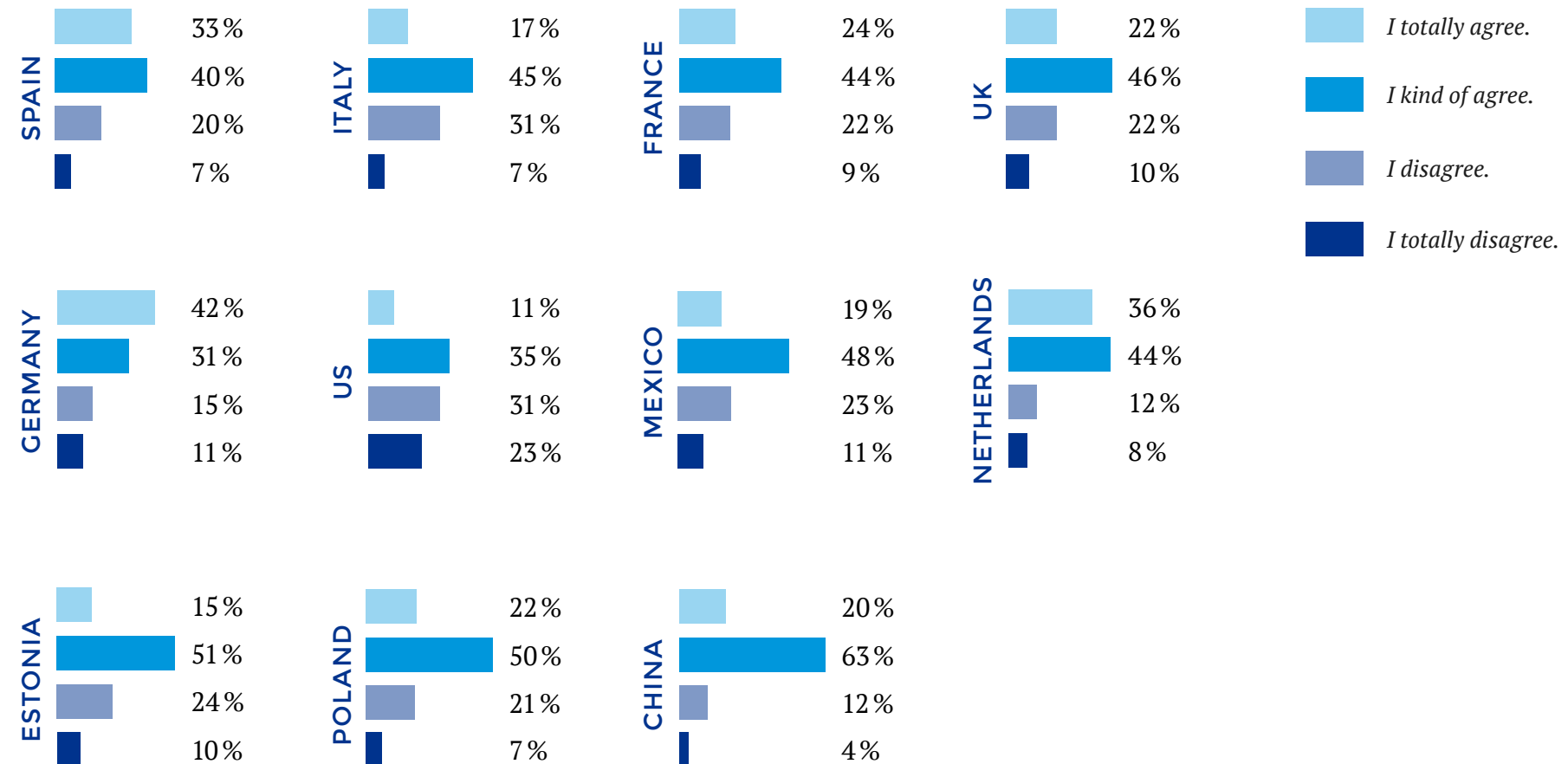
A large majority of Europeans surveyed (70%) think that governments should increase taxes on air travel, particularly on domestic flights that can be substituted by a train journey, in order to reduce the environmental damage caused by planes burning fuel. This share is higher among older demographics than younger ones. Most Chinese and Mexicans (83% and 66%, respectively) also would agree to the increase in taxes for commercial flying. The only exception is found in the US, where its population is divided roughly equally on the question.

QUESTION:

Some experts say that governments should increase taxes on flying, particularly for domestic flights that can be substituted by travel by train, in order to reduce environmental damage caused by CO<sub>2</sub> emissions of the planes. What do you think about that?



TAXES ON FLYING





## FINDING 20—ON THE GROWTH OF BIG TECH

In recent decades, air travel has grown rapidly due to two major factors: a growing middle class in emerging economies and the fact that flying has become cheaper because of improved aerospace technology. Annually, approximately 150 million people join the middle classes, with the majority of those—an estimated 88%—residing in Asia. **As a result, air passenger traffic is expected to almost double between now and 2037** (IATA, 2018). The global aviation industry produces today around 2% of human-induced CO<sub>2</sub> emissions today, but experts say it could reach 10% by 2030 (McKinsey & Company, 2020), making it one of the most polluting industries.

Although there is no consensus as to how much the social cost of carbon is, adding a levy to ticket prices based on CO<sub>2</sub> emissions could be an efficient way of encouraging citizens to use more environmentally friendly means of transportation. Countries like France and the Netherlands have already adopted “ecotaxes” levied on passengers departing from their countries with the objective of funding less-polluting transportation projects. **COVID-19 is likely to accelerate this trend, as state aid packages for airlines are expected to come with green strings attached.**

**Carlos Luca de Tena,**  
Head of Operations of the Center for the  
Governance of Change at IE University





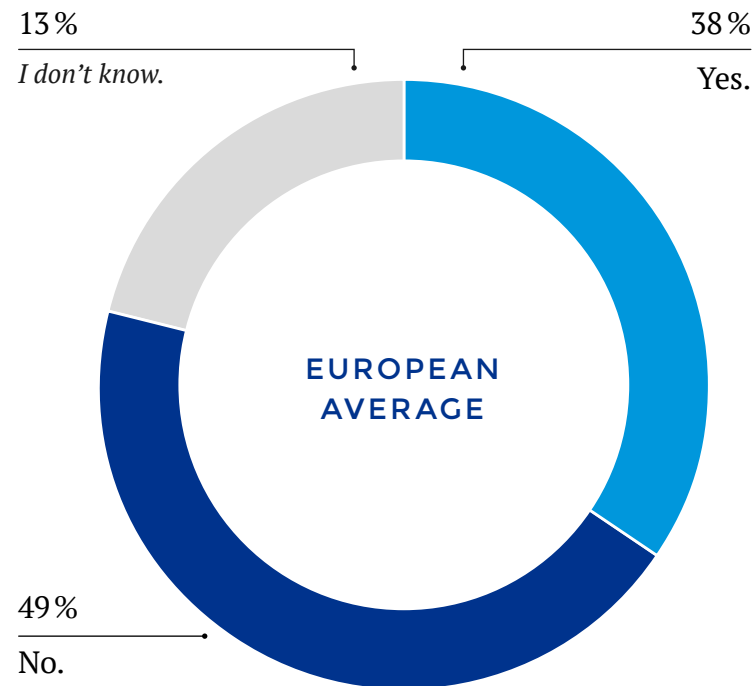
FINDING 21—ON FLY- AND CAR-SHAMING

**A lower but significant proportion of Europeans (38%) favor reducing the number of cars in the streets** through increased taxes or limits on access to city centers (while 13% don't know) as a way to limit emissions. Europeans with higher education are more likely to agree with this measure.

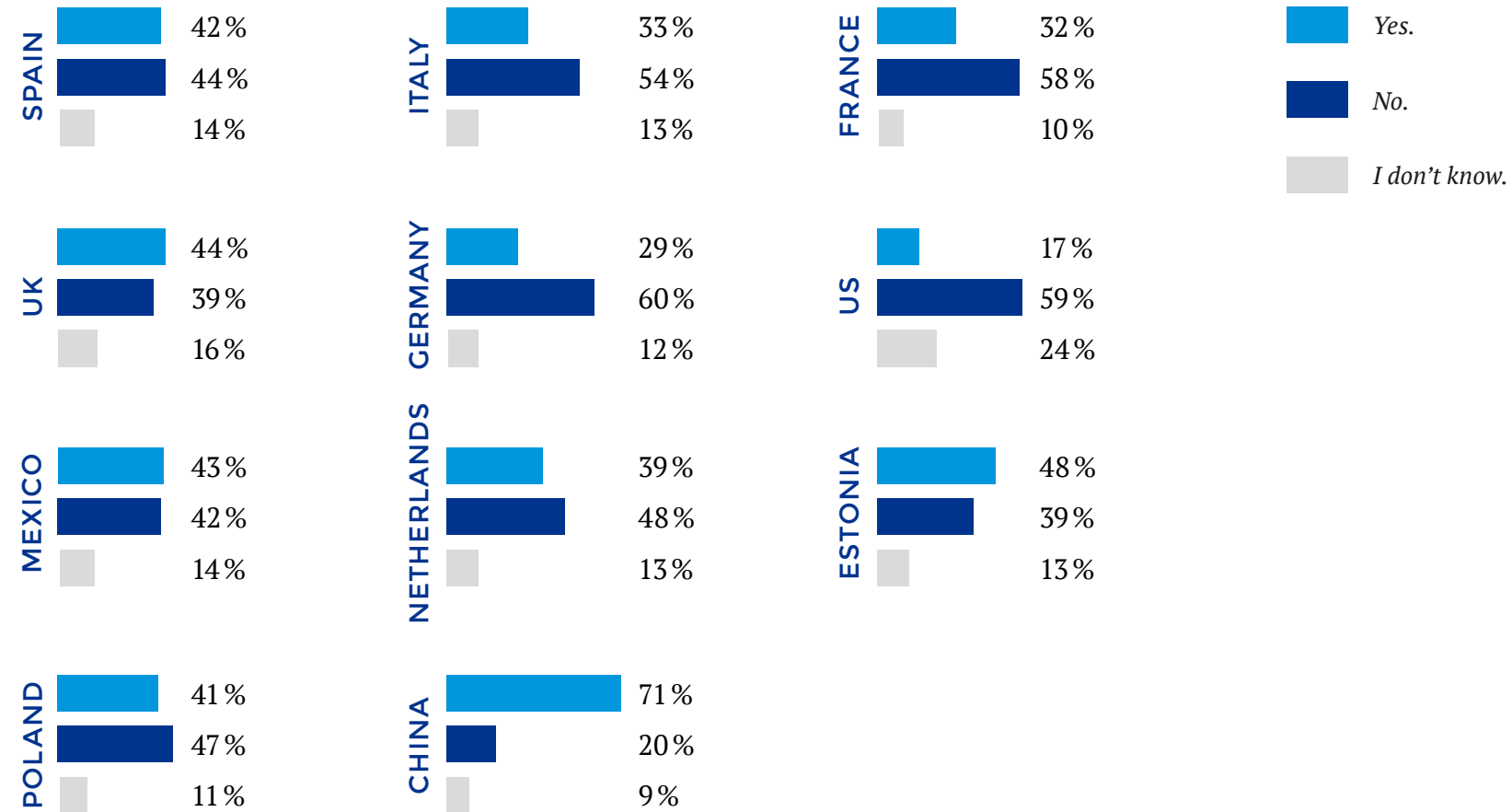
A strong majority (70%) of Chinese are in favor of reducing the number of cars in the streets through taxation.

QUESTION:

Are you in favor of reducing the number of cars in the streets through increased taxes, limits or access to city centers (such as through congestion prices)?



INCREASING TAXES







4

**SURVEY  
METHODOLOGY**



# SURVEY METHODOLOGY

The European Tech Insights 2020 survey was conducted in January and April 2020.

We interviewed 2,883 adults from 11 countries, with an initial sample of 250 respondents by country. Samples were representative in terms of age and sex.

Respondents are part of recurrent panels recruited by Netquest or affiliated companies into panels via social media, direct mailing or through referrals from other respondents. They receive small in-kind incentives for responding to each survey.

SPAIN  
ITALY  
FRANCE  
UK  
GERMANY  
THE NETHERLANDS  
IRELAND  
PORTUGAL  
CHINA  
US  
MEXICO

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**2,883**



# AUTHORS

## CARLOS LASTRA-ANADÓN

Carlos Lastra-Anadón is an Assistant Professor at IE School of Global and Public Affairs and Research Coordinator at the Center for the Governance of Change. He recently completed his PhD in Government and Social Policy at Harvard University and was a post-doctoral research fellow at The Europe Center at the Freeman Spogli Institute at Stanford. His research interests lie at the intersection of political economy and policy, particularly education policy.

His scholarly work so far has focused on the effects of different organizational structures of education systems, the enduring effects on outcomes of differences between urban, suburban and rural districts, as well as the effect of the Great Recession on attitudes towards education policy.

## DIEGO RUBIO

Diego Rubio is a former Professor of Applied History and Governance at IE School of Global & Public Affairs. Prior to that, Diego worked as Lecturer and Research Fellow at the University of Oxford.

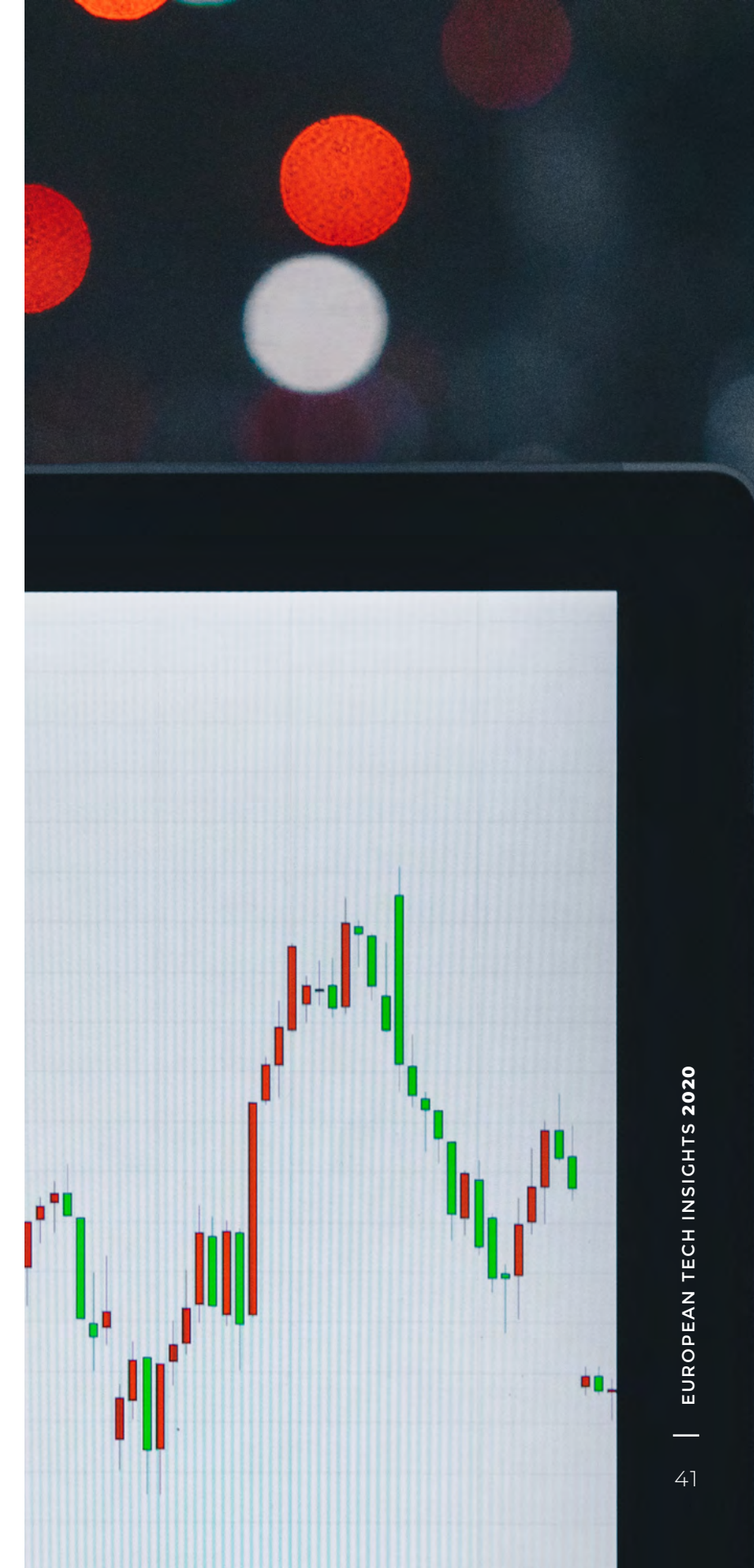
Diego's research aims to illuminate current challenges facing today's society by using a long-term perspective that tracks causal relations and historical trends from the past and projects them into the future. As analyst, Diego has advised numerous international organizations, including the United Nations, the European Commission, the World Economic Forum, and the Ibero-American General Secretariat.

Diego holds a PhD from the University of Oxford, a MA from the École Normale Supérieure, and a BA Hons from the Universidad Autónoma de Barcelona, where he graduated with the highest GPA of the country. He has also studied at Sorbonne and Columbia University.

In early 2020, Diego was appointed Director of the Spanish Foresight and Long Strategy Unit of the Prime Minister's office.

## CONTRIBUTORS

- **Carl Benedikt Frey,**  
Director of the Future of Work Programme,  
Oxford University
- **Christina Colclough,**  
Director of Platform and Agency Workers,  
Digitalisation and Trade UNI Global Union
- **Oscar Jonsson,**  
Academic Director of the Center for the Governance  
of Change at IE University
- **Carlos Luca de Tena,**  
Head of Operations of the Center for the Governance  
of Change at IE University
- **Irene Menéndez González,**  
Assistant Professor in International Political  
Economy, IE University
- **Stan Veuger,**  
Resident Scholar, Enterprise Institute
- **Francisco de Elizalde,**  
Professor at Law School, IE University







## ABOUT THE CGC

This study was conducted by the IE Center for the Governance of Change (CGC), an applied-research, educational institution that studies the political, economic, and societal implications of the current technological revolution and advances solutions to overcome its unwanted effects.

The CGC does so by producing pioneering, impact-oriented research that cuts across disciplines and methodologies to unveil the complexity of emerging technologies such as artificial intelligence, big data, blockchain, and robotics, and explores their potential threats and contributions to society.

In 2019, the CGC was recognized by Public as one of the five most innovative university departments in Europe.

Moreover, the CGC also runs a number of executive programs on emerging tech for public institutions and companies interested in expanding their understanding of disruptive trends, and a series of outreach activities aimed at improving the general public's awareness and agency over the coming changes.

All this for one purpose: to help build a more prosperous and sustainable society for all.



