Scarred for life?

Recession experiences, beliefs and the state

Zsoka Koczan and Alexander Plekhanov

This paper attempts to explain the stylized fact that support for a greater role of the state in the economy typically increased in response to major economic shocks. We find that these effects persist over time and are strikingly consistent across three large surveys covering a uniquely wide geography. First, we analyse experiences during the Covid-19 crisis using a survey of more than 39,000 adults across 14 economies as well as during the global financial crisis using a representative survey covering 34 economies. Exploiting variation across individual experiences during these crises we find that support for state ownership and redistribution of income is significantly higher among individuals who experienced job losses and, to a lesser extent, among those who experienced an income shock. Those who only experienced an income shock are relatively more likely to support benefits for the working poor while those who experienced job losses favour unemployment benefits. As a complement to this analysis and in order to track the longer-term effects of crisis experiences, we rely on six waves of the World Value Surveys spanning over 100 economies. Here we exploit differences in lifetime exposures to crises by country and year of birth and survey year and show that individuals who lived through a major recession during adulthood express a stronger preference for state ownership and redistribution of income.

Keywords: recession; attitudes; state; job loss

JEL Classification Numbers: H11, I15, I18, J63, P16

Contact details: Zsoka Koczan, One Exchange Square, London EC2A 2JN, UK.

Phone: +44 20 7338 7083; email: koczanz@ebrd.com.

Zsoka Koczan is a senior economist at the EBRD. Alexander Plekhanov is Director for Transition Impact and Global Economics at the EBRD.

The authors are grateful to Cevat Aksoy, Thomas Barbiero, Cem Cakmakli, Ralph de Haas and Beata Javorcik for valuable comments and suggestions and to Tea Gamtkitsulashvili and Nicholas Monioudis for the excellent research assistance.

Working Paper No. 261 **Prepared in November 2021**

1 Introduction

An emerging literature finds that growing up in a recession leaves life-long scars and reduces the level of trust. Individuals who reach adulthood during major recessions tend to have more positive views about public ownership and the redistribution of income (Giuliano and Spilimbergo, 2014). Risk aversion in financial markets tends to be higher among individuals who grew up during periods with poor stock market returns (Malmendier and Nagel, 2011) while exposure to a weak economy reduces individualism (Bianchi, 2016). Investor experiences affect investment choices in multiple ways (Malmendier et al., 2020a,b), while US residents who experienced worse economic conditions during young age are more likely to value income over job content (Cassar et al., 2021).

The breadth of the Covid-19 economic crisis, the deepest since the Great Depression of the 1930s and the Second World War, has brought these findings into the spotlight. In many advanced economies and emerging markets, the Covid-19 recession was accompanied by state intervention in the economy on a scale not seen since the Second World War. The Covid-19 crisis stands out in terms of sweeping restrictions on economic activity, mostly in services, in terms of increases in fiscal spending as a percentage of GDP; and in terms of wide use of job protection schemes such as furloughs.

While government spending and the public-sector share of employment have been trending upward over the very long term, the role of the state in the economy tended to expand at a much faster pace following major social and economic upheavals. Exposure to major crises appears to have increased demand for socializing risks faced by individuals.

With this in mind, we investigate ways in which major recessions have impacted individuals' views about the role of the state in the economy across the world. We build on three complementary sources of data. First, to shed light on changes in attitudes in the Covid-19 context, we use a survey conducted in August 2020 and covering almost 40,000 adults across 14 economies. This survey provides early insights into the labour market damage resulting from the Covid-19 crisis in both advanced economies and emerging markets, and any resulting shifts in attitudes. In this survey, we are able to distinguish between individuals who experienced a job loss in their household, individuals whose households did not experience a job loss but saw their incomes reduced and those financially unaffected by the crisis. Our identification comes from differences between household experiences during the Covid-19 crisis.

Next, we draw on a rich representative household survey conducted in 34 economies in Europe and Central Asia in 2010, in the aftermath of the global financial crisis. The Life in Transition Survey contains detailed information about the impact of the 2008-09 crisis on individuals and their households. The identification here is similar to the one in the Covid-19 survey, distinguishing between individuals who experienced job losses in the household, those who experienced income (but not job) losses and those who were not impacted financially. In addition to providing insights into the effects of a different crisis, the particularly rich attitudinal information included in this survey enables us to look at a wide range of measures capturing individuals' views on the role of the state in the economy.

Finally, in order to to track the longer-term effects of crisis experiences world-wide, we rely on six waves of the World Value Surveys, representative household surveys covering over 300,000 adults across more than 100 economies since 1989. This survey also includes a rich set of questions about attitudes towards the state and its role of the economy. While globally the economic contraction during the Covid-19 crisis has been unmatched since the Second World War, individually many economies, from Argentina to Greece to Russia, have experienced economic collapses on a similar or larger scale at different points in time. This enables us to link those recessions to the beliefs of individuals that were exposed to them at some point during their adulthood. This analysis thus serves as a complement to that using the Covid-19 survey and the Life in Transition Survey. Here, the identification comes from differences in lifetime exposures to major recessions that vary by country, year of birth and time of the survey while we do not observe the extent to which each respondent may have been personally impacted by a crisis in the past.

To the best of our knowledge, this is the first broad survey-based analysis to gauge people's attitudes towards the role of the state in the economy in the context of the Covid-19 pandemic. Our analysis looks both at the effects of personal experiences during recent crises and more generally, at lifetime exposure to major recessions. Exploiting rich information on specific attitudes, we can distinguish between different channels of greater demand for state involvement in the economy: redistribution, job security associated with government ownership, or shifts in beliefs about the value of competition and hard work. Finally, we hope to inform policy making by contrasting the effects of job losses and income-only shocks on individuals' preferences for various policies such as the provision of enhanced benefits for the unemployed or the working poor.

We hope to provide structure to this analysis examining a rich set of outcome variables by relying on a simple theoretical model. Here, individuals' attitudes and preferences are not only determined by their personal characteristics (such as their education or productivity), but are also influenced by their beliefs about the 'usefulness' of a larger state to them, given their personal circumstances. In particular, we allow people's preferences to change depending on their beliefs about the relative rewards from working in the public relative to the private sector, as well as their chances of becoming unemployed in the future. These beliefs in turn depend on their personal experiences and the experiences they observe around them.

In line with some of the earlier literature on the effects of crises, we find that support for state intervention is significantly higher among individuals who experienced job losses in their household. The effects are similar across the Covid-19 crisis and the global financial crisis. Respondents who experienced a job loss in their household would be 5-6 percentage points less likely to support market economy than similar respondents who were not financially impacted by the crisis. Strikingly, the effects persist even among those who subsequently regain employment. Job losses increase demand for both redistribution and secure jobs.They further appear to affect basic values underpinning a market economy, for instance weighing on the belief that hard work (as opposed to luck or connections) is the key to success.

The effects of income losses are smaller, less than half in terms of magnitude, and are often not statistically significant, with the notable exception of supporting greater benefits for the working poor – the only area where income loss was associated with as strong a shift in views as a job loss shock. This suggests that government support schemes implemented during the Covid-19 crisis, which varied from country to country, may shape future benefit schemes by influencing public support for certain kinds of benefits.

Analysis using the World Values Surveys points to similar effects: individuals who lived through a major crisis in their adult years are more likely to have left-leaning political views, believe that governments should take more responsibility to ensure everybody is provided for and support expansion of public ownership. At the same time, we do not detect a long-term impact of living through a major recession on views about the value of hard work or competition.

The paper is structured as follows. Section 2 provides a brief overview of studies of recessions and attitudes, and a snapshot of the changing role of the state in the economy following previous major crises. Section 3 introduces a simple theoretical framework to guide our thinking about the potential channels through which crisis experiences could affect attitudes and preferences. Section 4 introduces the data across the three surveys and outlines our empirical strategies. Section 5 discusses the results. Section 6 concludes.

2 Recessions, beliefs and expansion of the state

2.1 Recessions and beliefs

Our paper contributes to the body of empirical work looking at the effects of economic crises and social upheavals on attitudes, beliefs and behaviours. Several papers have focused on political preferences and trust. Krosnick and Alwin (1989) and Osborne et al. (2011), among others, showed that individuals' past experiences affect preferences vis-a-vis partisanship and party affiliation. Algan et al. (2017) studied the implications of the Great Recession for voting for anti-establishment parties, trust and political attitudes in European regions and found that crisis-driven economic insecurity tends to be associated with a lack of political trust. Bartoš et al. (2021) found that the salience of Covid-19 could negatively affect behaviour towards foreigners.

Others have also looked at individuals' views on economic policies. Tracking the labour market experiences and political attitudes of a sample of US individuals over 2007-2011, Margalit (2013) found that people who lost their jobs became more favourable toward welfare spending, and that this effect was larger among Republicans than among Democrats, although the effect dissipated as individuals regained employment. Jetter et al. (2020) found that men in Australia responded with increased risk aversion and impatience to a rise in their region's unemployment rate since 2008. Giuliano and Spilimbergo (2014) showed that people belonging to a cohort that experienced a recession when young believe that success in life depends more on luck than on effort, support more government redistribution, and are more likely to vote for left-wing parties. In a similar vein, Di Tella et al. (2007) examined a natural experiment of property rights allocation in a squatter settlement on the outskirts of Buenos Aires and found that those who ended up with legal land titles reported views more favourable of the workings of a free market and were more likely to believe that one can be successful without the support of a large group. Dohmen et al. (2006) showed that the unexpectedly good performance of the German soccer team in the FIFA World Cup 2006 improved economic perceptions and expectations. Malmendier and Nagel (2011) and a number of subsequent studies showed that the stock market returns experienced by an individual affect subsequent financial risk taking. More generally, Malmendier (2021) highlighted that personal experiences of economic outcomes help understand belief formation and decision making.

More recently, a number of papers have examined the effects of exposure to epidemics on beliefs and attitudes. Most closely related to our work, Klemm and Mauro (2021) showed that people who experienced serious illness or job loss caused by the Covid-19 pandemic, or who personally know someone who has, favour a temporary progressive levy or structural progressive tax reform to a greater extent than others in the sample, controlling for income, demographic characteristics, and other factors. Eichengreen et al. (2021) showed that exposure to an epidemic over an individual's formative years (18-25) significantly reduces confidence in scientists and the benefits of their work. In a related vein, Aksoy et al. (2020) found that exposure to epidemics also negatively affects confidence in political institutions, leaders and public health systems.

To the best of our knowledge, this is the first survey-based analysis to gauge people's attitudes towards the role of the state in the economy in the context of the current pandemic, relating such views to respondents' characteristics, recent experiences and lifetime exposures to crises.

2.2 A brief history of the expanding role of the state in the economy

Government spending and the public-sector share of employment have been trending upward over the longer term (see Figures 1 and 2). For instance, in the second half of the 19$^{\text{th}}$ century, government spending in Sweden, the UK and the US averaged 6-10 percent of GDP per year, compared with more than 40 percent from the early 1990s onwards. The secular increase in public spending, which also occurred in emerging markets, reflects many factors including the rising importance of the accumulation of skills, and thus education, as well as increases in life expectancy that led to higher levels of spending on healthcare and pensions.

However, the expansion of the role of the state in the economy did not proceed at a steady pace. Rather, instances of rapid expansion tended to follow major social and economic upheavals. Those upheavals were in some cases global and in other cases specific to the economies concerned. In the United Kingdom both the First and Second World Wars led to major increases in public spending that were only partially reversed subsequently. In the US, public spending rose markedly following the Great Depression, as well as after the World Wars. In Sweden, meanwhile, a major increase in public spending followed the banking and economic crisis of the early 1990s.

State employment has likewise risen overall over the long term owing to the growth of sectors such as education, healthcare services and public administration, as well as the increasing presence of state-owned enterprises in infrastructure sectors such as energy, transport and telecommunications. In the second half of the 19$^{\text{th}}$ century, state employment averaged 4 percent of total employment in Sweden, the UK and the US. Those shares peaked at an average of 25 percent in the early 1980s, before privatisation reduced the public sector's share of employment somewhat (with similar trends observed in many other economies). State employment also tended to rise after major upheavals, notably the First and Second World Wars.

Exposure to major crises, in other words, appears to have increased demand for socializing risks faced by individuals. At the same time, the patterns of state involvement in the economy vary significantly both across economies and over time, reflecting differences in citizens' preferences when it comes to matters such as income versus stability of employment.

State intervention in the economy during the Covid-19 crisis has been on a scale not seen since the Second World Was in many advanced economies and emerging markets. It stands out in terms of sweeping restrictions on economic activity, increases in fiscal spending, targeted support provided to whole sectors such as transport and hospitality and roll-out of job protection schemes, enhanced unemployment benefits and support schemes for small businesses. These measures coincided with a further rise in wealth and income inequality as the impact of the crisis has been highly uneven across individuals.

The economic contraction associated with the pandemic has also been on a scale unseen globally since the Second World War although individually many economies, from Argentina to Greece to Russia, have experienced economic collapses on a similar or larger scale during recent decades.

With this in mind, the paper explores changes in attitudes towards the role of the state in the economy as a result of major recessions and derives implications for the evolution of attitudes towards the role of the state in the economy in the medium term on the back of the Covid-19 crisis. Given the worldwide nature of the crisis, the paper takes a global view, looking at the past and present crisis experiences of advanced economies as well as emerging markets and developing economies, with a particular focus on recent experiences in Europe, Central Asia and North Africa.

3 Theoretical model

3.1 State ownership and job security

We also hope to contribute to the literature by relying on a simple theoretical model to structure our thinking around the potential effects of crises on various attitudinal variables. In this model, individuals' personal experiences, as well as those of others around them, provide information on factors, which affect how 'useful' a larger state is to them personally, but which may not be directly observable.

For instance, individuals' preferences for a stronger safety net will depend on the likelihood that they will become unemployed in the future (and hence the likelihood that they will stand to benefit from it). While this probability is unknown, their own experiences as well as those of others around them may provide useful information. Seeing mass layoffs during a crisis may result in individuals revising their beliefs about the likelihood that they themselves will become unemployed in the future, and could thus increase their support for the expansion of the social safety net. It could also increase preferences for a more secure public sector job, and hence for a higher degree of state employment in the economy.

Consider a society where individuals maximize utility derived from expected income. Each individual is characterized by an endowment of skill (or exogenous effort) that determines their productivity, w, distributed uniformly on $[0; 1]$. A fraction μ of all jobs are in the public sector, the rest are in the private sector.

For an individual employed in the private sector, the pay is more sensitive to their productivity. The net pay is given by $(1-\tau)\lambda w$, where $\lambda > 1$ reflects the extent to which the private sector rewards talent relative to the public sector, while τ is the rate of income tax.

In the public sector, an individual earns a post-tax wage that is independent of the individual's productivity (or effort): $(1-\tau)\hat{w}$. In addition, public sector jobs are secure (or at least more secure in relative terms), while in the private sector an individual may become unemployed with a probability p

(assumed to be independent of individual's productivity). In addition to being a source of secure jobs, the state can also use taxes to provide a lump-sum benefit which could be conditional on unemployment or income or neither.

Consider first a setup where the state exclusively provides secure jobs. In a private-sector job, the expected pay is given by $(1-p)(1-\tau)\lambda w$. An individual prefers to work for the private sector if $(1-p)(1-\tau)\lambda w > (1-\tau)\hat{w}$ yielding $w > \frac{\hat{w}}{(1-p)\lambda w}$. In general, individuals with lower productivity would prefer to have a secure state job and are thus more likely to support the expansion of state ownership (which increases the supply of such jobs).

In reality, individuals do not have perfect knowledge of the probability of losing a job in the future or the steepness of reward in the private sector relative to the pay in the public sector ($\frac{\hat{w}}{\lambda}$). They form beliefs about these parameters based on their personal experiences and experiences of those around them.

A job loss, for instance, is likely to lead to a greater assumed probability of such occurrence in the future. It may also lead to more downbeat views about the rewards in the private sector. Moreover, views about relative rewards in the private sector are likely to be updated continuously, based on experiences during busts and booms alike. Views about the probability of a job loss are more likely to be influenced by experiences of major crises when mass job losses are observed.

3.2 Redistribution of income

Next, consider income redistribution, which could take two distinct forms in this simple theoretical framework: universal benefits open to all (these may be state-contingent, as in the case of unemployment benefits) and benefits earmarked for those on low incomes.

Consider first a universal unemployment benefit financed by taxes. For tractability, assume that individuals randomly select into working for the public sector irrespective of their productivity (adverse selection of low-effort individuals into the public sector does not affect the insights).

The expected tax intake is a weighted average of taxes collected in the public and private sectors:

$$T = \tau[\mu\hat{w} + (1-\mu)(1-p)\lambda \int_0^1 w\,dw] \tag{1}$$

Collected taxes are divided among the mass p of unemployed individuals, with each receiving $\frac{T}{p}$. Consider an individual employed in the private sector. Their expected income is a function of parameters reflecting the role of the state in the economy (τ and μ) and is given by:

$$Y(\tau,\mu) = (1-p)(1-\tau)\lambda w + p * \frac{T}{p} = (1-p)(1-\tau)\lambda w + \tau[\mu\hat{w} + \frac{(1-\mu)(1-p)\lambda}{2}] \tag{2}$$

An individual will be in favour of expanding redistribution through taxation if

$$\frac{\partial Y}{\partial \tau} = \mu\hat{w} + \frac{(1-\mu)(1-p)\lambda}{2} - (1-p)\lambda w > 0 \tag{3}$$

This holds for $w < w^* = \frac{\mu\hat{w}}{(1-p)\lambda} + \frac{(1-\mu)}{2}$ In general, low-productivity individuals would favour redistribution through taxes while high-productivity individuals would prefer to self-insure against unemployment. Individuals with middle levels of productivity, however, may cross the threshold value depending on changes in their beliefs about the relative rewards in the private sector ($\frac{\lambda}{\hat{w}}$) as well as the chances of becoming unemployed in the future (p). Both lower perceived rewards to one's skills (effort) and higher perceived probability of unemployment would drive up support for redistribution through taxes.

Similar dynamics are at play with respect to the degree of state ownership in the economy. Here state ownership acts as an automatic stabiliser. Beside being a reliable source of employment in a downturn, it also represents a reliable source of taxes that can be used to fund private-sector unemployment benefits in a downturn.

An individual supports the expansion of public-sector jobs if

$$\frac{\partial Y}{\partial \mu} = \tau \hat{w} - \tau \frac{(1-p)\lambda}{2} > 0 \tag{4}$$

This condition holds when $\frac{\lambda}{\hat{w}} < \frac{2}{1-p}$. In other words, individuals' views on the expansion of public-sector jobs are driven entirely by the pay (and implicitly, average productivity) in the public sector and, in particular, whether it is high enough to generate sufficient taxes.

These views are, however, influenced by personal beliefs about the relative reward in the private sector and the chances of becoming unemployed. The lower the expected reward in the private sector and the higher the chances of losing one's job, the greater the support for the expansion of public ownership on redistribution grounds. In this case, individuals may support the expansion of public ownership even where they are happy to remain employed in the private sector.

Now consider a means-tested benefit that only accrues to working individuals with income below $\hat{y}$ (for simplicity set in a way that public-sector workers do not qualify). Individuals who expect to be eligible for such a benefit are likely to support it since the burden of financing the payouts falls on higher earners. Individuals who do not expect to be eligible will not support this benefit in this setup. The cut-off value is given by $\bar{w} = \frac{\hat{y}}{\lambda}$.

A drop in the expected rewards to skills in the private sector would raise the cut-off value and thus increase public support for such benefits, while changes in the perceived probability of unemployment have no bearing on the support for benefits aimed at the working poor.

3.3 Predictions

This framework is highly simplistic and does not allow for altruistic motivation, for instance. Nonetheless it yields several useful insights. First, major recessions may increase support for a greater role of the state in the economy through increased preferences for secure jobs and redistribution. Both may be driven by individuals reassessing the likelihood of unemployment and (or) the likelihood of being poorly rewarded for their skills (effort) in the private sector. Both increased preferences for redistribution and increased demand for secure jobs can result in greater support for the expansion of public ownership.

Second, individuals' personal experiences are likely to affect the types of redistribution they support. In particular, individuals exposed to a job loss are more likely to increase support for unemployment benefits than individuals whose recession experience did not involve a job loss. We do not expect to see similar differences for, say, benefits targeting the working poor.

Finally, a reassessment of rewards to skills or effort is likely to go hand in hand with changed views about the role of the state. But we may also see shifts in attitudes toward redistribution and public ownership unaccompanied by shifts in views about the extent of meritocracy in the economy, for instance if recessions leave long-term scars when it comes to expectations of unemployment and its human cost.

With this in mind, we focus the empirical analysis on five types of questions: general questions about economic systems and state ownership; general questions about redistribution; questions about specific redistribution policies; questions about job security; and views about rewards to skills, effort and competitive behaviour. These sets of questions cover both stated views about the state and its role, as well as channels that may affect the formation of these views.

4 Data and methods

4.1 Survey data on attitudes, beliefs and the impact of crises

We start our empirical analysis by drawing on an online survey conducted by the ifo Institute and the European Bank for Reconstruction and Development (EBRD) in August 2020. The survey covers almost 40,000 adults in 14 countries: Belarus, Egypt, France, Germany, Greece, Hungary, Italy, the Netherlands, Poland, Serbia, Spain, Sweden, Turkey and Ukraine.[1] Patterns in terms of the impact of the Covid-19 crisis in this survey closely match the findings of other studies, with younger individuals, those on lower income and those without a permanent contract being more likely to lose their jobs (Koczan, 2020).

We identify the effects of economic shocks on attitudes by comparing views across three mutually exclusive groups of individuals: those who experienced job loss personally or in their households, those who did not experience a job loss in their household but experienced a negative income shock (as a result of wages being reduced, suspended or delayed, closure of a family business, temporary unpaid leave or being put on a government furlough scheme) and the remaining group who were financially unaffected by the crisis.

We look at the effects of the global financial crisis by drawing on the second round of the 2010 Life in Transition Survey, a representative household survey conducted by the EBRD and the World Bank in September-December 2010.[2] The survey was conducted via face-to-face interviews and included a detailed module on the effects of the global financial crisis on individuals and their households. The survey covered almost 39,000 households in 34 economies in Emerging Europe and Central Asia as well as France, Germany, Italy, Sweden and the United Kingdom. This survey, too, contains detailed information on whether individuals or someone else in the household lost their job due to the impact of the crisis. As before, for individuals who were not affected by job losses, we record if their households were impacted income-wise (in terms of reduced wages, wages delayed or suspended, or closure of a family business).

Figure 3 summarizes the incidence of job and income losses during the 2008-09 crisis and during the Covid-19 crisis as of August 2020. During the global financial crisis, 28 percent of survey respondents reported job losses in their households, 40 percent were otherwise affected and the remaining 31 percent unaffected. In the Covid-19 crisis sample, 24 percent of individuals reported job losses in their households and 30 percent were otherwise impacted while 46 percent reported no impact in terms of lost employment or income. Further descriptive statistics are summarized in Table 1.

4.2 Methodology

In order to examine the effects of personal experiences during the Covid-19 crisis and the global financial crisis, we relate various survey questions on individuals' attitudes (y, for instance if an individual supports the expansion of public ownership) to employment and income shocks in the household (Job and $Wage$) as well as various individual characteristics Z (age, gender, highest level of completed education, location and employment status; the later survey also contains information on the individual's income decile before the crisis) and a set of country fixed effects.[3]

$$y_i = \beta_1 Job_i + \beta_2 Wage_i + \lambda Z_i + \alpha_c + \epsilon_i \tag{5}$$

[1] Given the ongoing pandemic, the EBRD-ifo survey was carried out online. Although quota sampling was used to ensure the survey was nationally representative, caveats apply. In particular, respondents were more likely to be urban and have a higher level of education than the population average. We aim to mitigate the bias coming from such differences by controlling for a rich set of individual characteristics (including income deciles), and examining the robustness of results to systematic non-response on the attitude questions.

[2] The survey thus captures the cumulative effects of the global financial crisis two years after its onset. The EBRD-ifo Institute Survey, on the other hand, provides a snapshot of labour markets approximately six months into the Covid-19 crisis (and before the winter lockdowns of 2020-21).

[3] Employment status is as of the time of the survey in the case of the Life in Transition Survey; in the Covid-19 survey it refers to February 2020. The results are robust to controlling for August 2020 employment status instead.

As many responses to questions about attitudes are recorded on a scale of 1 to 5 or 1 to 10, baseline results are based on fixed effects regressions. The results using logit or ordered logit specifications are similar and presented in Section 5.

The second part of our analysis looks at the effects of exposure to major recessions on attitudes drawing on six waves of the World Values Survey across 101 economies over the period 1989-2020. Here, we relate various responses y of individual i surveyed in year t in country c to variables that characterise an individual's exposure to major recessions R as well as various control variables Z (age, gender, highest level of completed education, employment status and self-assessed income ranking) and a set of dummy variables for the country, year and wave of the survey and birth cohorts.

$$y_{itc} = \beta R_{itc} + \lambda Z_{itc} + \alpha_c + \theta_t + \phi_w + \rho_b + \epsilon_{itc} \tag{6}$$

The lifetime history of economic growth (and hence exposure to major recessions) is specific to individuals born in a given year and surveyed at a given point in time in a given economy (individuals who responded that they previously migrated to the current country of residence are excluded from the analysis since their crisis experiences may have been acquired in another country). The source of identification is thus threefold. Respondents born at the same time in a given country but surveyed as part of different waves may have different exposures to recessions. Individuals born at the same time and surveyed in the same year will have different exposures to recessions depending on their country of residence. And for respondents in the same survey wave in a given country, their recession history varies by year of birth.

To identify major recessions, we follow the approach of Barro and Ursua (2008) and focus on cumulative drops in gross domestic product (GDP) per capita in excess of 10 percent over the length of the recession. This definition appears to approximate well the likely impact of the Covid-19 crisis in many economies.

The data come from the IMF's World Economic Outlook (from the 1980s onwards) and from the Maddison tables for earlier years (Maddison, 2003). Population growth rates (used to convert real GDP growth rates to per capita terms) are taken as moving averages over 15 years to minimise the impact of idiosyncratic shocks to estimates of population growth (for instance, associated with the years in which a national census was conducted).

We extend the analysis in Barro and Ursua (2008) to include a large number of emerging markets and developing economies covered in various rounds of the World Values Surveys. Figure 4 illustrates the share of countries in a major recession in any given year, picking up peaks around the World Wars, the Great Depression, the emerging market crises and transition recessions of the 1980s and 1990s and the global financial crisis of 2008-09. The 218 identified episodes of major recessions cover a rich geography of economies at all levels of development.

We characterize an individual's recession history in several ways. First, we record whether an individual experienced a major recession in their adulthood (aged 16 or over), a binary variable. Around 40 percent of respondents in our sample experienced a major recession. Second, we record the age when an individual experienced their first major recession (see also Figure 5). These ages are aggregated into ten-year intervals (16-25, ..., 56-65 and 66 and above). The first interval broadly overlaps with the impressionable years (up to age 25). Many previous studies focused on the impact of experiences during this age bracket (Krosnick and Alwin, 1989). Eichengreen et al. (2021) and Aksoy et al. (2020), for instance, show that exposure to epidemics during this age window affects political views and attitudes to science.

We look at early exposures to economic crises but additionally investigate the impact of accumulated experiences later in life that may also have a bearing on attitudes. For instance, Acemoglu et al. (2021) show that the lifetime history of exposure to (well-functioning) democracies increases support for democratic institutions. We also bring the start of adulthood forward to age 16 to allow for the fact that earlier experiences can affect education choices, including the choice of a college major (Blom et al., 2021), thus having a lasting impact on attitudes and beliefs.

5 Results

5.1 The effects of personal experiences during the Covid-19 crisis

We start by looking at the survey on the economic impact of the Covid-19 crisis. This surveys asked two general questions about the role of the state in the economy. First, individuals were asked to choose one of the following statements: *(i) a market economy is preferable to any other form of economic system; (ii) under some circumstances, a planned economy may be preferable to a market economy; or (iii) for people like me, it does not matter whether the economic system is organised as a market economy or as a planned economy.*

The results shown in Table 2 suggest that both individuals who experienced a job loss in the household and individuals otherwise affected express significantly lower degrees of support for market economy. Effects are very similar when focusing only on the two extremes (coded 1 and 0) and when also including the intermediate option (with the variable coded on a 0 to 2 scale).

The effect of a job loss is around 1.5 times larger than that of an income shock (the difference is statistically significant at the 5 percent level). A job shock is associated with an increase in pro-state (anti-market) views equivalent to 8 percent of a standard deviation. Otherwise, older respondents, women, those with lower pre-crisis income and those living in rural areas are less supportive of market economy, a pattern consistent with the results of other surveys.

Survey respondents were also asked who should be responsible for supplying people with work: *(i) primarily the state* (coded 2), *(ii) shared responsibility between the state and the private sector* (coded 1), *(iii) it does not matter, as long as the task is performed to a satisfactory standard* (coded 1) or *(iv) primarily the private sector* (coded 0). Here, too, an unemployment shock is statistically significantly associated with a greater likelihood of believing that the state should be responsible for supplying jobs. The results hold in a binary-variable setting when focusing on the two extremes (*i* and *iv*). The corresponding effect in the case of an income shock is less than half and less significant.

To investigate these channels further in a richer survey with larger cross-country coverage, we turn to the 2010 Life in Transition Survey reflecting individual experiences during the 2008-09 global financial crisis.

5.2 The effects of personal experiences during the global financial crisis

First, we look at the same question as in the Covid-19 survey regarding the views about market economy (see Table 3). The results are similar; the effect of an income shock is much smaller than that of a job loss shock and in this sample it is not statistically significant. The magnitudes of the effect of job loss during the 2008-09 global financial crisis and the Covid-19 crisis are similar (the difference is not statistically significantly in a pooled sample featuring 10 economies included in both surveys). Control variables reveal similar patterns as before, except support for market economy declines more strongly with age.

Employment shocks are also associated with significantly more pro-state views on government ownership and state employment. As part of the survey respondents were asked to express their views about government ownership of business on a scale of 1 to 10 where 1 corresponds to *private ownership of business and industry should be increased* and 10 reads *government ownership of business and industry should be increased.* A job loss is associated with a significantly higher degree of support for state ownership (around 6 percent of a standard deviation). The effect of income loss is about half and is statistically insignificant.

Next, we turn to a set of questions related to the role the state plays in redistributing income. Respondents who experienced a job loss in their household were significantly more likely to agree with the statement that the gap between the rich and the poor should be reduced (on a scale from 1 to 5).

Participants were further asked, separately, whether the unemployed and the working poor deserved support from the government. On average, support for both propositions was similar, expressed by 53-54 percent of survey respondents. The opinions correlate strongly, however, with individual experiences during the 2008-09 crisis. Those who experienced a job loss in a household are 4.4 percentage points more likely to favour support for the unemployed; the corresponding effect for those who were only affected income-wise is small and statistically insignificant. In contrast, the latter group was 4 percentage points more likely to favour support for the working poor, similar to the effect of an employment shock – while for the vast majority of other beliefs about the role of the state the unemployment shock is associated with much stronger pro-state views than an income shock. The magnitudes of these effects are highly meaningful given the split in opinions on these matters that is close to 50-50 across the sample.

The survey further reveals that the job security channel may also be important. Participants were asked to express preference for one of the two jobs: *job A offers an average salary, and not much chance for promotion, but it is a safe long-term job* versus *job B offers a high salary, and a lot of chance for promotion, but significantly less job security.* Those who experienced a job loss during the global financial crisis are around 4 percentage points more likely to express preference for a secure job compared to those who were economically unaffected by the crisis (see Table 4). The corresponding effect for those who experienced income reductions is around 2.8 percentage points (statistically significantly smaller than the job loss effect at the 10 percent level).The job loss effect is distinct from the effect of being unemployed at the time of the survey, controlled for separately.

The analysis so far suggests that crises are likely to increase support for a larger state through two channels. First, by increasing demand for redistribution and social safety nets, largely in line with personal experiences: those who experience job losses favour unemployment benefits while those who experience income losses (also) favour support for the working poor (such as tax credits or means-tested benefits). Second, by increasing demand for secure employment, including among those who experienced only income shocks (but not job losses) in the household.

Further analysis hints at another channel at play – the impact of the crisis on general beliefs about competition and work ethics. Participants were asked for their views on a scale of 1 to 10 where 1 reads *competition is good, it stimulates people to work hard and develop new ideas* and 10 reads *competition is harmful, it brings out the worst in people.* A job loss during the crisis is associated with a strong increase in unfavourable views of competition, of around 8 percent of a standard deviation. The effect of an income shock is an order of magnitude smaller and not statistically significant.

Strikingly, an experience of a job loss (but not reduced wages) is also strongly negatively associated with beliefs about the value of hard work. In particular, participants were asked the following question: *In your opinion, which of the following factors is the most important to succeed in life in our country now?*, with answer options reading *effort and hard work*, *intelligence and skills*, *political connections*, *breaking the law* and *other.* The "hard work" option was chosen by 47 percent of respondents (again, close to the median). A job loss shock is associated with a 3.1 percentage point decrease in the likelihood of attributing success to hard work. The shift in opinions appears to be in favour of connections and luck rather than emphasizing skills and intelligence.

As discussed earlier, sceptical views about competition and the value of hard work and skills associated with crisis experiences are consistent with increased support for government ownership and employment, and reduced support for market economy. Hard work and competition are at the core of a well-functioning markets and a large-scale increase in scepticism about these values may be particularly problematic for societies in the long term.

These views were consistent with shifts in attitudes to poverty. In particular, participants were asked about *the main reason why there are some people in need in our country today?.* Answer options comprised *injustice in the society; laziness and lack of will power; unlucky; this being an inevitable part of modern life;* and *other.* A job loss shock is associated with a strong shift towards the "injustice view" of poverty and away from the "individual's fault view". The estimated effect is equivalent to 10 percent of a standard deviation of the distribution of these views. An income shock also shifts views towards the injustice explanation but the effect is around a third the size of that of job loss and is not statistically significant at the 10 percent level.

5.3 The legacy of exposure to major crises: Evidence from the World Values Surveys

The estimations discussed so far shed light on beliefs observed up to two years after the crisis experiences. They link shifts in attitudes to individual-level experiences but do not necessarily provide a comprehensive view of society-wide shifts: the focus is on differences between individuals who experienced a job loss shock or an income shock and those who did not. Those not directly affected may, however, also increase their support for state ownership and income redistribution, or they might reduce it.

To examine long-term, society-wide shifts in attitudes towards the role of the state in the economy we look at six waves of the World Values Surveys conducted during 1989-2020. While we can control for individuals' employment status at the time of the survey, we do not observe individual experiences at the time of a major crisis. We thus observe an average effect, if any, across those who experienced a job loss in the household, were otherwise financially affected by a past recession and those not directly impacted.

The extent to which past crises leave long-term scars may depend on the age when that first major crisis was experienced. A number of studies find that experiences during early adulthood (up to the age of 25) may be most impactful. Other studies highlight the hardship associated with job losses or adverse income shocks later in life (Case and Deaton, 2015), when reskilling or moving to a different area can be substantially more costly. In the empirical analysis we thus look at both a binary variable for whether an individual lived through a major crisis (at any point during their adult years) as well as use a categorical variable where the base group are individuals who have not experienced a crisis and the category corresponds to the age bracket of the first crisis experience (ages 16-25; 26-35 and so on).

We find that when participants are asked to place their views in political matters on the scale from 1 (maximum left) to 10 (maximum right), a prior experience of a major crisis is associated with a strong shift towards the left (Table 5). Consistent with this, we observe a similar effect on redistribution. Here participants are asked for their views on a scale of 1 to 10 where 10 reads *government should take more responsibility to ensure that everyone is provided for* and 1 reads *people should take more responsibility to provide for themselves.* Exposure to a major crisis is associated with increasing demand for socializing risks.

Effects appear to be particularly strong for individuals who experienced their first crisis in the later years of their career, aged between 36 and 45 and in particular 46 and 55 (see Table 6). This is not a mechanical impact of proximity of the crisis. Among individuals who experienced their first major recession aged 36-55, on average, 15 years passed between the onset of the crisis and the time of the survey. For these age groups, crises experiences have up to three times larger effects on attitudes than for those aged 26-35. For them there is also some effect when it comes to views on government ownership and redistribution. Participants were asked to place the statement *governments tax the rich and subsidize the poor* on a 1-10 scale where 1 means *not at all an essential characteristic of democracy* and 10 means it definitely is *an essential characteristic of democracy.* The effect is weaker, however, which may also have to do with the question formulation making an explicit link between redistribution and democracy. Overall the larger effects of crisis exposures in these age groups could reflect disproportionate labour market shocks among older workers or their more limited experience of retraining/re-employment when young.

Somewhat reassuringly, we do not detect cohort-wide shifts in attitudes toward competition among those who experienced a recession – including when accounting for the age at which the first experience of a major recession occurred (the question about competition being harmful is asked in a similar way as before). Likewise, we do not detect cohort-wide shifts in attitudes towards hard work.[4]

Once individuals affected by the crisis regain employment and income, their faith in hard work and competition may get restored over time. Alternatively, individuals who go through a major recession

[4] A caveat is in order as the question is formulated differently: on a scale of 1 to 10 where 1 corresponds to *in the long run, hard work usually brings a better life*, and 10 to *hard work does not generally bring success—it is more a matter of luck and connections.* It thus contrasts hard work more explicitly with luck while the question in the Life in Transition Survey emphasized connections and unlawful behaviour to a greater extent. The results are nonetheless insightful and consistent with the pattern observed for competition.

without losing their jobs or incomes may put greater emphasis on hard work and competitive behaviour.

5.4 Discussion

Our identification strategy in the first part of the analysis hinges on variation across individual experiences during the Covid-19 crisis and the global financial crisis. The effects identified in these exercises may not necessarily be causal. Losses of jobs and incomes are not distributed randomly across the population. Certain attitudes, behaviours and other unobserved factors such as the nature of employment may make both job losses and certain beliefs more likely. Our focus on shocks to the household more broadly, which could be more exogenous to the individual's beliefs, mitigate these concerns somewhat (although selection into households is not random either). Another mitigating factor is the scale of job losses and income losses affecting entire sectors of the economy that alleviate selection bias.

Importantly, we rely on the second part of our analysis to trace the legacies of major crises in a large cross-country dataset that does not distinguish between individual experiences during the crises and instead exploits differences in the (exogenous) timing of crises across cohorts, time periods and locations.

We believe that the documented associations between crisis experiences and individual beliefs about the role of the state in the economy are insightful. Even if estimated imprecisely, they reflect the direction of travel of public preferences.

Across the three surveys, the following regularities emerge. Major economic crises are associated with increased support for a greater role of the state in the economy. Three separate effects appear to drive this support: stronger preference for redistributing incomes towards the unemployed and the less well-off, greater emphasis on job security further increasing support for government ownership, and reduced faith in fundamental forces of the market economy such as competition and hard work among those impacted by the crisis.

Increased support for a larger state persists in the longer run, reflecting in part greater support for income redistribution. Moreover, these effects do not appear to be limited to those who experienced a major crisis during their formative years, with middle-aged individuals also exhibiting lasting, and perhaps even larger, shifts in preferences. The changes in views about fundamental values such as hard work and competition may not persist in the long run. Nonetheless, even in the short run such shifts in fundamental beliefs may be exploited by politicians, in which case they may lead to real long-term economic effects.

The effects are much larger among those who experienced a job loss in the household than among those who were otherwise economically impacted. In this regard, job protection schemes rolled out in a large number of economies, in particular in Australia and Europe, may have the added effect of limiting the shift in attitudes towards state ownership and away from strong work ethics (to the extent that such schemes transform an unemployment shock into an income shock). More generally, providing workers with greater rights and employment protection may have a similar effect of reducing demand for state ownership. Employment protection is associated with lower dynamism and may have costs in terms of economic growth. But so does state ownership, which tends to be associated with a lower incidence of innovation.

The trade-offs between greater employment protection and market flexibility may look different if the impact of repeated major crises on beliefs and attitudes is taken into account.

These impacts are in fact sizeable, in particular given that in many cases the split in views about the role of the state in the economy, redistribution and government ownership lies close to the middle.

When it comes to the details of redistribution, the results are consistent with individuals favouring different schemes in line with their own crisis experiences. Those who experienced a job loss are significantly more likely to favour spending on unemployment-related benefits. Those who were otherwise impacted but did not experience a job loss, on the other hand, favour primarily assistance to the poor and this is the only area where income loss appears to be associated with as strong a shift in beliefs as job loss.

By implication, experiences of government support during a major crisis may shape preferences for post-crisis schemes. Where furlough schemes were rolled out, for instance, individuals may be less likely to support unemployment insurance and more likely to support schemes involving strengthened universal benefits and tax credits, compared with countries where enhanced unemployment benefits were used in response to the Covid-19 crisis.

5.5 Robustness checks

The discussion so far focused on fixed effects regressions. Our findings are robust to using logit or ordered logit regressions (see Annex Tables A1, A2, A3 and A4). They are also robust to the inclusion of additional controls, for instance taking into account whether respondents were employed in the public or private sector before the Covid-19 crisis, and whether they had a permanent contract.

Results are also robust to controlling for a confirmed Covid-19 infection in the household. In particular, in a subsample of 10 economies we can identify individuals that experienced a suspected or confirmed Covid-19 infection in their household (with a test, medical diagnosis or symptoms but without medical diagnosis).[5] We find that the effects of the economic shocks remain of similar magnitude. The Covid-19 shock is additionally associated with reduced support for market economy.

In the other two surveys, we can additionally control for self-assessed health (on a scale from 1 to 5; see also Table 5). In general, ill health is associated with greater support for the role of the state, although the effects are smaller than those of Covid-19 infections in the 2020 survey.

We also examine the role of systematic non-response. While the surveys typically first ask general questions, including those about attitudes, before turning to a discussion of recent experiences, including the economic and health shocks, those who experienced a job loss, for instance, may be less likely to respond to questions about beliefs and attitudes. In this context, we look at Lee bounds tests, which compute treatment effect bounds for samples with non-random sample selection (Lee, 2009). The lower and upper bounds, respectively, correspond to extreme assumptions about the missing information that are consistent with the observed data. These tests assume monotonicity: receiving the treatment (employment or income shock) either makes all individuals (weakly) more likely to respond to the survey, or less likely to respond. Under these assumptions, we first estimate the upper and lower bounds by assuming the best- and worst-case scenarios. We also examine tighter conditional bounds, specifying a list of covariates based on which the sample is split into cells, allowing for heterogeneity by gender, education and location. Even under extreme assumptions on systematic non-response the results tend to hold.

6 Conclusion

The extent to which personal experiences can affect people's economic and political attitudes has long been debated by economists, political scientists, and psychologists. However, limited research has so far been done on it in the context of the current pandemic. We hope to help fill this gap and inform policymaking by drawing on three surveys spanning over 100 economies and three decades and show that individuals who were directly harmed by the Covid-19 crisis (or the global financial crisis) are more likely to favour a large state than those who did not have such experiences in their immediate environment.

We find similar effects on society-wide attitudes in response to major country-level recessions that persist over the long term. We also document two channels that appear to drive support for a larger state: greater demand for redistribution and preference for secure jobs.

Our results thus also suggest that the Covid-19 crisis may result in lasting changes in preferences,

[5] Around 5 percent of respondents indicated confirmed or suspected Covid infection in the household.

increasing support for a greater role of the state in the economy. Furthermore, differences in the types of policy support implemented during the crisis may result in varying post-crisis preferences across countries. Given larger shifts among those who experienced a job loss in the household than among those who were otherwise economically impacted, shifts in preferences may be particularly pronounced in economies which experienced larger increases in unemployment. In turn, changes may be more muted in economies where furlough schemes were common.

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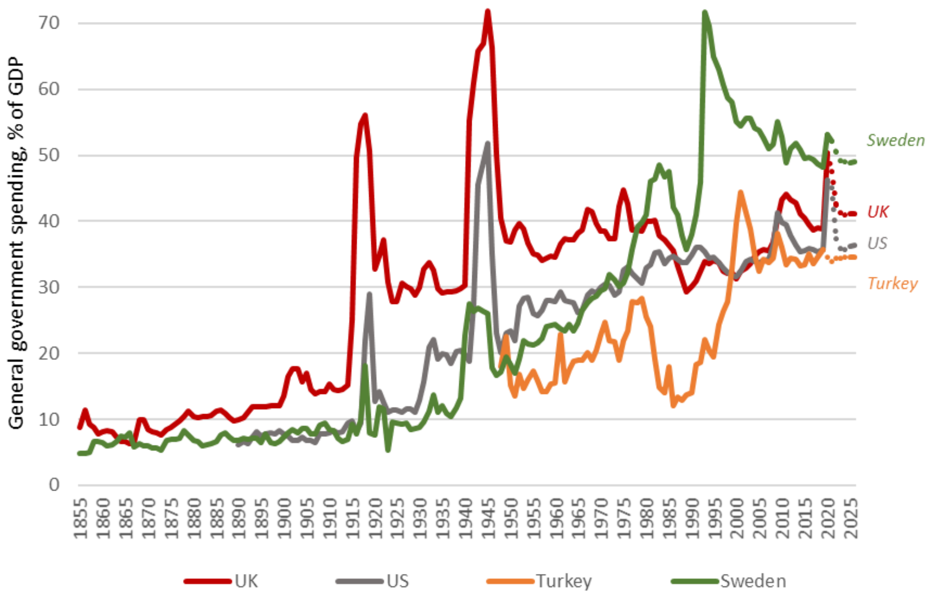
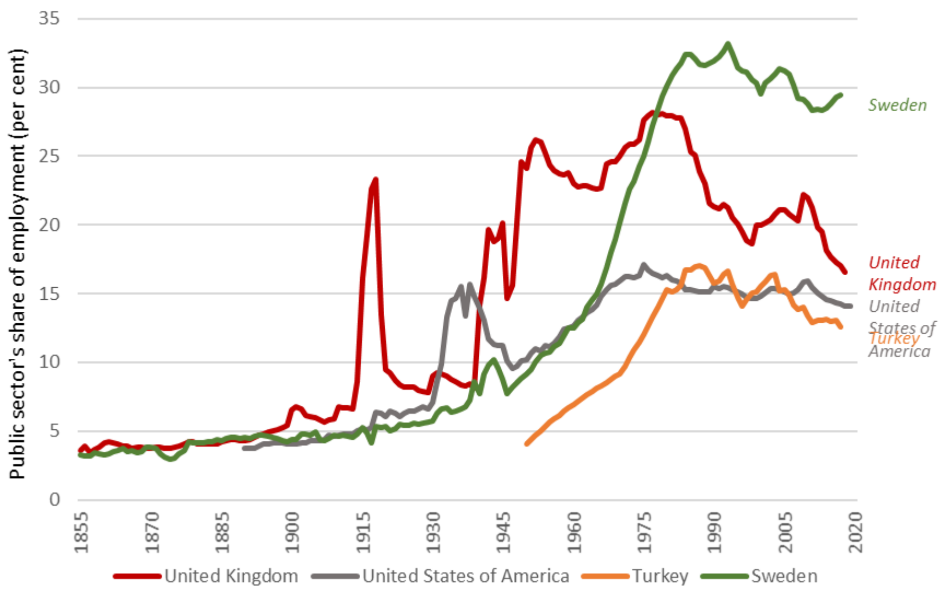
Figures and Tables

Figure 1: General government spending as a percentage of GDP



Sources: EBRD (2020).
Note: The ratio of general government spending to gross domestic product, selected economies.

Figure 2: Public-sector employment as a percentage of total employment



Source: EBRD (2020).
Note: Public-sector employment comprises government, social services and state-owned entities.

Figure 3: Economic effects of the Covid-19 crisis and global financial crisis

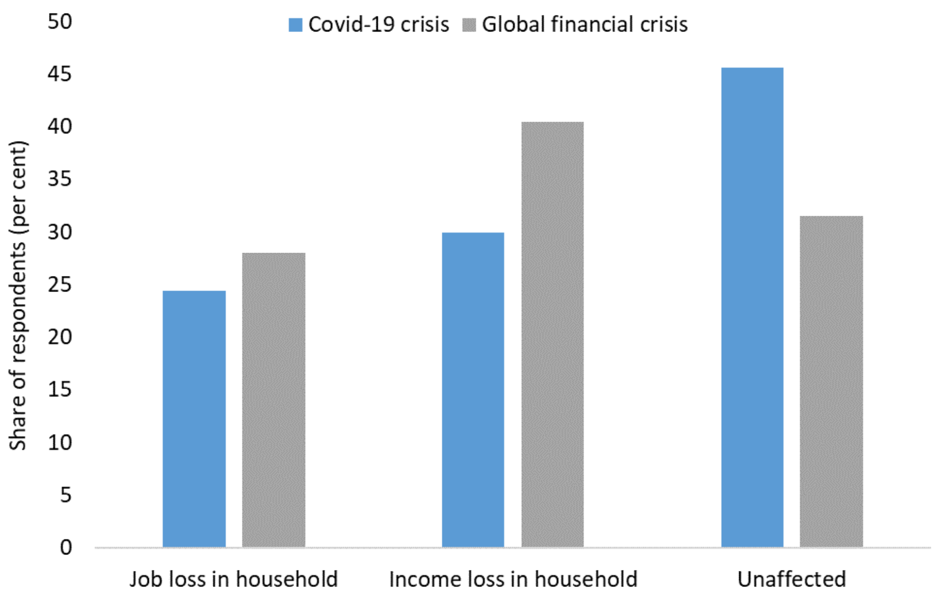
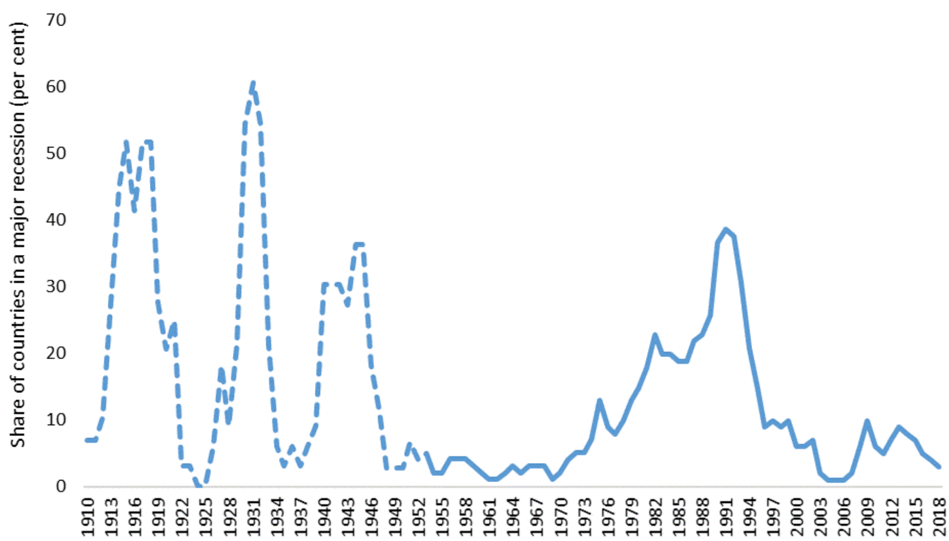


Figure 4: Share of countries in a major recession



Note: The dashed line refers to a sample of about 30 economies; the solid line to a sample of about 100 economies.

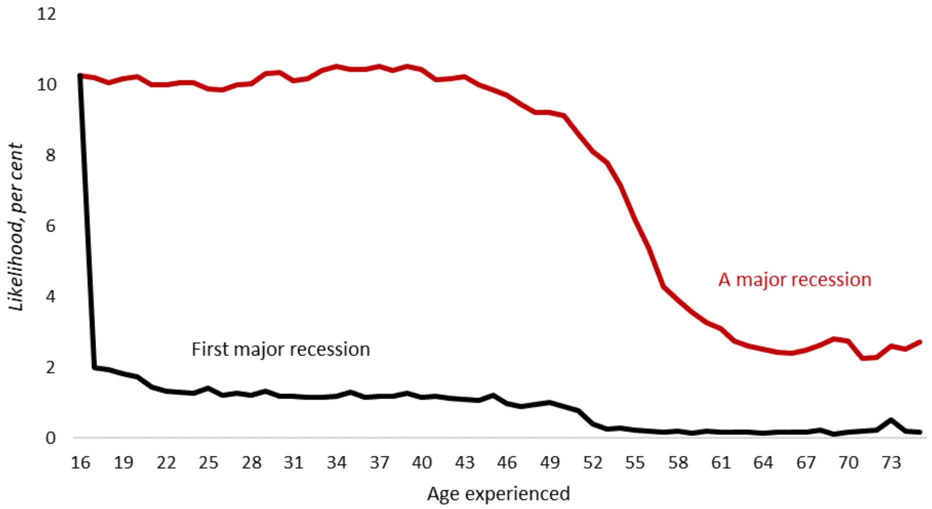
Table 1: Descriptive statistics

Variables	Mean	Median	St. dev.	Min	Max
World Values Surveys					
Support expansion of state ownership	5.46	5	2.82	1	10
Government should take more responsibility	6.07	6	2.98	1	10
Competition is harmful	3.75	3	2.57	1	10
Success is down to hard work vs luck	4.26	4	2.87	1	10
Political scale identification (right-left)	5.68	5	2.37	1	10
Redistribution essential feature of democracy	6.44	7	2.95	1	10
Experienced a major recession in adulthood	0.40	0	0.49	0	1
Assessed health (1 = very good)	2.14	2	0.86	1	5
Education: Secondary	0.57	1	0.50	0	1
Education: Tertiary	0.19	0	0.40	0	1
Male	0.49	0	0.50	0	1
Age	41.20	39	15.80	16	99
Income decile	4.82	5	2.31	1	10
Life in Transition Survey 2010					
Job loss in a household	0.277	0	0.448	0	1
Income shock (no job loss)	0.401	0	0.490	0	1
Age	45.886	45	17.381	16	99
Urban location	0.600	1	0.490	0	1
Market economy is preferable (0-2)	1.118	1	0.834	0	2
Gap rich-poor should be reduced (1-5)	3.995	4	1.000	1	5
Working poor deserve government support	0.538	1	0.499	0	1
Unemployed deserve government support	0.532	1	0.499	0	1
Support more government ownership (1-10)	5.435	5	2.892	1	10
Choose job security over pay/promotion	0.646	1	0.478	0	1
Competition is harmful (1-10)	3.753	3	2.513	1	10
Hard work key to success	0.467	0	0.499	0	1
Reason for being poor is injustice(0-2)	1.222	1	0.784	0	2
EBRD-ifo Survey 2020					
Job loss in a household	0.244	0	0.430	0	1
Income shock (no job loss)	0.311	0	0.463	0	1
Age	40.514	39	13.799	18	69
Urban location	0.827	1	0.378	0	1
Market economy is preferable (0-2)	0.862	1	0.804	0	2
Govt responsible for supplying jobs (0-2)	1.136	1	0.494	0	2

Source: World Values Surveys, Life in Transition Survey 2010, EBRD-ifo survey and authors' calculations.

Note: Descriptive statistics for the World Values Surveys are based on responses of individuals across 104 economies surveyed in 1990-2020.

Figure 5: Likelihood of experiencing a major recession at a given age



Sources: World Values Surveys and authors' calculations.
Note: A major recession is one with a cumulative decline in income per capita in excess of 10 percentage points over a number of consecutive years.

Table 2: Effects of personal experiences on attitudes during the Covid-19 crisis

Dependent variable	Market economy not preferable (0-1) (1)	Market economy not preferable (0-2) (2)	Public sector should provide jobs (0-1) (3)	Public sector should provide jobs (0-2) (4)
Job loss in the household	0.045***	0.070***	0.052***	0.041***
	(0.010)	(0.019)	(0.009)	(0.010)
Income loss	0.031***	0.040**	0.025***	0.017
	(0.010)	(0.016)	(0.007)	(0.010)
Male	0.025**	-0.059***	-0.002	-0.050***
	(0.010)	(0.015)	(0.011)	(0.015)
Urban	-0.005	0.004	-0.003	0.002
	(0.004)	(0.005)	(0.003)	(0.003)
Secondary education=2	0.030	0.017	-0.053***	-0.044**
	(0.017)	(0.036)	(0.015)	(0.018)
Tertiary education=3	0.046*	-0.028	-0.072***	-0.075***
	(0.025)	(0.048)	(0.018)	(0.022)
Unemployed	0.002	0.011	0.026*	0.015
	(0.012)	(0.022)	(0.014)	(0.018)
R^2	0.048	0.055	0.059	0.051
Observations	31733	31733	31733	31733

Source: EBRD-ifo survey 2020 and authors' calculations.

Note: Fixed effects regressions also controlling for pre-crisis income decile, age, labour market status (employed as base category), urban residence, gender, education, country of residence. For education, base category is primary or below. Country-clustered standard errors in parentheses. *** denotes values significant at the 10 percent level, ** at the 5 percent level, * at the 1 percent level.

Table 3: Effects of personal experiences on attitudes during the global financial crisis

Dependent variable	Market economy not preferable (0-2) (1)	Supports more govt ownership (1-10) (2)	Gap between rich and poor should be reduced (1-5) (3)	Working poor deserve govt support (0-1) (4)	Unemployed deserve govt support (0-1) (5)	Prefers a secure job (0-1) (6)
Job loss in the household	0.051**	0.179**	0.077**	0.041***	0.044***	0.041***
	(0.020)	(0.083)	(0.035)	(0.014)	(0.010)	(0.011)
Income loss	0.006	0.091	0.044	0.040***	0.008	0.028**
	(0.019)	(0.069)	(0.031)	(0.010)	(0.007)	(0.011)
R^2	0.050	0.074	0.052	0.060	0.116	0.083
Observations	20325	22569	22981	23730	23730	23739

Source: Life in Transition Survey 2010 and authors' calculations.

Note: Fixed effects regressions controlling for age, gender, location, education and employment status and country fixed effects. Country-clustered standard errors in parentheses. *** denotes values significant at the 10 percent level, ** at the 5 percent level, * at the 1 percent level.

Table 4: Effects of personal experiences on attitudes during the global financial crisis: Values underpinning the market economy

Dependent variable	Sees competition as harmful (1-10) (1)	Hard work not important (0-1) (2)	Believes poverty due to injustice (0-2) (3)
Job loss in the household	0.195***	0.031**	0.075***
	(0.055)	(0.012)	(0.016)
Income loss	0.028	0.013	0.028
	(0.046)	(0.011)	(0.019)
R^2	0.042	0.065	0.072
Observations	22919	22403	23739

Source: Life in Transition Survey 2010 and authors' calculations.

Note: Fixed effects regressions controlling for age, gender, location, education and employment status and country fixed effects. Country-clustered standard errors in parentheses. *** denotes values significant at the 10 percent level, ** at the 5 percent level, * at the 1 percent level.

Table 5: Major recessions and beliefs about the state

Dependent variable (1-10 scale)	Right-wing (as opposed to left-wing) views 1	Redistribution essential in democracy 2	Government to take more responsibility to ensure everyone is provided 3	Government ownership should be increased 4	Competition harmful 5	Hard work not important (1-10) 6
Major recession during adulthood	-0.119**	0.058	0.105*	0.103*	-0.060	-0.039
	(0.046)	(0.043)	(0.063)	(0.061)	(0.051)	(0.070)
Health good (base = very good)	-0.086***	-0.031	0.105***	0.054***	0.125***	0.146***
	(0.017)	(0.025)	(0.021)	(0.020)	(0.017)	(0.022)
Health assessed fair	-0.171***	0.002	0.245***	0.186***	0.238***	0.332***
	(0.022)	(0.036)	(0.031)	(0.028)	(0.027)	(0.029)
Health assessed poor	-0.300***	0.053	0.430***	0.316***	0.348***	0.461***
	(0.033)	(0.057)	(0.044)	(0.042)	(0.031)	(0.042)
Health assessed very poor	-0.204***	0.345***	0.525***	0.305***	0.445***	0.475***
R^2	0.068	0.097	0.110	0.092	0.068	0.074
Observations	291173	222293	362416	344374	337367	273857
Economies	99	91	104	104	103	95
Birth years	93	104	104	104	104	104
Survey years	33	14	28	28	28	24

Source: Authors' calculations.

Note: Standard errors in parentheses at clustered at the country level. ***, **, * denote statistical significance at the 1 percent, 5 percent and 10 percent levels, respectively. Estimated using ordinary least squares. All regressions control for gender, age, employment status, marital status, level of education, country-specific income decile, self-assessed health, survey wave, year of the survey, birth year and country fixed effects. A major recession is one with a cumulative decline in income per capita in excess of 10 percentage points over a number of consecutive years.

Table 6: Major recessions (first experience by age) and beliefs about the state

Dependent variable (1-10 scale)	Right-wing (as opposed to left-wing) views	Redistribution essential in democracy	Government to take more responsibility to ensure everyone is provided	Government ownership should be increased	Competition harmful	Hard work not important (1-10)
	1	2	3	4	5	6
First major recession aged 16-25	-0.072*	0.038	0.066	0.076	-0.050	-0.034
	(0.042)	(0.040)	(0.060)	(0.055)	(0.046)	(0.065)
First major recession aged 26-35	-0.154**	0.106*	0.156*	0.096	-0.103	-0.035
	(0.060)	(0.060)	(0.082)	(0.082)	(0.064)	(0.086)
First major recession aged 36-45	-0.365***	0.149**	0.330***	0.306***	-0.076	-0.087
	(0.085)	(0.071)	(0.098)	(0.101)	(0.072)	(0.090)
First major recession aged 46-55	-0.502***	0.223**	0.459***	0.540***	0.092	-0.093
	(0.119)	(0.110)	(0.143)	(0.134)	(0.095)	(0.095)
First major recession aged 56-65	-0.209	-0.093	0.073	0.274	-0.146	-0.237
	(0.193)	(0.139)	(0.335)	(0.169)	(0.201)	(0.194)
First major recession aged 66+	0.131	0.515*	0.088	-0.040	-0.384**	-0.274
	(0.131)	(0.262)	(0.411)	(0.187)	(0.175)	(0.278)
R^2	0.068	0.097	0.110	0.093	0.068	0.074
Observations	291173	222293	362416	344374	337367	273857
Economies	99	91	104	104	103	95
Birth years	93	104	104	104	104	104
Survey years	33	14 28	28	28	24	

Source: Authors' calculations.

Note: Standard errors in parentheses at clustered at the country level. ***, **, * denote statistical significance at the 1%, 5% and 10% levels, respectively. Estimated using ordinary least squares. All regressions control for gender, age, employment status, marital status, level of education, country-specific income decile, self-assessed health, survey wave, year of the survey and country fixed effects. A major recession is one with a cumulative decline in income per capita in excess of 10 percentage points over a number of consecutive years.

A Annex Tables

Table A1: Effects of personal experiences on attitudes during the Covid-19 crisis: Logits and ordered logits

Dependent variable	Market economy not preferable (0-1) (1)	Market economy not preferable (0-2) (2)	Public sector should provide jobs (0-1) (3)	Public sector should provide jobs (0-2) (4)
	Logit	Ordered logit	Logit	Ordered logit
Job loss in the household	1.216***	1.185***	1.382***	1.225***
	(0.057)	(0.053)	(0.059)	(0.055)
Income loss	1.147***	1.101**	1.189***	1.094**
	(0.053)	(0.043)	(0.046)	(0.049)
$Pseudo R^2$	0.04	0.03	0.06	0.04
Observations	31733	31733	31733	31733

Source: Authors' calculations.

Note: Standard errors in parentheses, clustered at the country level. ***, **, * denote statistical significance at the 1%, 5% and 10% levels, respectively. Estimated using logit or ordered logit, odds ratios shown. All regressions control for age, gender, urban residence, education, pre-crisis employment status, pre-crisis income decile and country fixed effects.

Table A2: Effects of personal experiences on attitudes during the global financial crisis: Logits and ordered logits

Dependent variable	Market economy not preferable (0-1) (1)	Market economy not preferable (0-2) (2)	Supports more govt ownership (1-10) (3)	Gap rich-poor should be reduced (1-5) (4)	Working poor deserve govt support (0-1) (5)	Unemployed deserve govt support (0-1) (6)	Prefers a secure job (0-1) (7)
	Logit	Ordered logit	Ordered logit	Ordered logit	Logit	Logit	Logit
Job loss in the household	1.111**	1.119**	1.110**	1.193***	1.191***	1.216***	1.221***
	(0.056)	(0.050)	(0.058)	(0.073)	(0.071)	(0.055)	(0.065)
Income shock, no job loss	1.044	1.011	1.060	1.110*	1.187***	1.037	1.147***
	(0.051)	(0.045)	(0.044)	(0.063)	(0.050)	(0.031)	(0.061)
Pseudo R^2	0.03	0.02	0.02	0.02	0.05	0.09	0.07
Observations	20325	20325	22569	22981	23730	23730	23739

Source: Authors' calculations.

Note: Standard errors in parentheses, clustered at the country level. ***, **, * denote statistical significance at the 1%, 5% and 10% levels, respectively. Estimated using logit / ordered logit, odds ratios shown. All regressions control for age, gender, location, education, employment status and country fixed effects.

Table A3: Effects of personal experiences during the global financial crisis on values underpinning the market economy: Logits and ordered logits

Dependent variable	Sees competition as harmful (1-10) (1) Ordered logit	Hard work not important (0-1) (2) Logit	Believes poverty due to injustice (0-2) (3) Ordered logit
Job loss in the household	1.144***	1.147***	1.205***
	(0.054)	(0.060)	(0.049)
Income loss	1.026	1.060	1.066
	(0.039)	(0.050)	(0.050)
Pseudo R^2	0.01	0.05	0.04
Observations	22919	22403	23739

Source: Authors' calculations.

Note: Standard errors in parentheses, clustered at the country level. ***, **, * denote statistical significance at the 1%, 5% and 10% levels, respectively. Estimated using logit / ordered logit, odds ratios shown. All regressions control for age, gender, location, education, employment status and country fixed effects.

Table A4: Major recessions and beliefs about the state: Ordered logit

Dependent variable (1-10 scale)	Right-wing (as opposed to left-wing) views	Redistribution essential in democracy	Government to take more responsibility to ensure everyone is provided	Government ownership should be increased	Competition harmful	Hard work not important (1-10)
	1	2	3	4	5	6
Major recession during adulthood	0.905***	1.034	1.058	1.075*	0.969	0.979
	(0.034)	(0.030)	(0.044)	(0.044)	(0.038)	(0.045)
Observations	291173	222295	362416	344374	337367	273857
Economies	99	91	104	104	103	95
Birth years	93	104	104	104	104	104
Survey years	33	14	28	28	28	24

Source: Authors' calculations.

Note: Standard errors in parentheses at clustered at the country level. ***, **, * denote statistical significance at the 1%, 5% and 10% levels, respectively. Estimated using ordered logit. All regressions control for gender, age, employment status, marital status, level of education, country-specific income decile, self-assessed health, survey wave, year of the survey, birth year and country fixed effects. A major recession is one with a cumulative decline in income per capita in excess of 10 percentage points over a number of consecutive years.