Bergische Universität Wuppertal

Doctoral Thesis

Evidence on How Institutions Affect Individual Behavior and Economic Outcomes

A revision of the thesis submitted to
the Schumpeter School of Business and Economics
of the University of Wuppertal

in partial fulfillment
of the requirements for the degree
doctor rerum oeconomicarum
(Doktor der Wirtschaftswissenschaften)

by Max Deter

Originally submitted: Wuppertal, August 31, 2020
Revised version submitted: Berlin, June 23, 2021

The PhD thesis can be quoted as follows:

urn:nbn:de:hbz:468-20220308-105848-5
[http://nbn-resolving.de/urn/resolver.pl?urn=urn%3Anbn%3Ade%3Ahbz%3A468-20220308-105848-5]

DOI: 10.25926/xmc3-w587
[https://doi.org/10.25926/xmc3-w587]

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Acknowledgements

Here, I would like to thank all who supported and accompanied me in developing this dissertation as well as during my whole doctorate.
First, a special thanks to Prof. Ronald Schettkat who was within the last three years of the doctorate a helpful supervisor who provided independence and supported me in every scientific aspect. Then, I would like to thank the participants of the doctoral seminars at the Chair of Prof. Schettkat, Prof. Welfens, Prof. Pigorsch and the Brown Bag Seminar Wuppertal. Last but not least, I would like to thank Marie-Christine Franz and Hans-Christian Deter for helpful comments and support.

This thesis consists of an introduction and three papers that reflect chapter 2, 3 and 4. The first paper "Hartz and Minds - Happiness Effects of Reforming an Employment Agency" is published in a similar version at the *Journal of Happiness Studies*. It was presented at: IAREP/SABE Conference Dublin, Brown Bag Seminar Wuppertal, as well as Doctoral Seminars at the Chair of Prof. Schettkat, Prof. Welfens, and Prof. Pigorsch (all University of Wuppertal).

The second paper "Are the losers of communism the winners of capitalism? Conformism in the GDR and transition success" is published in a similar version as a SOEPpaper (No. 1102). It was presented at: SABE Annual Conference 2020, Economic History Society Annual Conference 2021, Berlin Network of Labor Market Research (BeNA) Summer Workshop 2021, Doctoral Seminars at the Chair of Prof. Schettkat, Prof. Welfens, Prof. Pigorsch (all University of Wuppertal).

The third paper "Saints and Sinners - Business Culture in the Financial Sector" is published in a similar shorter version as a SOEPpaper (No. 1075). It was presented at Royal Economic Society Annual Conference 2021, SOEP Brown Bag Seminar (DIW Berlin) 2020, KVS Leiden New Paper Sessions 2020, Brown Bag Seminar Wuppertal, Doctoral Seminars at the Chair of Prof. Schettkat, Prof. Welfens (all University of Wuppertal).

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1 INTRODUCTION

The following dissertation with the title *Evidence on How Institutions Affect Individual Behavior and Economic Outcomes* consists of a collection of three empirical papers. The papers connect the analysis of findings of behavioral economics with panel data methods. In this chapter, I will first explain the theoretical foundations of my papers, and then continue with the conclusion of these papers.

To study human behavior, researchers have the possibility to observe individuals by interviews, surveys, experiments, and the observation of (market) behavior. These areas of research involve the disciplines of psychology, sociology, economics, anthropology, and political science (Van Praag et al., 2004).

In economics, the neoclassical theory is the dominant theory to explain human behavior. In neoclassical economics, the theoretical foundation of human behavior is the utility maximization model, also called the standard economic theory. The term utility was initially introduced as a measure of pleasure or happiness within the theory of utilitarianism by moral philosophers such as Jeremy Bentham and John Stuart Mill (Bentham, 1789). However, the term has been adapted within neoclassical economics, which dominates modern economic theory, as a utility function that represents a consumer's preference ordering over a choice set. Utility, thus, became a more abstract concept, that is not necessarily solely based on happiness, but can refer to income, for example, as well. In neoclassical theory, a human is characterized as a *Homo Oeconomicus* in the sense of an individual maximizing his or her utility with the lowest use of means possible. Neoclassical economics assumes "selfish, independent and socially isolated individuals who maximize their utility derived from goods along well-ordered and stable preferences using all available information (rational choices), subject to budget constraints. The interaction among individuals is limited to market exchange, i. e. choices made by other individuals leave their preferences unaffected" (Schettkat, 2020, p.2). Such a theoretical construct can be applied to almost every economic (and non-economic)

individual act (Richter, 2013).

The standard economic theory has an "objectivist" position, thus, utility can only be derived from observing choices. This approach is influenced by the positivistic movement in philosophy, stating that scientific results should be based only on "positive", thus, actual, sensual perceivable and verifiable findings. Behavior (revealed preferences) can therefore explain the choices individuals make, and from choices one can infer individual's utility. The standard economic theory was occupied with finding the utility values from observing choices that individuals make.

However, complementary to assuming selfish utility maximization, in recent years, non-objectivist theoretical analysis included emotions, self-esteem, meaning, and status as a measure for utility to explain human behavior (Elster, 1998; Loewenstein, 1999; Frank, 1985). Empirical examples of anomalies in human decision making, moreover, gave reason to question whether utility can actually be derived from choices. If individuals act often irrational, it can be misleading to state that an individual has a lower/higher utility because he or she preferred a certain situation over the other. "A large literature from behavioral economics and psychology finds that people often make inconsistent choices, fail to learn from experience, exhibit reluctance to trade, base their own satisfaction on how their situation compares to others and depart from the standard model of the rational economic agent in other ways. If people display bounded rationality when it comes to maximizing utility, then their choices do not necessarily reflect their 'true' preferences, and an exclusive reliance on choices to infer what people desire loses some of its appeal" (Kahneman & Krueger, 2006, p.3).

A complementary approach to measure utility next to observing individual choices can be the economics of happiness. Within this field of study, researchers ask people about their current utility, in this case their life satisfaction. This approach can be a useful complementary measure of utility if people are willing *and able* to state their individual utility/satisfaction levels. Life satisfaction questions, such as "All in all, how satisfied are with your life on a scale of 0 to 10, where 0 means 'completely dissatisfied' and 10 'completely satisfied'?" can

be used as an approximation for individual utility. As happiness is generally considered an ultimate goal of life, economics is about happiness and utility, in particular, how do economic growth, unemployment, inflation, or institutional factors affect individual well-being. It captures well-being directly, in comparison to, for example, income, and is therefore a basis for testing the fundamental assumptions and propositions in economic theory (Frey & Stutzer, 2002). The subjective view of utility incorporates the fact that individuals have different ideas about happiness and a satisfying life. Self-reported life satisfaction, as a cognitive assessment of the overall quality of life can be taken as a reasonable proxy for utility.

Similarly to observing choices, also self-reported happiness is not an unproblematic measure for utility. It "needs to be checked whether people are indeed capable and willing to give meaningful answers to questions about their well-being" (Frey & Stutzer, 2002, p.406). Daily moods, for example, or current situations can bias happiness answers (Schwarz & Strack, 1999). However, happiness statements contain a significant true signal about a person's overall satisfaction with life, and are correlated with a person's happiness indicated by friends and relatives, the number of smiles per day, and physiological measure of well-being, such as heart rate, blood pressure, and changes in brain electrical activity (Davidson et al., 2000). Higher life satisfaction is also associated with better health (Veenhoven, 2008). In econometric specifications, measurement errors in happiness questions are problematic, if they are systematic (non-random), and correlate with both the explanatory factors (for example education) and the dependent factor (life satisfaction). For an overview of happiness correlations with observable measures, see Kahneman (2006).

Happiness economics is extensively applied in empirical analyses in economics and psychology, for example by Kahneman (2006), Alesina, Di Tella, & MacCulloch (2004), Clark (2003), Dolan, Peasgood, & White (2008), Ferrer-i-Carbonell & Frijters (2004), and Layard (2011). The well-known Easterlin Paradoxon, for example, showed that a higher income predicts happiness at one point in time both among and within nations, but over time happiness does not increase when income continues to grow (Easterlin, 1974). This can be

explained by the relative income hypothesis, thus, when having 'enough' income, relative income to a reference group (coworkers, neighbors, partner) becomes much more important than absolute income (Ferrer-i-Carbonell, 2005). However, relative income is a zero sum game, where individual happiness cannot be increased. Empirical results that show a weak correlation between life satisfaction and happiness also questions the neoclassical approach of replacing happiness with income as a measure for utility. Other studies found that a move from the lowest to the highest income quartile would not be enough to compensate the effect of unemployment, suggesting that unemployed persons suffer high non-financial effects (Hetschko, Knabe, & Schöb, 2014). In the neoclassical model, unemployment, for example, is seen as a choice of rational behavior. Individuals maximize their utility by leaving their job, because income can not overcome the 'pain' of working compared to the utility enhancing leisure time in unemployment. Following this scenario, happiness depends merely on income and leisure, switching from employment to unemployment would, thus, induce only pecuniary negative effects on happiness. Empirical studies using happiness measures as a proxy for utility, however, found that the negative happiness effect is more explained by non-pecuniary than pecuniary effects, such as a lower self-esteem, because individuals deviate from the socially desirable state of working (Clark, 2003; Layard, 2011).

The economics of happiness can also be used to shed new light of measuring social welfare effects of a policy change. Traditionally, economists have looked at how reforms change economic behavior and derived assumed social welfare effects from it. The disadvantage is that theories are often not confirmed by empirical results. Different model can map the same behavior to different impacts, and it is therefore difficult to draw conclusions about policies (Gruber & Mullainathan, 2005). For example, the taxation of cigarettes empirically increases prices and reduce smoking. But what about utility/satisfaction? The neoclassical rational addiction model (based on the *homo oeconomicus*) predicts that utility is lowered for smokers, because they rationally trade off the long-term costs of smoking against the immediate utility of smoking today. Smokers therefore experience, as a reaction of price

increases, reduced utility (Becker & Murphy, 1988). A behavioral economics approach, on the other hand, assumes that decisions are not made optimally, and smokers have problems with their self-control, as they like to quit smoking but are unable to do so. Therefore, cigarette taxes reduce smoking, and might ultimately increase the utility of smokers (Gruber & Köszegi, 2001). Thus, even if both theories observe the same behavioral change, that is, cigarette taxes reduce smoking, they might have different policy implications. One way to overcome this problem is to measure utility *directly* by using self-reported happiness data as a welfare measure. A study by Gruber & Mullainathan (2005) shows that cigarette taxes increase life satisfaction of *potential* smokers. The authors therefore state that measuring life satisfaction/utility directly might be a more accurate measure of utility than income, a measure that only correlates weakly with life satisfaction (Ferrer-i-Carbonell, 2005). In the first paper and second paper, I follow this approach and look at happiness effects of the Hartz reforms, a substantial labor market reform in Germany to bring unemployment down. In chapter 3, I analyze (among others) the happiness effects of the system change from socialism to capitalism in Germany.

Additionally to assuming that utility can be derived from choices, the standard economic theory assumes that preferences are fixed over time and therefore consistent. Stigler & Becker (1977), for example, proposed that individual behavior can and should be explained by changes in prices and incentives, but not preferences. According to the authors individuals maximize their utility based on fixed preferences and constraints. The assumption of fixed preferences, however, is in sharp contrast to ethics and philosophers that focus on the development of individual virtue over time. Also empirical behavioral economics studies find that preferences are context dependent (Thaler & Ganser, 2015). Over given outcomes, preferences vary according to a "reference point" (status quo) in relation to which outcomes are perceived (Thaler, 1980; Tversky & Kahneman, 1991). One example is the disparity between a consumers' willingness-to-pay and her willingness-to-accept an offer. This shows that preferences of one individual over the same good are not stable, and depends on whether

the individual possesses the good or not. Another example where revealed preferences are context dependent is hyperbolic discounting, thus, that preferences over rewards are not time consistent. Time consistency would mean that one can attach a (for example exponential) function to an individual's discount rate. According to hyperbolic discounting, however, valuations fall relatively rapidly for earlier delay periods (for example from now to one week later), but then fall more slowly (Frederick, Loewenstein, & O'donoghue, 2002). Preferences over rewards (for example income) are, thus, often time-inconsistent. Further examples where preferences are unstable are loss aversion, present bias, and inattention (Thaler & Ganser, 2015; Camerer & Hogarth, 1999).

The stability of preferences is ultimately an empirical question. Empirical studies show, however, that individuals become more risk-averse in response to economic shocks. For example, so-called "depression babies", individuals born during an economic depression, take less financial risks later in life (Malmendier & Nagel, 2011). Also political regimes can influence preferences: Communism in Germany increased the average preference for state redistribution (Alesina & Fuchs-Schündeln, 2007). Ashraf & Bandiera (2017) showed that perceived returns to altruistic acts of bankers are lowest in countries where the financial crisis hit the hardest, thus, altruistic preferences can be shaped by the economic and cultural environment. In a recent analysis Schildberg-Hörisch (2018) showed that individual risk preferences are persistent and moderately stable over time, but that the degree of stability is too low for the perfect stability assumption in the neoclassic economic theory.

The evidence that preferences can change over time and depend on the situation questions to some extent the economic analytic foundation for evaluating the welfare impact of policies (Schildberg-Hörisch, 2018). For example, if the financial crisis increased risk aversion in the population, implementing a new policy based on the fixed preferences assumption might be misleading and go in an unintended direction. If preferences are not fixed, alternative policy options and welfare analyses are necessary. Policymakers could make use of the malleability of preferences to promote desirable behavior changes.

In chapter 4, I deal with risk and prosocial preferences of financial professionals. If preferences were fixed over time, the only way organizations could change average preferences of their individuals would be by attracting individuals with different preferences. Sets of preferences can be important in certain contexts. Banks, for example, might prefer individuals with lower risk preferences in order to avoid future scandals. If preferences are not fixed, banks could also change their business culture and monetary incentives, so that bankers might *become* less risk-loving. Psychologists explain that individuals shape their preferences through a specialization in their profession, a learning process, or work per se (Kohn & Schooler, 1983; Lempert, 2006). For example, Cohn, Fehr, & Maréchal (2014) showed that bankers behave more dishonest in a coin tossing experiment only when their professional identity as banker is rendered salient.

In the next chapter, the study "Hartz and Minds - Happiness Effects of Reforming an Employment Agency" is presented, followed by two chapters about the above discussed studies.

2 HARTZ AND MINDS - HAPPINESS EFFECTS OF REFORMING AN EMPLOYMENT AGENCY

Abstract. Since the labor market reforms around 2005, known as the Hartz reforms, Germany has experienced declining unemployment rates. However, little is known about the reforms' effect on individual life satisfaction of unemployed workers. This study applies difference-in-difference estimations and finds a decrease in life satisfaction after the reforms that is more pronounced for male unemployed persons in west Germany. The effect is driven by income and income satisfaction, but not by the unemployment rate. Also unemployed persons who exogenously lost their jobs are affected by the reforms. In line with the structure of the reforms, the effect is stronger on long-term and involuntarily unemployed persons.

Keywords: Unemployment, Hartz reforms, happiness, SOEP

JEL Codes: E24, I31, J64

2.1 Introduction

Between January 2003 and January 2005, the German government under Gerhard Schröder, a coalition of Social Democrats and the Green Party, implemented a number of labor market reforms, known as the Hartz reforms. Following a decade of rising unemployment rates after reunification, Germany was pressured to bring unemployment down. The reforms increased labor market flexibility (Hartz I-III), and reduced the level and duration of long-term unemployment entitlements (Hartz IV). Additionally, long-term unemployment income was made conditional on job search behavior, with increased possibilities of income sanctions.

Germany experienced in the following years a steadily declining unemployment rate. This development was favored by the Hartz reforms through increased job search and concessions of unemployed workers regarding employment conditions and wages, lower wages for displaced workers after they return to work, improved matching efficiency, and decreased duration in unemployment (Hochmuth et al., 2019; Woodcock, 2018; Hertweck & Sigrist, 2012; Krause & Uhlig, 2012). Nevertheless, Hartz IV remains one of the most controversial topics in the national debate (Die Zeit, 2018). The reform is criticized mainly for the (arguably) low income for unemployed workers with a large employment history, strong sanction possibilities, and unfavorable conditions to earn additional income in unemployment (Wirtschaftsdienst, 2019). Reform proposals regarding Hartz IV exists from almost all German parliamentary parties, among those that introduced the law (Süddeutsche Zeitung, 2019). Internationally, the Hartz reforms are seen as a role model to liberalize the labor market in order to reduce unemployment rates (The Economist, 2018).

Despite the scope of the Hartz reforms and their relative importance in the scientific world, relatively little is known about the reforms' effect on life satisfaction of unemployed workers (the terms life satisfaction and happiness are used here synonymously; Happiness is defined as the subjective satisfaction with one's life). This is somewhat surprising because life satisfaction influences individual actions substantially and has been broadly analyzed in

economic and psychological research (Oswald, 1997; Alesina, Di Tella, & MacCulloch, 2004; Dolan, Peasgood, & White, 2008; Diener, Lucas, & Scollon, 2006). Therefore, it is necessary to answer the question whether the reforms made unemployed individuals unhappier. Low happiness levels are strongly associated with poor (mental) health (Headey, Kelley, & Wearing, 1993; Veenhoven, 2008). Moreover, while lower individual happiness causes the unemployed to look more intensively for a new job, unhappier unemployed are not more likely to find one (Gielen & Van Ours, 2014). Instead, happiness and job finding seem to have an inverted u-shaped relationship, with very happy and very unhappy unemployed persons being the least likely to find a job (Grant & Schwartz, 2011).

The current paper adds to the literature on the Hartz reforms the component of happiness. In the analysis, I use data from the German Socio-Economic Panel (GSOEP) and find a decrease in life satisfaction after the reforms that is more pronounced for male unemployed in west Germany. Changes in (satisfaction with) household income can partly explain this effect. Also unemployed persons who exogenously lost their jobs are affected by the reforms. In line with the structure of the reforms, the effect is stronger on long-term and involuntarily unemployed workers.

The paper is set up as follows. Section 2 discusses the Hartz reforms and their expected effect on life satisfaction. Section 3 analyzes the data and presents the methodology. Section 4 shows the results and robustness checks. Finally, Section 5 concludes.

2.2 Happiness and the Hartz Reforms

2.2.1 What Does Happiness measure?

There exists a large body of literature on how life events have an impact on happiness, such as a divorce (negative), an exogenous increase in income, for example, by winning the lottery (positive), or unemployment (negative) (Diener, Lucas, & Scollon, 2006; Gardner & Oswald, 2007; Clark, 2003). The literature on the effect of an external event or political

change on happiness is relatively scarce. An example is Berger (2010), who finds with GSOEP data that the nuclear catastrophe in Chernobyl in 1986 had a negative effect on environmental concerns in Germany, but only a minimal negative effect on life satisfaction, indicating a relative stability of life satisfaction. Gruber & Mullainathan (2005) use policy variation in U.S. states to show that higher cigarette taxes have a positive happiness effect on individuals that are predicted to be smokers, stating that happiness might be a more suitable proxy for utility than income. Using a difference-in-difference approach (DiD) with GSOEP data, Collischon, Eberl, & Jahn (2018) find a positive happiness effect of the abolition of compulsory military service on young males' happiness in Germany, compared to females the same age.

There is not much known about the happiness effect of the Hartz reforms. This is surprising because life satisfaction influences individual actions substantially and has been broadly analyzed in economic, psychological, and sociological research. Self-reported happiness recognizes the fact that "everybody has their own ideas about happiness and a good life" and "people are reckoned to be the best judges of the overall quality of their life, and it is a straightforward strategy to ask them about their well-being" (Frey & Stutzer, 2002, p.405). The authors explain that behind a person's happiness score lies a cognitive assessment of their circumstances compared to other individuals, future expectations, and past experiences. Although happiness statements can be biased, for example by daily moods, they contain a significant true signal about a person's overall satisfaction with life (Schwarz & Strack, 1999).

Self-reported happiness is highly correlated with a person's happiness indicated by friends and relatives, the number of smiles per day, and even physiological measures of well-being, such as heart rate and blood pressure (for an overview, see Kahneman, 2006). Thus, life satisfaction is also associated with better health (Veenhoven, 2008). Therefore, it is desirable to learn more about the happiness effect of such drastic reforms as the Hartz reforms in Germany and I address this topic in my empirical analysis. The changes in the institutional

setting of the unemployment scheme in Germany between 2003 and 2005 offer an opportunity for this analysis, with the abolition of the old unemployment scheme resembling the conditions of a natural experiment.

2.2.2 Institutional Background

The focus of the Hartz reforms (2003-05) was to reduce unemployment by strengthening the supply side of labor. In reducing the level and duration of unemployment entitlements, the government aimed to increase incentives for unemployed individuals to search for and accept jobs. In the first steps (Hartz I-III), the Federal Employment Agency (*Bundesagentur für Arbeit*) was reformed by enhancing tools for training and job search. Additionally, temporary work and low-income jobs (*Mini Jobs*) were deregulated (for an overview, see Eichhorst & Marx, 2011). The final step, Hartz IV, was the key of the reforms. It substantially changed conditions for the unemployed and remains one of the most controversial political topics in Germany.

The reforms followed a discussion on whether the unemployed put enough effort into gaining employment and whether they are willing to make concessions regarding wages and work conditions. Although unemployed workers receiving social assistance accepted almost every job, persons receiving unemployment assistance could refuse offers of employment if the net income was less than their benefits. The skeptical view on unemployed persons was expressed by then-Chancellor Schröder who stated that "there should be no right to be lazy" (Manager Magazin, 2001). In fall of 2004, 21 percent of unemployed persons had already been without employment longer than two years, and the rate was increasing (Kettner & Rebien, 2007). Politicians were concerned that increasing long-term unemployment was accompanied by a depreciation of knowledge and skill, self-esteem, and, in general, decreasing chances of reemployment. Thus, the incentives to search for employment were enhanced in the reforms.

Before Hartz IV, the German unemployment system provided long-term unemployed persons, who had a sufficient work history, with relatively generous income support compared

to other OECD (Organisation for Economic Co-operation and Development) countries. The framework for unemployment entitlements consisted of three tiers, unemployment insurance (*Arbeitslosengeld*), unemployment assistance (*Arbeitslosenhilfe*), and supplementary social assistance (*Sozialhilfe*). Unemployment insurance was, and still is, paid half by employees and half by employers (tax on labor). Benefits were typically 60-70 percent of previous net-earnings and were paid up to 12 months, but could be paid up to 36 months for unemployed persons older than 45 years, depending on their work history. Unemployment assistance, a special feature in Germany, but removed in the reforms, were slightly lower state payments (about 55 percent of previous net earnings), but with basically no limit on duration. The unemployed who were not eligible for unemployment insurance or unemployment assistance, because they were nonemployable or had an insufficient employment history, received means-tested and indefinite social assistance, a less generous tax-paid lump sum (Woodcock, 2018; Krause & Uhlig, 2012).

The new Hartz IV law left unemployment insurance (now *Arbeitslosengeld I, or ALG I*) largely unchanged. The maximum duration of 12 months remained after the reforms for individuals under 45 years, but was reduced to 18 months for workers over 58 years (15 months for people over 50, 18 months for those over 55), compared to 36 months before (a few years later, the duration was increased again to 24 months for workers over 58). Unemployment assistance and social assistance were merged into "Unemployment Income II" (*Arbeitslosengeld II, or ALG II*), a means-tested payment at the household level for the basic supply of those able to work and their family members, and much closer to the old social assistance. Additionally to overall fewer payments (compared to unemployment assistance), the introduction of ALG II was accompanied by an increased pressure to accept jobs and to cooperate with local job centers that supervised unemployed workers more closely. Sanctions could afterwards mean a benefit cut of up to 100 percent (except housing and heating), when the person repeatedly refuses a job offer or job measure. Persons under 25 years may be subject to a complete cut in benefits after only the first breach of duty (Abraham, Rottmann,

& Stephan, 2018).

The effects of the Hartz reforms are studied extensively in the economic literature, but results concerning the impact on employment are mixed. Hertweck & Sigrist (2012) show that the Hartz reforms increased the matching efficiency, thus, the job finding rate, by 20%. Hochmuth et al. (2019) find that Hartz IV was a major driver for the decline of Germany's unemployment, especially the individual unemployment duration. Kettner & Rebien (2007) use a representative survey to show that Hartz IV supported the growth in employment. Hertweck & Sigrist (2012) find a large reduction in unemployment and its duration, with the transition concluding after about three years.

Mixed results find Bradley & Kügler (2019). Using matched data on workers and firms they show that, although the reforms shortened the typical duration of unemployment, they did not reduce unemployment as a whole and led to a decline in wages. More critical is also Rothe & Wälde (2017). While most theoretical and empirical analysis assume that workers leave unemployment into full employment, they analyze labor market flows and show that direct flows between unemployment and full employment contributed for less than 9 percent to the decline in unemployment, while 37 percent of unemployed workers ended up in non-standard work.

Concerning wages, Arent & Nagl (2011) use administrative data and find strong evidence that lower unemployment benefits had an adverse effect on (reservation) wages. With the same data, Woodcock (2018) find that the Hartz reforms substantially reduced the wages of displaced workers after their return to work. Goebel & Richter (2007) show that unemployed persons experienced strong income losses from the reforms.

2.2.3 The Hartz Reforms and Happiness

As described above, the direct reform effect on income of the unemployed was mostly negative, although not for all. Older recipients of unemployment insurance lost their claim sooner but all recipients of unemployment insurance slide after the initial period directly into the

much lower minimum income support (ALG II). Former recipients of unemployment assistance received ALG II after the reforms and thereby experienced an average income drop of 25 percent (Die Zeit, 2004). Housing benefits in ALG II were after the reforms more generous, from which unemployed in the west, where housing costs are higher, benefited. The stronger means test after the reforms takes into account the labor income of the partner, and in east Germany, female labor force participation is still higher than in the West, leading to an additional negative effect for unemployed individuals in east Germany. However, (Goebel & Richter, 2007) showed that, although *more* unemployed persons in east Germany lost from the reforms the average income drop is *stronger* in West Germany. This is due to a previously higher income in unemployment insurance and unemployment assistance. Additionally, financial wealth is higher in west Germany, and is accounted for in the new system. For an overview of income effects, see Goebel & Richter (2007).

Income has a positive effect on happiness, but with diminishing returns to income (for an overview, see Clark, Frijters, & Shields, 2008). Thus, low-income individuals, such as unemployed workers, might lose more from the same income drop compared to richer individuals. Relative (or comparison) income plays a substantial role as well (for an overview, see Ferrer-i-Carbonell, 2005), that is, the income relative to either a reference group (friends, colleges, neighborhood) or past income. Unemployed persons with a large drop in income are expected to be especially adversely affected from the reforms, also because of their relatively lower income compared to the past and compared to their former reference group. Moreover an income drop at this level (ALG II was 345 Euro in 2005 for a single person excluding housing and heating, Statista, 2020) is associated with a situation in which an individual is less able to meet his or her financial obligations, societal expectations, and social standards. Consequently, an unemployed person may feel humiliated, degraded, or ashamed, which lowers life satisfaction (Layard, 2011).

(Older) long-term unemployed workers with a rich employment history might not only be affected by a lower income under ALG II, but also by a lower social status, since they have the

same status and duties after the reforms as those who never worked. This would negatively influence happiness (Eggs, 2013). Individuals in ALG II have to deal with increased stigmatization, compared to those receiving unemployment insurance (Zick, Küpper, & Berghan, 2019). Women usually suffer less from unemployment than men, due to a weaker work norm and the need to care for children (Clark, 2003). Since the Hartz reforms had potentially an adverse effect on the social norm, men might have been more strongly affected.

A higher pressure to search for work and accept jobs occurred after the reforms (Kettner & Rebien, 2007). This is expected to have a negative effect on happiness, since involuntary unemployment, measured by job search and job acceptance behavior, is associated with a lower life satisfaction compared to those voluntarily in unemployment, since the involuntarily unemployed are dissatisfied with their current situation (Chadi, 2010). Income sanctions increase the willingness to work and the integration into the labor market, but can increase stress levels (Thomsen, Walter, & Boockmann, 2009). The threat of sanctions and the duty to accept jobs might lower the feeling of having control over one's life, an important determinant of life satisfaction (Warr, 1987).

However, a large number of unemployed workers experienced no substantial income changes. Positive effects on life satisfaction might result for unemployed persons who experienced increases in income through the means test at the household level and higher housing support. Moreover, generally better employment opportunities through the labor market liberalization and lower unemployment rates might increase life satisfaction, for example through a lower duration in unemployment (Lucas et al., 2004). However, Clark (2003) finds that happiness is lower when there is less unemployment locally, increasing the work norm, and thus reducing confidence for unemployed workers.

Given the state of literature and theoretical considerations, I derive the following hypotheses:

H1: The Hartz reforms lowered life satisfaction of unemployed workers.

H2: This effect is driven by variations in income and satisfaction with income, but non-economic effects play a role as well.

H3: Long-term unemployed persons with a relatively high employment experience suffered more from the reforms than the average unemployed worker.

2.3 Data and Methodology

2.3.1 Sample and Measures

In the empirical analysis, I use unbalanced panel data from the German Socio-Economic Panel (GSOEP), an annual panel survey, as representative of the resident German population (Goebel et al., 2019a). In 2006, there were nearly 11,000 households, and more than 20,000 persons surveyed. The database contains extensive information on the individual and the household levels, such as demographic factors, labor market positions, and subjective satisfaction measures. Following Chabé-Ferret (2015) I keep the difference-in-difference estimation (DiD) symmetric around the treatment date by restricting the sample period to 2001-2006, i.e., two years before and two years after the treatment years of 2003-04, when the reforms were implemented. Only individuals in the working age 18-65 years are included that are either unemployed (treatment group) or full or part-time employed (reference group). This leads to a sample of 21,660 individuals with 81,721 observations (see Table 1).

Life satisfaction was based on the question "Please answer on a scale from 0 to 10, where 0 means completely dissatisfied and 10 means completely satisfied. How satisfied are you with your life, all things considered." Figure 1 shows the distribution of answers to the question on life satisfaction for employed and unemployed persons.

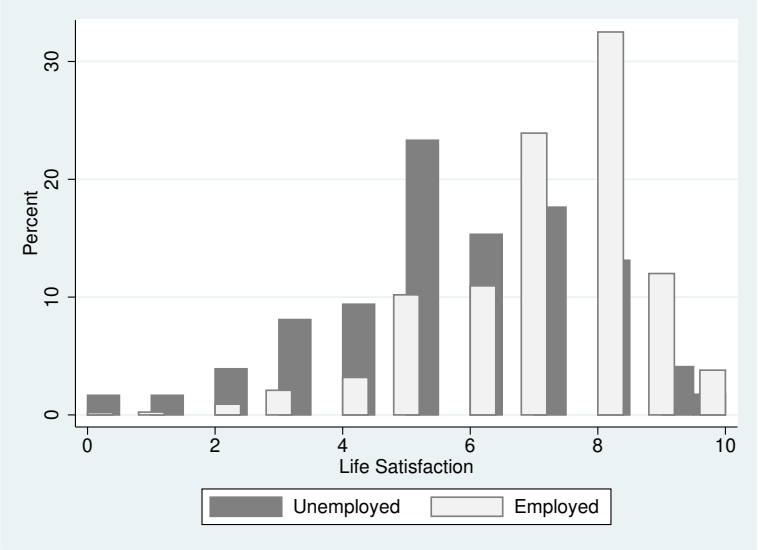
Control variables are age and education. Education dummies are created for No formal education ("Education 1"), 9 years of secondary school (*Hauptschule*, "Education 2"), 10 years of secondary school (*Realschule*, "Education 3"), and general qualification for university (*Abitur*, "Education 4"). The highest educational level is the reference point in the regression

Table 1: Descriptive Statistics, Chapter 2

	(1) Employees	(2) UE
Life Satisfaction (0-10)	7.11	5.63
Age	41.52	42.86
Education	1.83	1.34
No Formal Education	0.10	0.19
Secondary School - 9 Years	0.26	0.38
Secondary School - 10 Years	0.35	0.34
General Qual. for University - 12/13 Years	0.29	0.10
Qualification	1.13	0.88
No formal qualification	0.11	0.22
Vocational Degree	0.65	0.69
University/Technical College	0.24	0.10
Employment Experience in Years	18.12	16.94
Share of People in East	0.21	0.41
Having a Partner	0.75	0.66
Children living in HH	0.41	0.38
Homeowner	0.53	0.32
Satisfaction with HH Income (0-10)	6.48	4.12
Financial Worries (1-3)	1.96	2.53
Regional Unemployment Rate (Federal State Level)	11.83	14.29
Active Job Search last 4 weeks		0.61
Would take a job		0.76
Unemployment Duration (in Months)		8.33
Observations	74,644	7,077

Source: GSOEP 2001-2006, unbalanced panel, own calculations

Figure 1: Distribution of Life Satisfaction, Unemployed and Employed



Source: GSOEP 2001-2006, unbalanced panel, own calculations
Note: 0 = not satisfied at all; 10 = totally satisfied

and therefore not shown. Any other control variable in a DiD framework, such as income or labor market experience, can be considered bad controls (Angrist & Pischke, 2008) because they could themselves be outcomes of the treatment (the Hartz reforms) correlated at the same time with happiness.

For additional analyses, potentially confounding factors are analyzed. Logarithmized equivalent net household income is used to measure income as a driver of the results. In this concept of household income the first adult has a weight of one, additional adults a weight of 0.5 and a child under 14 a weight of 0.3. Thus, for 2 adults and one child under 14 for example, the household income is divided by (1+0.5+0.3). More information on the "OECD-modified equivalence scale" can be found on the OECD website `http://www.oecd.org/els/soc/OECD-Note-EquivalenceScales.pdf`. After the "old" OECD scale was mainly used in the 1980s and the earlier 1990s EUROSTAT adopted in the late 1990s the so-called "OECD-modified equivalence scale", proposed first by Hagenaars et al. (1994).

The choice of a particular equivalence scale depends on technical assumptions about

economics of scale in consumption as well as on value judgments about the priority attached to the needs of different individuals such as children and the elderly. The choice of the measure, thus, affects empirical results, for example the poverty rate for the elderly will be lower (and that of children higher) in the new scale. Here, I decided to use the new scale as it is more often used in current labor economics research, thus, using the new scale makes results more easily comparable to other studies.

Furthermore, income satisfaction (measured the same way as life satisfaction) and the regional unemployment rate (at the federal state level, Federal Statistical Office of Germany, 2020) are used for the confounding analysis.

2.3.2 Methodology

The Hartz Reforms, in this case the treatment, affected all regions and applied to all workers. There is therefore no control group that was unaffected by the reforms. However, because the reforms were mostly targeted at job search and unemployment benefits, it is expected that they have the greatest impact on unemployed persons, the treatment group, and to have little (or no) effect on employees, the reference group.

The approach is similar to Woodcock (2018) who studied the post-unemployment wages after the Hartz reforms in a DiD framework with recently unemployed persons as the treatment group and continuously employed persons as the reference group. Other studies on the Hartz reforms on the matching efficiency, unemployment (duration), and wages use different approaches and have therefore no reference group (Hertweck & Sigrist, 2012; Krause & Uhlig, 2012; Arent & Nagl, 2011). In an additional analysis, I test the robustness of the results by using a different control group, namely non-employed persons, thus, individuals who are out of the labor market (section 4.3).

The treatment group in the analyses is therefore the group of unemployed persons. Although a person might have several unemployment and employment spells during the year, I take the individual's response at the time of the survey (employed, unemployed). To ac-

count for the unemployment spell, in later analyses I calculate the number of months an individual is unemployed and redo the empirical analysis for long-term unemployed persons, thus, those that are (at the time of the survey) already more than 12 months unemployed. The treatment group are unemployed persons at the time of the survey. Thus, the same individual can be defined as unemployed before or after the survey, but also the composition of unemployed persons can differ. In additional analyses I look into the composition of unemployed individuals and how this changes the results. Life satisfaction refers to the specific day of the interview.

The basic strategy is to estimate the effect of the Hartz reforms in a DiD framework that compares the pre- and post-reform level of self-reported life satisfaction of unemployed compared to employed individuals. The parallel trend assumption, that is important for the implementation of difference-in-difference estimations, is discussed in the robustness section (4.3). The DiD approach allows to explore the identifying variation within the treatment and reference group respectively. The following equation is tested:

$$LS_{it} = \alpha + \gamma UE_{it} + \lambda_1 During_t + \lambda_2 Hartz_t + \beta_1 (UE_i * During_t) + \beta_2 (UE_i * Hartz_t) + \upsilon_i + \epsilon_{it} \quad (1)$$

where LS_{it} is life satisfaction for an individual i in year t; UE_{it} is a dummy that equals one if a person is unemployed and $Hartz_t$ equals one if an individual is surveyed after the reform; $UE_i * Hartz_t$ is one if an individual is unemployed after the reforms. α is the average level of life satisfaction of the employed before the reforms; γ is the difference in the level of life satisfaction between the unemployed and the employed before the reform; λ_2 is the difference of life satisfaction after versus before the reforms, and β_2 is the difference of being unemployed after the reforms compared to before the reforms, minus the difference of being in the control group after versus before the reforms (Angrist & Pischke, 2008). β_2 is here the treatment effect and the coefficient of interest. If the coefficient is not zero and significant, there might be evidence that the policy created significantly different happiness outcomes

for both groups. υ_i is an individual fixed effect and ϵ_{it} is the statistical error term.

Included in the regression, is furthermore a control for during the reform, $\lambda_1 During_t$, which equals one if a person is surveyed in the years 2003 and 2004, and a control for being unemployed during the reform, $\beta_1(UE_i * During_t)$. Having these controls in the regression reflects the fact that the Hartz reforms were introduced at stages between 2003 and 2005. Life satisfaction of the unemployed is likely to have been partially exposed to the reforms (Woodcock, 2018). Moreover, since media coverage was very strong during the implementation of the reform, anticipation effects on life satisfaction are likely to have happened. It should be noted here that the reforms ended on January 1, 2005, therefore, all individuals surveyed in 2005 are already fully exposed to the reforms.

Time and regional fixed effects are applied to control for year-to-year and regional variation, such as variances in GDP or other policy changes that cannot be explained by the independent variable. Education does not vary substantially for one individual, the variable is still included in the regressions. Although education is expected to be relatively constant for an individual over time (and therefore "controlled away" by individual fixed effects), it could be the case that individuals do extra-occupational education when they are older and this could have an effect on the results.

Personal fixed effects are included that capture time-invariant personal factors, such as personality or optimism, thus, unobserved individual heterogeneity. Applying fixed effects is suggested for happiness studies (Ferrer-i-Carbonell & Frijters, 2004). Including fixed effects means that it is controlled for the individual itself. Thus, the coefficient of interest measures only the individual *change* in life satisfaction and not the individual levels. Individuals that are only observed in either before or after the reforms are therefore not included in the coefficient, as they show no individual life satisfaction changes before versus after the reforms. The method, thus, accounts for the panel data nature of the GSOEP. The life satisfaction scale was interpreted cardinally in the analysis and least squares estimation techniques were applied, as recommended by Ferrer-i-Carbonell & Frijters (2004), who showed that assuming

cardinality or ordinality of life satisfaction answers is relatively unimportant to the results, but cardinality can be interpreted more easily and intuitively. Standard errors are clustered at the individual level to account for the panel structure of the data.

This econometric framework analyzes (through the inclusion of personal fixed effects) the individual change in life satisfaction of an individual of the time before the Hartz reforms, compared to after the Hartz reforms. Thus, it is also possible in this specification that an individual switches from employment to unemployment or from unemployment to employment. If an individual switches from employment (before Hartz) to unemployment (after Hartz) he/she becomes part of the treatment group, even if the person was part of the control group before. I control for a switch from employment to unemployment in the heterogenous effects analysis, where I include in the treatment group only long-term unemployed individuals (Table 3, column 8). And, in a second analysis, I include only individuals that switched from employment to unemployment (Table 3, column 6). The results are in both cases significant with a similar coefficient size, giving confidence to a robustness of the main results, thus, that the Hartz reforms affected life satisfaction of unemployed persons negatively.

2.4 Results

2.4.1 Main Effects

Table 2 shows the main results of equation (1). In column 1, an ordinary least squares regression without personal fixed effects is applied. The coefficient of interest *UE*Hartz* is significant at the 1 percent level. Applying personal fixed effects (column 2), the effect of the Hartz reforms on life satisfaction of the unemployed becomes larger, while the *UE*DuringHartz* effect becomes smaller. The results suggests that the Hartz reforms had a significantly negative effect on unemployed individuals with a magnitude of -0.21 points on the 0-10 happiness scale, when all controls and the reform effect on the reference group are

Table 2: Main Effects of the Hartz Reforms

	(1) LS	(2) LS	(3) LS Former West	(4) LS Male
UE	-1.14***	-0.64***	-0.62***	-0.74***
	(0.04)	(0.05)	(0.06)	(0.06)
Hartz	-0.19***	0.07	0.11	0.03
	(0.02)	(0.07)	(0.08)	(0.09)
UE*Hartz	**-0.19*** **	**-0.21*** **	**-0.28*** **	**-0.25*** **
	(0.05)	**(0.06)**	**(0.08)**	**(0.08)**
DuringHartz	-0.29***	-0.15***	-0.12**	-0.17***
	(0.02)	(0.05)	(0.06)	
UE*DuringHartz	-0.17***	-0.11**	-0.18***	-0.12*
	(0.05)	(0.05)	(0.07)	(0.07)
Age	-0.00***	-0.10***	-0.10***	-0.08***
	(0.00)	(0.01)	(0.02)	(0.02)
Education 1	-0.45***	-0.13	-0.01	0.19
	(0.02)	(0.12)	(0.13)	(0.17)
Education 2	-0.43***	-0.09	-0.11	0.11
	(0.02)	(0.18)	(0.20)	(0.19)
Education 3	-0.29***	-0.01	0.06	0.07
	(0.02)	(0.11)	(0.12)	(0.13)
Year and Regional FE	Yes	Yes	Yes	Yes
Personal FE	No	Yes	Yes	Yes
No. of Obs.	81,721	81,721	63,392	43,990
R^2	0.089			
Within R^2		0.037	0.035	0.046

Source: GSOEP 2001-2006, unbalanced panel, own calculations

Note: Standard errors in parentheses;***p<0.01, **p<0.05, *p<0.1

taken into account.

In the regressions, I control for education dummies as it could both influence life satisfaction and be an outcome of the Hartz reforms. Although education has very limited personal variation over the years (since we control for personal fixed effects), not controlling for education could still bias the results (if an individual, for example, completes further vocational training), and is therefore a control that is used in difference-in-difference regressions (Angrist & Pischke, 2008).

When controlling for personal fixed effects, the dummy "Hartz" becomes insignificant.

This means that for employed persons (the control group in this specification) the Hartz reforms had no significant effect. The variable "UE*Hartz" captures the treatment effect on the treated (unemployed individuals).

Column 1, that is, the regression without the inclusion of fixed effects, produces a significantly negative "Hartz" coefficient. As the "UE*Hartz" coefficient is the effect of the Hartz reforms on the treated (unemployed individuals), the "Hartz" coefficient is the effect of the Hartz reforms on the control group (employed individuals). The negative Hartz coefficient means that, if I do not control for fixed effects, the Hartz effect on the employed is negative. Note that the effect on the treated is still significantly negative and twice as large as the effect for the control group, as this is the additional effect of belonging to the treatment group on the Hartz reforms, thus -0.19 + (-0.19) = - 0.38. However, in my preferred specification, where individual fixed effects are included (as is suggested when dealing with panel data), the significant negative effect on the control group disappears in all columns. The constant term in fixed effects models is not interpretable in a meaningful way, as personal fixed effects is the individual constant itself (Wooldridge, 2010), and are therefore not shown in the table.

Although also employees' life satisfaction could be affected by the Hartz reforms, due to, for example, increased fear of losing one's job, I focus here solely on the role of unemployed persons. The empirical results suggest that, in the short-run, unemployed individuals became unhappier, while employed persons did not become unhappier in the short run (when controlling for unobserved individual heterogeneity), see coefficient Hartz (this signifies the control group, thus, employed individuals) in the preferred specification (including individual fixed effects) in Table 2, column 2. In an additional analysis, I try to capture also those that found a job after the Hartz reforms were implemented. I calculate the "overall" Hartz effect on unemployed individual plus individuals that found a job (Table 3, column 7). These overall effects seem to be significantly negative as well.

In column 3 only individuals that live in Western federal states are analyzed, thus, former GDR federal states are excluded. The effect becomes stronger for unemployed persons in

former west Germany, compared to employees in former west Germany. This might be due to a stronger average loss in income in west Germany (Goebel & Richter, 2007). When applying the regression for a subsample of male respondents, the effect is stronger than for the whole sample. This can possibly be explained by a larger drop owing to the social norm. The social norm plays a larger role for unemployed men, as they are still considered as the classical bread winner and are found to be unhappier in unemployment than women (Clark, Frijters, & Shields, 2008).

2.4.2 Drivers of the Results and Heterogeneous Effects

Although results indicate that the overall reform effect on life satisfaction of unemployed workers is negative, several questions remain. Which confounding factors drive the results? Is a different composition of unemployed workers responsible for the drop in happiness? And which subgroups are mostly affected by the reforms? Table 3 aims at responding to these questions. Column 1 is the reference regression, the main effects in the preferred specification of Table 2 (column 2).

Confounding Factors. From the theoretical section income is expected to drive part of the results. When household income enters the regression (column 2), the magnitude of the coefficient of interest is reduced from -.21 to -.17, indicating that the negative happiness effect, induced by the reforms, can partly be explained by variations in income. However, the variable for income is an imperfect measure, as it functions merely as a proxy on what an individual can spend the available income on. Even if an unemployed person experiences a drop in unemployment income induced by the reforms, the household income could be relatively stable as it takes into account, for example, the income of the partner and the number of children in the household (see section 3.1). However, the drop in unemployment income (instead of household income, as shown here) could mean that the unemployed person is more dependent on the income of the partner, which could additionally lower individual life satisfaction due to a potentially lower self-esteem. Moreover, a lower unemployment

income reflects a diminishing respect of society and the public for unemployed individuals. This cannot be measured with the equivalent household income.

To take into account the psychological dimension of income, satisfaction with household income enters the regression in column 3. The magnitude of the coefficient of interest (*UE*Hartz*) is substantially reduced and the effect is less significant, indicating that income satisfaction plays an important role in explaining the negative happiness effect of the reforms.

Table 3: Additional Results

	(1) LS	(2) LS	(3) LS	(4) LS	(5) LS	(6) LS	(7) LS	(8) LS	(9) LS
Treatment:	UE	UE	UE	UE	UE	Jobloss	$UE + UE_E$	LT UE	Invol UE
UE	-0.64***	-0.65***	-0.44***	-0.65***	-0.64***	-0.62***	-0.49***	-0.59***	-0.73***
	(0.05)	(0.05)	(0.04)	(0.05)	(0.05)	(0.07)	(0.05)	(0.10)	(0.06)
Hartz	0.07	0.05	0.10	0.32***	0.38***	0.13*	0.05	0.07	0.07
	(0.07)	(0.07)	(0.07)	(0.03)	(0.04)	(0.07)	(0.07)	(0.07)	(0.07)
UE*Hartz	**-0.21*** **	**-0.17*** **	**-0.13** **	**-0.20*** **	**-0.21*** **	**-0.23** **	**-0.17*** **	**-0.37*** **	**-0.29*** **
	(0.06)	**(0.06)**	**(0.06)**	**(0.06)**	**(0.06)**	**(0.11)**	**(0.05)**	**(0.12)**	**(0.07)**
DuringHartz	-0.15***	-0.16***	-0.10**	0.04**	0.07***	-0.11**	-0.16***	-0.14***	-0.14***
	(0.05)	(0.05)	(0.05)	(0.02)	(0.02)	(0.05)	(0.05)	(0.05)	(0.05)
UE*DuringHartz	-0.11**	-0.10*	-0.07	-0.11**	-0.11**	-0.17*	-0.10**	-0.18*	-0.16**
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.09)	(0.05)	(0.09)	(0.07)
Age	-0.10***	-0.10***	-0.08***	-0.15***	-0.15***	-0.11***	-0.09***	-0.10***	-0.10***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)
Education 1	-0.13	-0.13	-0.13			-0.14	-0.14	-0.12	-0.12
	(0.12)	(0.12)	(0.12)			(0.12)	(0.12)	(0.12)	(0.12)
Education 2	-0.09	-0.10	-0.05			-0.01	-0.09	-0.08	-0.10
	(0.18)	(0.18)	(0.17)			(0.18)	(0.18)	(0.18)	(0.18)
Education 3	-0.01	-0.01	-0.00			0.00	-0.01	0.01	0.02
	(0.11)	(0.11)	(0.11)			(0.11)	(0.11)	(0.11)	(0.11)
Log HH Income		0.19***							
		(0.02)							
Income Satisfaction			0.22***						
			(0.00)						
UER					-0.02***				
					(0.01)				
Year and Regional FE	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
Personal FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
No. of Obs.	81,721	81,721	81,721	81,721	81,721	76,842	81,721	76,796	78,893
R^2				0.036	0.037				
Within R^2	0.037	0.039	0.106			0.030	0.031	0.025	0.038

Source: SOEP 2001-2006, unbalanced panel, own calculations; Standard errors in parentheses;***p<0.01, **p<0.05, *p<0.1

Endogeneity Problems. Another potential driver of the reforms could induce endogeneity problems in the regression. If the Hartz reforms reduced the incentives to leave one's job more or less voluntarily to draw welfare benefits, then there would be less voluntarily unemployed persons and a higher share of truly involuntary unemployment after the reforms. Chadi (2010) showed that involuntarily unemployed persons are significantly unhappier than voluntarily unemployed. Unhappy persons would, thus, remain in unemployment, while happier individuals leave unemployment and a lower number of (happier) voluntary unemployed persons would enter unemployment. This modified composition, i.e. that the "old" group of (involuntarily) unemployed persons remain, could show up as a negative effect of the Hartz reforms, although it is not. To analyze this problem, three additional drivers of the results are tested, namely the effect of the unemployment rate, the share of involuntarily unemployed workers, and the impact of the Hartz reforms on exogenously unemployed workers.

A possible reduction of unemployment, induced by the reforms' incentives to leave unemployment, could potentially reduce happiness of unemployed persons, i.e. happy individuals found more often a job and unhappier individuals remained in unemployment, making overall unemployed individuals unhappier. Following Clark (2003), unemployed individuals are unhappier when there is less unemployment around, because they deviate stronger from the work norm. Column 4 shows the main effect without year and fixed effects in order to compare it with the effect when the regional unemployment rate enters the regression (column 5). Regional unemployment levels do not affect the happiness impact of the reforms. It is important to note that a reduction of the unemployment rate was not present in the observed years (until 2006), but occurred only in the years thereafter. The unemployment rate was with 9.4 percent in December 2006 similar to before the reforms (9.2 percent in December 2002) (Eurostat, 2020).

The endogeneity problem, thus, that the composition of unemployment changed, can furthermore be tested when looking into the present GSOEP sample that shows indeed a lower share of individuals quitting their job voluntarily after the reforms than before (2.13

percent of all unemployed in 2005-06, compared to 4.04 percent in 2001-02). A voluntary quit equals one if an unemployed person states to have quit his or her employment relation since last year. Moreover, less individuals were voluntarily unemployed (in the sense that they have not looked for a job within the last 4 weeks and would not take a job if offered) after the reforms than before (19 percent compared to 29.41 percent). With "more or less voluntary" I mean that the Hartz reforms reduced the incentives to leave one's job voluntarily, because of the relatively generous benefits in unemployment assistance without work (compared to after 2005). This could be a problem for the identification strategy if the composition of unemployed individuals changed (more involuntarily unemployed), because then it would not necessarily be the Hartz reforms that reduced life satisfaction of unemployment persons, but merely a composition effect. The carried out analyses to capture this effect are approaches to make the probability, that the main results are driven by a composition effect, as low as possible. Comparing the share of unemployed individuals before and after Hartz is one approach to do this, especially when the regional unemployment rate in the compared years is relatively stable. This points in the direction that higher involuntary, and thus unhappier, unemployment is partly responsible for the results.

To analyze whether the results are only driven by "old" unemployed individuals that were stuck in unemployment, it is tested whether also *exogenously* unemployed individuals were unhappier after the reforms. For this, individuals are considered in the treatment group who lost their job involuntarily since last year, i.e. due to a plant closure, a dismissal by the employer, or the end of a temporary contract. If this group is also negatively affected by the reforms, it can be stated that the composition of unemployed individuals is not the only driver of the results, and the endogeneity problem does not drive the main results. In theory, individuals that recently lost their job are affected by the reforms by either sliding into the newly created ALG II if they have not worked enough months (with much worse conditions than before the reforms), or by a shorter duration of unemployment income (ALG I) and by the fear of sliding soon into ALG II. The results (column 6) indicate that also

exogenous unemployed persons were negatively affected by the reforms, although at a lower significance level. This adds to the story that endogeneity problems do not necessarily drive the happiness results, but rather that the changed conditions in unemployment are responsible for the effect.

Overall Effect of the Reforms. Although the labor economics literature is mixed in finding positive employment effects of the Hartz reforms, some studies find that the reforms lowered the unemployment duration (see 2.2.1). To capture the possibility that the negative happiness effects are outweigh by positive effects of individuals finding a job during this time, I include in the treatment group individuals who found a job. To calculate the overall effect of the Hartz reforms, those who found a job are included as treated individuals in the happiness equation (in addition to unemployed persons). The reference group is, thus, employed persons who were not unemployed last year. If the effect of the coefficient (UE*Hartz, here: UE plus individuals who found a job) is insignificant, the reforms had no negative *overall* impact. However, even when including those who found a job, the effect is still negative (column 6), indicating an overall negative effect of the reforms, that is present at least in the short-run (two years after the reforms).

One could argue that although the happiness effect of the Hartz reforms on unemployed persons is negative, the overall effect is positive, i.e. more individuals moved from unemployment into employment after the reforms and are thus happier. However, in the GSOEP sample, the share of persons who switched from unemployment to employment is relatively stable in the sample period (before the reforms, 2001-02, 25.49 percent; after the reforms, 2005-06, 27.25 percent).

Subgroups. From the structure of the Hartz reforms, it is reasonable to assume that not all unemployed workers were affected the same way. Especially long-term unemployed individuals with an ample employment history were affected by the reforms (hypothesis 3), since most of them fell from the relatively comfortable unemployment assistance into ALG II, thus, an existence minimum with strong obligations and total sanction possibilities. Em-

ployment experience is full-time or part-time employment in years. An individual is defined as long-term unemployed if the person is longer than 12 months in unemployment (Statista, 2019). In column 8, results show that the effect on this subgroup is more pronounced than the average effect and can partly be explained by the structure of the reforms that targeted especially long-term unemployed persons. Employment experience of unemployed persons (in years), however, does not play a role in explaining heterogeneous effects (not shown here).

Job search behavior is captured by the question whether the unemployed has "actively searched for a new job within the last four weeks?" and "If someone offered you an appropriate position right now, could you start working within the next two weeks?". If both questions are answered with "Yes", a person is defined as involuntarily unemployed, since the person wants to change his or her current situation. When the treatment group is reduced to involuntary unemployed persons, the effect of the Hartz reforms becomes much stronger in magnitude (column 9). This suggests that especially involuntary unemployed persons suffered from the reforms, i.e. those who want to leave unemployment. This shows that the reforms were successful in designing incentives to look stronger for a job, because involuntarily unemployed persons are more dissatisfied with their situation than before. The negative effect on involuntary unemployed can also be explained by a feeling of injustice for persons who were already eager to find work, but, after the reforms, experienced additional pressure from job centers to search for work.

2.4.3 Robustness Tests

Alternative Outcomes. Additional outcomes are considered in a further step that might have been affected by the reforms (Table 4 in the Appendix). This is carried out as an attempt to analyze whether the Hartz reforms had also an impact on outcomes that are similar to life satisfaction. The table shows that the Hartz reforms reduced income satisfaction of unemployed individuals stronger than life satisfaction (column 1). The result is intuitive, since the reforms especially reduced unemployment income, but it also shows the psycho-

logical dimension of the reforms. Next, the reform effect on financial worries is analyzed (measured on a scale of 1-3, where 1 means "not concerned" and 3 "very concerned"), a concept that rather deals with worries about the future development of own finances. However, no significant effect can be observed on financial worries (column 2).

The reforms are expected to not only have an impact on income, but also on non-economic effects. A stronger stigmatization of "Hartz recipients" was demonstrated in the literature (see theory section). Although non-economic effects are already partly measured by life satisfaction, additionally, two measures of trust are used to measure stigmatization, namely the questions "On the whole one can trust people" (1-4 scale; 1: totally agree, 4: totally disagree) and "Nowadays can't trust anyone" (1-4 scale) (Dohmen et al., 2012; Kosse et al., 2020; Deter, 2020b). The first measure is subtracted from the second measure so that higher values correspond to higher trust (scale of -3 to 3). Trust is a reasonable proxy for stigmatization, since a higher stigmatization can lead to lower trust towards other people in society. Questions about personal trust are asked only in 2003 and 2008, wherefore it is analyzed if unemployed workers in 2008 had lower trust levels than in 2003 (the year in which the reforms started), conditional on the difference of trust in employed individuals. Although results indicate a general lower level of trust for unemployed individuals than for employees, the reforms had no negative effect on trust of unemployed persons, at least not three years after the reforms.

Parallel Trend Assumption. The main identifying assumption for a DiD approach is the parallel trend assumption, i.e. in the absence of the treatment (the Hartz reforms), life satisfaction of the treated (unemployed persons) would have followed the same trend as for the reference group (employed persons). As this is not observable, the common trend assumption is not formally testable, but Figure 2 (in the Appendix) shows that the respective change of average satisfaction levels before the reforms (2001-2002) is similar for both the treated and the reference group, supporting evidence of the common trend assumption.

In a further step, I test the main regression for the period 1999-2002, where the years

2001-02 function as the placebo post-treatment period (Table 5 in the Appendix). The placebo test is carried out to analyze whether an underlying trend for unemployed persons but not for employed persons would be present already before the real treatment, the Hartz reforms. Then, the regression would indicate a significant effect on the coefficient of interest *UE*Placebo* (in accordance with β_2 in equation 1). However, the table shows that life satisfaction has not differed between treated and control group before the reforms. This supports the hypothesis that the main effect was indeed induced by the Hartz reforms.

Alternative Control Group. To analyze whether the results hold for an alternative reference group, the main result is tested in a regression on unemployed persons (treated group) with *non-employed* individuals as the reference group. This group consists of individuals in the working age (18-65) who are neither in employment nor in education. Furthermore, they are not unemployed since they are not available for the labor market and currently do not look for a job, and do therefore not receive unemployment income. Non-employed individuals can be, for example, homemakers with a working partner, or individuals who are in between jobs and do not want to fill out forms to receive unemployment income (out of the labor force). Similarly to employees, non-employed persons were not directly affected by the reforms, as the reforms have not directly affected their income, duties, and status. They are therefore suited as a potential reference group. The results (Table 6 in the Appendix) confirm the robustness of the main results, with a similar magnitude of the coefficient *UE*Hartz* and with a smaller significance level. Thus, the main results hold also for a different control group.

2.5 Conclusions

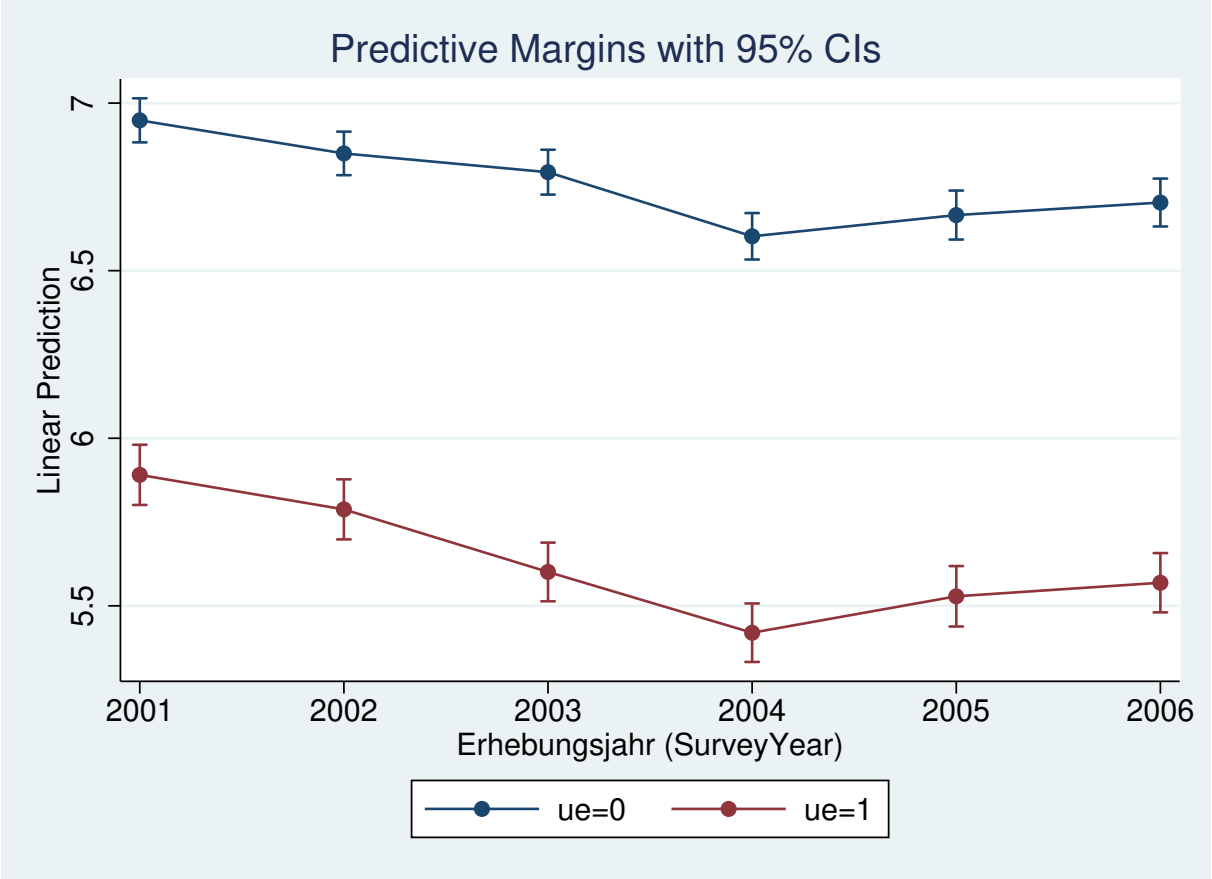
The Hartz reforms were introduced to address high unemployment rates in Germany. A key aspect of the reforms was the Hartz IV law, that changed conditions foremost for long-term unemployed persons, to increase their ability to find jobs. Lower unemployment entitlements, a stronger duty to apply for jobs, and strong sanction possibilities potentially increased

concessions unemployed individuals had to make regarding employment quality and wages. It also potentially lowered their life satisfaction. Despite ongoing discussions of the Hartz reforms in the national and international public and scientific world, little is known about the happiness effect of the reforms.

Using data from the German Socio-Economic Panel (GSOEP), this empirical study showed that unemployed persons became unhappier after the reforms. The effect can partly be explained by income and income satisfaction. Also unemployed persons who exogenously lost their jobs are affected by the reforms. In line with the structure of the modified conditions in the Hartz framework, the reforms had a stronger impact on long-term and involuntarily unemployed persons. The current paper adds to the literature on the Hartz reforms the component of happiness. This is important because a drop in happiness leads to stronger job search, but is not associated with a better job finding. While many individuals potentially gained from the Hartz reforms through better employment opportunities in the long run, others have lost from it and might be at risk of fully withdrawing from the labor market. The results showed that individuals are affected differently from the reforms. This should be taken into account in reform proposals regarding Hartz IV.

Appendix Chapter 2

Figure 2: Trends in Life Satisfaction before and after the Hartz reforms



Source: SOEP 2001-2006, unbalanced panel, own calculations

Note: Predictive Margins with confidence interval of 95 percent; annual means by group (employed=above, unemployed=below) adjusted for observable characteristics (age, education, regional and year effects); 2003 is the year of the Hartz reforms

Table 4: Alternative Outcomes of the Hartz Reforms

	(1)	(2)	(3))
	Income Sat	Fin. Worries	Trust
UE	-0.95***	0.25***	-0.12*
	(0.06)	(0.02)	(0.07)
Hartz	-0.15*	0.32***	-0.03*
	(0.08)	(0.03)	(0.01)
UE*Hartz	**-0.33*** **	**0.01**	**0.12**
	(0.07)	**(0.02)**	**(0.08)**
DuringHartz	-0.21***	0.28***	
	(0.06)	(0.02)	
UE*DuringHartz	-0.18***	-0.02	
	(0.06)	(0.02)	
Age	-0.06***	-0.02***	0.00
	(0.02)	(0.01)	(.)
Education 1	-0.00	0.03	-0.35
	(0.19)	(0.06)	(0.29)
Education 2	-0.18	-0.08	-0.83
	(0.26)	(0.08)	(0.71)
Education 3	-0.06	0.01	-0.20
	(0.18)	(0.05)	(0.28)
Year, Reg., Pers. FE	Yes	Yes	Yes
No. of Obs.	81,721	81,431	25,571
R-Squared	0.042	0.044	0.003

Source: SOEP 2001-2006, unbalanced panel, own calculations

Note: Standard errors in parentheses;***p<0.01, **p<0.05, *p<0.1

Table 5: Placebo Test (Hartz Reforms)

	(1) LS
UE	-0.74***
	(0.06)
Placebo	0.30***
	(0.04)
UE*Placebo	**0.08**
	(0.06)
Age	-0.18***
	(0.01)
Education 1	0.08
	(0.07)
Education 2	0.11
	(0.07)
Education 3	0.17**
	(0.07)
Year, Reg., Pers. FE	Yes
No. of Obs.	51,750
R-Squared	0.022

Source: SOEP 1999-2002, unbalanced panel, own calculations

Note: Standard errors in parentheses;***p<0.01, **p<0.05, *p<0.1; Pre-treatment period: 1999-2000, post-treatment period: 2001-2002

Table 6: Alternative Control Group (Non-Employed persons), Hartz Reforms

	(1)
	LS
UE	-0.15**
	(0.06)
Hartz	0.04
	(0.16)
UE*Hartz	**-0.17****
	(0.07)
DuringHartz	-0.15
	(0.11)
UE*DuringHartz	-0.07
	(0.06)
Age	-0.09**
	(0.04)
Education 1	-0.26
	(0.39)
Education 2	-0.06
	(0.45)
Education 3	-0.25
	(0.35)
Year, Reg., Pers. FE	Yes
No. of Obs.	22,219
Within R^2	0.018

Source: SOEP 2001-2006, unbalanced panel, own calculations
Note: Standard errors in parentheses;***p<0.01, **p<0.05, *p<0.1

3 ARE THE LOSERS OF COMMUNISM THE WINNERS OF CAPITALISM? CONFORMISM IN THE GDR AND TRANSITION SUCCESS

Abstract. Following the fall of the Iron Curtain it was important for the acceptance of the new economic and political system that the former Communist elites did not maintain their privileges, and that protesters, who helped to overturn the old system, improved their situation. With newly available panel data on East Germany's socialist past, the *German Democratic Republic*, I analyze how former Communist supporters, demonstrators, and the "silent majority" were affected by the transition from socialism into today's market-based democracy. The results reveal that former supporters became substantially less satisfied, while demonstrators increased satisfaction. Concerning incomes, demonstrators show slight increases, compared to the average population. Higher employment rates for demonstrators disappear when controlling for individual characteristics.

Keywords: East Germany, Communist Party, political resistance, autocracy, labor market, life satisfaction, GSOEP

JEL Codes: H10, N44, P20, D31

3.1 Introduction

Autocracies are the dominant form of government in history. Currently, former solid democracies become weaker and autocracies more repressive (Freedom House Index, 2020; Bertelsmann Transformation Index, 2020). In Germany, the socialist autocracy, the *German Democratic Republic* (GDR), also called East Germany, existed for more than 40 years next to the democratic West, the *Federal Republic of Germany* (FRG), until their reunification in 1990. East Germany had one of the most rigid systems of former Communist states, with the one-rule party, the SED (Socialist Union Party) and the Ministry of State Security (MfS), the so-called *Stasi*, repressing any opposition by extensive observation, imprisonment, and psychological destruction (*Zersetzung*) (Rainer & Siedler, 2009). In 1989, the Peaceful Revolution led to the fall of the Berlin Wall and the subsequent reunification with its democratic twin one year later.

Today, 17.8 % of the German population lives in the former East Germany (Statista, 2020a). Here, it remains a controversial topic whether the former GDR should be called a *Unrechtsstaat*, a lawless state, with the relatively strong ex-Communist party *The Left* rejecting the label (The Economist, 2009). However, also the new system is perceived with increasing skepticism, with the right-wing and anti-establishment party, the AfD (Alternative for Germany) winning the most or second most votes in all former East German federal states in the latest European election. Perceptions of the new system depend on its ability to choose different winners and losers than the old socialist system (Bird, Frick, & Wagner, 1998). If former Communist supporters have continued to hold privileges after the transition, the new economic and political system might be less accepted by the former East German population. Also, if protesters, who helped to overturn the old system in the Peaceful Revolution, did not improve their life situation afterwards, the general incentive to protest in an autocracy in the first place becomes weak. If transition success of the "silent majority" (Gieseke, 2015), who were not involved in any political actions, is larger than for dissidents, it would pay off

to remain passive in an autocracy, if the system is overthrown nevertheless.

The economic literature on the GDR analyzes especially long-lasting effects of the system by comparing the former East German to the former West German population. German socialism persistently increased selfishness, preferences for state redistribution, the preference to act in a riskier manner, as well as career intentions of women (Becker, Mergele, & Woessmann, 2020; Necker & Voskort, 2014; Ockenfels & Weimann, 1999; Alesina & Fuchs-Schündeln, 2007; Heineck & Süssmuth, 2013; Campa & Serafinelli, 2019). Moreover, socialism significantly reduced individual trust toward other citizens, present bias, and the intention to become self-employed (Heineck & Süssmuth, 2013; Friehe & Pannenberg, 2020; Bauernschuster et al., 2012). Thus, German socialism affected several aspects of the lives of its former citizens, and differences to the West often persist.

Fewer studies have looked into the heterogeneous effects of socialism on individual outcomes *within* East Germany. More years of education in the GDR lowered individual college intentions, and individuals living in East German regions with higher government surveillance show lower post-transitional trust, engagement in civic society, and even income (Fuchs-Schündeln & Masella, 2016; Lichter, Löffler, & Siegloch, 2019). Using rarely available telephone access in the GDR as a proxy for belonging to the socialist upper class, Bird, Frick, & Wagner (1998) found that incomes after reunification continued to be higher for this group in the immediate years after reunification, even when controlling for various measures of ability. The authors conclude that the networks and privileges of the Nomenklatura were carried over into the new system. Using Communist party membership as a proxy for elite status, also Geishecker & Haisken-DeNew (2004) for Russia and Večerník (1995) for the Czech Republic found that Communist elites maintain their advantages and privilege after the fall of the Iron Curtain.

I analyze with new data on East Germany's socialist past how the transition from socialism to capitalism affected life satisfaction and economic outcomes of Communist elites, protesters, and the *silent majority*. From the literature I expect heterogeneous effects for

former Communist elites. In addition to potentially maintained privileges, studies for Russia and China suggest that Communist elites have a higher productivity than the average (Geishecker & Haisken-DeNew, 2004; Bishop & Liu, 2008; McLaughlin, 2017), both factors that might have helped them to succeed after the transition. However, the German public often denied former Communist elites jobs in the new system, due to the creation of the *Federal Commission for the Records of the State Security Services* that reviewed the extent to which an individual was involved in GDR malfeasance.

The expected effects for political dissidents are also ambiguous. Although life satisfaction should have improved after their liberalization and the recognition of their basic rights, the discrimination on the labor market and psychological *destruction* in the GDR might have resulted in long-term economic and psychological scars (Popplewell, 1992). The opposition movement was, moreover, marginalized in the first free elections in 1990, and became politically insignificant. For the *silent majority*, transition is expected to result in rather positive outcomes, as they favored, after years of deprivation in an extremely authoritarian regime, the quick reunification to the West and a harmonization of economic conditions: a goal they reached when the *Alliance for Germany* won in the first free elections by a large margin, and the GDR became a second West Germany in political and economic terms.

Using panel data from the German Socio-Economic Panel (GSOEP), results reveal that former supporters became substantially less satisfied, while demonstrators increased satisfaction. Concerning incomes, demonstrators show slight increases, compared to the average population. Higher employment rates for demonstrators disappear when controlling for individual characteristics. Communist supporters are measured by SED membership and employment in the *Stasi* supervised sector. Political dissidents are captured by participation in the 1989/90 demonstrations. The transition success of the *silent majority* depended on the inner support of the system. Individuals who were politically inactive, but were dissatisfied with the GDR system show an improvement in life satisfaction.

The paper is set up as follows. In the next section, I discuss theory and literature,

followed by a section in which I present the data and methodology, and in section 4 the results are shown. The final section offers some conclusions.

3.2 Historical Overview and Expected Results

3.2.1 The GDR System

Shortly before the end of World War II, the Allies allocated the East German states of Brandenburg, Mecklenburg-Western Pomerania, Saxony-Anhalt, Saxony, and East Berlin to the Soviet occupation zone that developed quickly into a highly authoritarian and repressive regime. The GDR was designated by Soviet authorities to become a role model for the Socialist system, with the Wall surrounding the country from 1961 to 1989.

East Germany had a command economy, in which virtually all decisions were made by the governing party, the SED. Power, influence, and personal connections drove economic decisions (Encyclopedia Britannica, 2020). The Nomenklatura in the GDR system consisted mostly of members of the one-rule party, the SED, and included bureaucrats, managers, military and police services, as well as the secret service (Atkinson, Micklewright, & Micklewright, 1992). In a population of about 12 million adults, 2.3 million were members of the SED in 1989, a further 500,000 joined the block parties that supported basically every decision of the SED (Stern, 2009). Of the twelve million eligible voters, about 10 million participated in the local election in May 1989, with a large majority voting for the SED. Thus, the reality of dictatorship includes that millions of people supported and carried the system.

The many members of the SED signified that it was not a party in a strict sense, but rather a community of political conviction and a career ladder. Party leaders estimated that they could rely only on one tenth of its members, a number that was confirmed when after the fall of the Berlin Wall in 1989, only 285,000 of its original members remained in the party (Kowalczuk, 2019). Although many SED members were opportunists, opposition

to the SED's official political direction came usually from within the party, represented by convicted Communists. Extensive outside party opposition arose only in 1989, when demonstrations against the system started to unravel.

The Ministry of State Security (MfS), *Stasi* for short, functioned as the intelligence agency, the official "Shield and Sword" of the party. The primary tasks of the MfS included spying on the population and fighting any opposition by overt and covert psychological destruction of dissidents, the so-called *Zersetzung*. The extent of government surveillance conducted by the MfS was historically unprecedented, with the ministry keeping files on 6 million individuals, although not all of them were observed constantly. In addition to 91,015 official MfS employees in 1989, more than 174,000 civilians monitored politically incorrect behavior as unofficial collaborators (IM, *Inoffizielle Mitarbeiter*) for the *Stasi* (Koehler, 2008).

In the GDR, basic human rights, such as freedom of speech, press, and religious conviction, were repressed. Between 170,000 and 280,000 citizens were sentenced for political reasons. The country had one of the highest suicide rates in the world (Hensel et al., 2009).

3.2.2 The Peaceful Revolution

Almost exactly 200 years after the French Revolution, a series of totally unexpected political and popular movements in Eastern Europe overturned the hitherto uncontested power of Communist parties (Hirschman, 1993). In East Germany, despite the atmosphere of fear generated by the MfS, from September 1989 onward, opposition groups became visible in the public after the discontent with the obviously forged local election in May: the SED officially declared an unrealistic voter turnout of almost 99 percent. Until the public protests, citizens in the GDR asked themselves whether they should join refugees fleeing to the West or not; then, in September 1989 before the fall of the Berlin Wall, they had the alternative of either interfering in politics or remaining silent. Most people chose to await passively, watching the fight of one minority group, demonstrators, against another, the political elites (Kowalczuk, 2019).

The goal of the opposition was to reform the GDR system and to find a self-determined way to freedom and social justice. However, the majority of the population after years of deprivation in an extremely authoritarian regime favored quick reunification with the democratic West. Demonstrating in the streets in 1989 was a dangerous endeavor. The SED leadership openly supported the Tianmen Square massacre in Communist China, where thousands of demonstrators were shot dead by the police. The so-called "Chinese solution" was a possible scenario for East German demonstrations as well, but the SED leaders decided finally not to intervene demonstrations in Leipzig and Berlin. When the protesters reached numbers of half a million (and Hungary opened its borders with Austria), the SED leadership decided to finally allow migration to West Germany on November 9, an act that unintendedly signified the end of Communism in Germany (Rödder, 2009). The fall of the Berlin Wall and the reunification one year later is as close to a "natural experiment" as can be experienced in economics, as it came as a total surprise for the majority of the East and West German population (Frijters, Haisken-DeNew, & Shields, 2005).

3.2.3 Outcomes after Reunification

As an exception among post-Communist countries, East Germans had almost no time to adapt to the new political and economic system. Expectations in East Germany were high that after reunification and the transition into the *Federal Republic* "flourishing landscapes" would occur and "nobody would be worse off than before", as then-Chancellor Helmut Kohl promised (Mitteldeutscher Rundfunk, 2004). However, the transition was accompanied by an economic collapse in the former GDR, with mass unemployment and GDP per capita falling from 55 % to 33 % of levels in the West until 1993 (Kurz-Scherf & Winkler, 1994). Wages, however, were significantly raised for public and union jobs in order to prevent mass emigration to the West (Frijters, Haisken-DeNew, & Shields, 2005). After two decades of structurally high unemployment in East Germany, the unemployment rate today is approaching relatively low levels, comparable to the West, and GDP per capita stands at about two

thirds of levels in the West (Statista, 2020b). Overall satisfaction with life has followed the V-shaped pattern of GDP (Shleifer, 1997), and in 2018 has almost reached levels in the West, a pattern that is observable for all post-Communist countries (Easterlin, 2009; Guriev & Melnikov, 2018).

3.2.4 Expected Effects of Supporters and Dissidents

Has the fall of the Iron Curtain affected winners of Socialism and, thus, Communist supporters, in the same way as it has affected political dissidents?

Supporters. Economically, in socialism, Communist party membership can be a devise to hand out benefits, such as leadership positions, to favored groups. It could therefore be the case that former political elites carried over privileges into the new system (Bird, Frick, & Wagner, 1998). Alternatively, it can be that the state-party recruits high-ability individuals to maintain its political power. Studies from Communist Russia and China show that party membership is both a rent-seeking devise and a screening for talent that is comparable to the education system in the West (Geishecker & Haisken-DeNew, 2004; Bishop & Liu, 2008; McLaughlin, 2017). Both arguments suggest that members of the SED have benefited from transition into the market-based economy, as productivity is remunerated more highly in capitalist systems, as Andren, Earle, & Săpătoru (2005) showed for Romania. Anecdotal evidence suggests that many former elites in East Germany found their place in society, working in real estate, finance, and the insurance sector, as they showed work experience that was useful for employers in capitalism (Der Spiegel, 2008).

However, many former Communist elites from the East were denied jobs in the public (and, to a much lesser extent, private) sector in the FRG, as their past as MfS officials or IMs was usually known to potential employers. The information was provided by the *Federal Commission for the Records of the State Security Services*, an agency that could use the majority of *Stasi* files, thanks to the citizen's storming of *Stasi* headquarters in 1989-90.

Today, only about one third of high and middle elite positions in the public service, sci-

entific institutions, and the justice system are filled by East Germans, as the new system demanded professionals with a democratic and market-based background. This is why historians state that the carriers of the system lost more from the transition than opponents of the system (Kowalczuk, 2019).

Dissidents and Silent Majority. Dissident behavior in the GDR was punished by the denial of basic rights, observation by the *Stasi*, imprisonment, and limited job opportunities. The MfS had the "primary duty of ensuring that only those loyal to the Party got good or important jobs, and that those disloyal got the worst ones" (Popplewell, 1992, p.41). Although many demonstrators protested for reformation of the GDR system, a goal they have not reached as the West German system was adapted in its entirety, they freed *themselves* from the autocratic system, an important aspect of self-esteem and prediction of success. Moreover, transition meant a significant improvement of their civil rights and job opportunities. On the other hand, repression and psychological "destruction" might have caused long-term psychological scars, with negative effects on economic outcomes and overall life satisfaction. Rehabilitation of former victims of the system was rather small in the new system.

The *silent majority* have not fought for their freedom and might therefore be less satisfied with life in the new system. On the other hand, they also have not suffered to that extent from the old system as dissidents have, and might therefore be more productive as they deal less with long-term scars of repression. Moreover, the political will of the *silent majority*, the "takeover" of the GDR by the West (Kowalczuk, 2019) prevailed, a sign for a positive effect of transition on outcomes for this group.

3.3 Data and Empirical Strategy

3.3.1 Data

In the empirical analysis, I use unbalanced data from the 1990-2018 German Socio-Economic Panel (GSOEP), an annual survey representative of the German population (Goebel et al., 2019b). In 2018, a survey on the GDR past was added for individuals who lived in 1989 in the GDR and were then at least 18 years old. Questions concerning the GDR included life satisfaction, employment status, participation in protests, and relationship to the MfS. The sample covered 2,295 individuals who were surveyed altogether 27,666 times between 1990 (before October 3, when the GDR was still in place) and 2018, including questions regarding biographic characteristics, life satisfaction, employment, and income in the social market economy.

Measures of Supporters of the Communist System. For the measure of supporters of communism, SED membership and employment in the *Sensitive Public Sector* is considered. In the sample, over 18% answered that they were members of the SED. This corresponds to official statements, according to that about 20% of the GDR population were members of the SED. Therefore, the measure for SED membership appears to be valid. For the SED measure in the regression, I exclude individuals that have left the party until 1989. The second measure of Communist supporter status is whether an individual has mostly worked in the GDR in the *Sensitive Public Sector*, also called *X-area*, thus, the sector that was supervised by the MfS as it was important for national security. It included the NVA (National Army), police, penal system, fire brigade, customs duty, border troops, the MfS itself, political parties, mass organizations, and the AG-Wismut (uranium producer). The measure supporter becomes one if an individual was either a SED party member of employed in the sensitive public sector.

Demonstrators. The measure of being a dissident in the authoritarian regime is captured by the question whether an individual participated in the "Peaceful Revolution" that

Table 7: Operationalization of Main Variables, Chapter 3

Variable	Item	Years
Life Satisfaction FRG	"On a scale from 0 to 10, where 0 means completely dissatisfied and 10 means completely satisfied. How satisfied are you with your life, all things considered."	all
⊖		
Life Satisfaction GDR	"All in all: How satisfied were you with your Life five years ago?" (0-10)	1990
LM Income FRG	"How much did you earn from your work last month?" Gross income (after tax, social security, unemployment and health insurance excluding vacation pay/subsequent payments; including overtime payments	all
⊖		
LM Income GDR	How much did you earn in May 1989 in gross income?	1990
Employment FRG	"Are you currently engaged in paid employment?" Which of the following applies best to your status? full-time employed (=1), part-time employed non-working (education, unemployment..) (=0)	all
⊖		
Employment GDR	"How was your employment in 1989? Were you..." working full-time (=1) working part-time non-working (education, unemployment..) (=0)	2018
SED Member	Before 1.1.1989 Member of the Socialist Unity Party (SED) (and have not left the party before 1989)	2018
Sensitive Public Sector	Sector mostly worked in GDR: [10] Sensitive Public Sector	2018
Demonstration	Yes on "Have you personally *participated* in the demonstrations of the opposition movement in the years 1989/90?"	2018
Silent Advocate	No: demonstration, member of political party, Sensitive Public Sector "rather/very *satisfied* with GDR system"	2018
Silent Dissident	No: demonstration, member of political party, Sensitive Public Sector "rather/very *dissatisfied* with GDR system"	2018

Table 8: Descriptive Statistics, Chapter 3

	Mean	SD	Min	Max
Life Satisfaction	6.61	1.72	0	10
Life Satisfaction 5 years ago	6.92	2.52	0	10
Gross Income (monthly), €	1541.14	1186.03	0	22011
Gross Income 1989 (monthly), €	303.83	119.74	29	729
Full-Time Employed	0.49	0.50	0	1
Full-Time Employed 1989	0.81	0.40	0	1
SED Member	0.18	0.38	0	1
X-Area	0.04	0.18	0	1
Supporter	0.19	0.39	0	1
Demonstrator	0.23	0.42	0	1
Silent Supporter	0.29	0.45	0	1
Silent Dissident	0.29	0.45	0	1
Age	52.20	13.72	18	101
Male	0.43	0.50	0	1
Education				
No formal Educ.	0.06	0.24	0	1
8 years	0.35	0.48	0	1
10 years	0.47	0.50	0	1
High School	0.12	0.33	0	1
Qualification				
None	0.03	0.17	0	1
Vocational Degree	0.66	0.47	0	1
University/College	0.31	0.46	0	1
Living in West	0.08	0.27	0	1
Observations	27,666			

Note: SOEP 1990-2018, own calculations

Table 9: Socioeconomic Characteristics, by Group

	Sup		Dem		Sil. S.		Sil. D.	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Age	56.74	12.67	49.75	13.34	52.39	14.38	51.04	13.27
Male	0.55	0.50	0.53	0.50	0.32	0.47	0.39	0.49
Life Satisfaction 1985	7.55	2.09	6.62	2.55	7.14	2.50	6.53	2.66
Gross Income 1989, €	369.87	118.51	309.25	114.24	262.88	118.91	295.71	105.45
Full-Time Empl. 1989	0.91	0.29	0.82	0.39	0.76	0.43	0.78	0.42
Education								
No formal Educ.	0.05	0.22	0.03	0.18	0.09	0.28	0.06	0.24
8 years	0.29	0.46	0.30	0.46	0.43	0.49	0.35	0.48
10 years	0.48	0.50	0.52	0.50	0.39	0.49	0.50	0.50
High School	0.17	0.38	0.15	0.35	0.09	0.29	0.09	0.29
Qualification								
None	0.02	0.13	0.01	0.08	0.06	0.25	0.03	0.16
Vocational Degree	0.48	0.50	0.66	0.47	0.73	0.44	0.70	0.46
University/College	0.50	0.50	0.33	0.47	0.20	0.40	0.27	0.44
Observations	5,186		6,493		8,030		7,957	

Note: SOEP 1990-2018, own calculations

ultimately led to the end of Communism in Germany. Although the measure could be problematic, as it is a self-reported measure that is surveyed in hindsight, the 23 % in the sample stating to have participated in demonstrations corresponds to official reports. Estimates about the number of participants at the Berlin demonstrations on November 4 in 1989 are compatible with this number. Scholars believe that at this single event, the number of participants ranged from 300,000 to almost 1 million (German Historical Museum, 2021). In addition, there have been numerous protests, not only in big cities, showing that where was large-scale support for a change of the system (Federal Commission on German Reunification, 2020; Kowalczuk, 2019). In October and November 1989, the months preceding the falling of the Wall, protests peaked with 60 demonstrations and almost five million citizens demonstrating (Lohmann, 1994). After the fall of the Berlin Wall on November 9, demonstrations continued, but to a much lower extent.

Silent Majority. The *silent majority* is captured if an individual was not either a supporter or demonstrator. I divide the *silent majority* into *silent supporters*, thus, individuals

stating to have been "very/rather satisfied with the GDR system". And, *silent dissidents* that stated in the 2018 survey to have been "very/rather dissatisfied with the GDR system".

Descriptive statistics by GDR status are shown in Table 9. Supporters are older, have a higher GDR Life satisfaction, inncome, and have more often a university degree.

Outcome Variables. Outcome variables include the change in labor income, employment, and overall life satisfaction from socialism to capitalism. Income in capitalism is measured by current monthly net (log) labor income from 1991 to 2018. Income in socialism is measured in 1990 by the retrospective question about gross labor income last May (1989), when the end of socialism in Germany was not in sight. Both income measures are adjusted for inflation (2016 prices) and converted into euro. In general, incomes were very equal in the GDR, but not so in capitalism. This is why the change in income from socialism to capitalism is important. Also employment was quite equal in the GDR, as the country almost reached full employment, while mass unemployment occurred in the immediate years after reunification. Employment in the FRG equals one if an individual is employed full-time, and zero otherwise. Employment in socialism is measured by the retrospective question in 2018 "How was your employment in 1989?" where the variable is recoded to 1 if an individual was full-time employed and zero otherwise (part-time employment, education, unemployment, etc.). For the labor market regressions, individuals up to the pension age of 65 are included.

The measure of life satisfaction in capitalism is based on responses to the question, "On a scale from 0 to 10, where 0 means completely dissatisfied and 10 means completely satisfied, how satisfied are you with your life, all things considered?" For life satisfaction in the GDR the 1990 question "How satisfied were you with your life five years ago". Self-reported life satisfaction recognizes the fact that "everybody has their own ideas about happiness and a good life" and "people are reckoned to be the best judges of the overall quality of life" (Frey & Stutzer, 2002, p.405). Life satisfaction is positively affected by income, economic growth, democracy, and employment (Stevenson & Wolfers, 2008; Gardner & Oswald, 2007; Frey & Stutzer, 2000; Clark, 2003; Deter, 2020a). Although happiness statements can be biased,

for example by daily moods (Schwarz & Strack, 1999), they contain a significant true signal about a person's overall satisfaction with life and are correlated with a person's happiness indicated by friends and relatives, and even physiological measures of well-being, such as heart rate and blood pressure (for an overview, see Kahneman, 2006). The retrospective life satisfaction question in 1990 may suffer from recall bias, as individuals tend to remember incorrectly, and have the tendency to forget about problems in the past. However, it is the best approximation for GDR life satisfaction available in the GSOEP.

Figure 3 shows the distribution of life satisfaction responses in capitalism by group, and figure 4 the distribution of GDR life satisfaction by group.

3.3.2 Empirical Strategy

I consider the following approach to be estimated on the sample to approximate the effect of conformism in te GDR on success after the transition:

$$y_{it} = \alpha + \beta_1 Supporter_i + \beta_2 Demonstrator_i + X_{it} + a_i + u_{it} \tag{2}$$

$$y_{it} = \alpha + \beta_1 SilSupporter_i + \beta_2 SilDissident_i + X_{it} + a_i + u_{it} \tag{3}$$

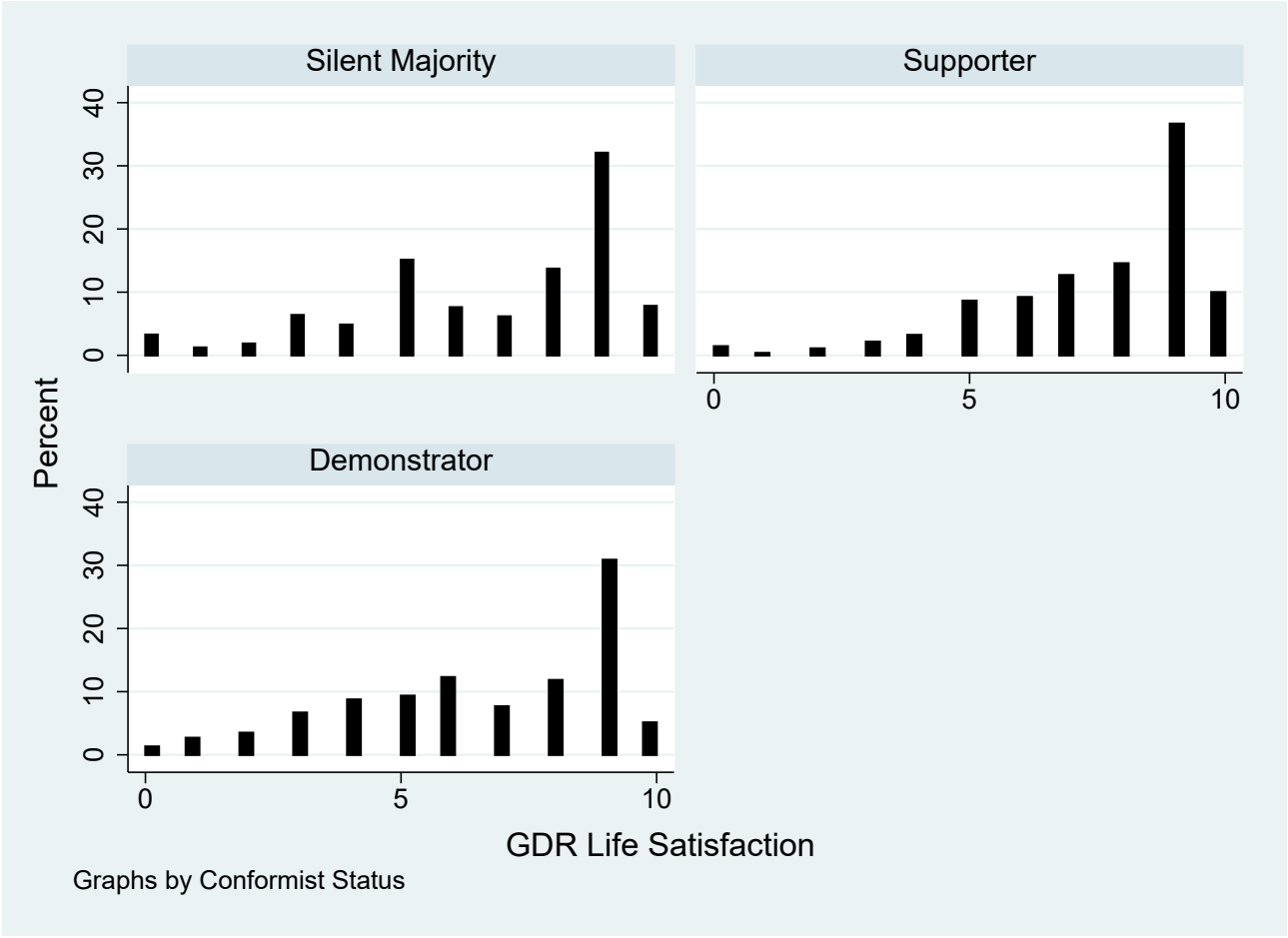
where y_{it} is the dependent variable, thus, outcome after 1990 in year t (outcome under capitalism) *minus* the outcome variable in the time of the GDR (outcome under socialism). Therefore, the dependent variable represents the change in outcomes from socialism compared to the post-socialist period. Outcome variables are the changes in life satisfaction, income, and employment. $Supporter_i$ and $Demonstrator_i$ (and, in a second regression, *silent supporters* and *silent dissidents*, see equation 3) are the explanatory variable that are set for an individual over time. A significantly positive β_1 would therefore mean that, for example, being a former supporter of the system gave the individual an advantage in the transition from socialism to capitalism, compared to the general East German population.

X_{it} is the set of control variables that could both influence the selection into the groups

Figure 3: Distribution of Life Satisfaction, by Group

Note: SOEP 1990-2018

Figure 4: Distribution of GDR Life Satisfaction, by Group



Note: SOEP 1990-2018

and transition success (see Table 9). I control for age, age^2, and age^3. The reunification shock hit individuals in different phases of their life. A younger person might be more able to adapt to the market-economy, as the person is less used to experience with socialism. More years in socialist education, for example, lastingly reduced individual college intentions after transition (Fuchs-Schündeln & Masella, 2016). Another control variable is gender (1=male). Being a woman predicts, for example, the selection into the *silent majority*, and could also predict post-transitional outcomes. Socialist governments promoted women's economic inclusion because the plan for economic growth depended on its inclusion, and women's economic independence was seen as a precondition for gender equality (de Haan, 2012; Shaffer, 2013). Although women in East Germany had (and still have) substantially higher employment rates and incomes than the West, they are still lower than those of East German men (Campa & Serafinelli, 2019).

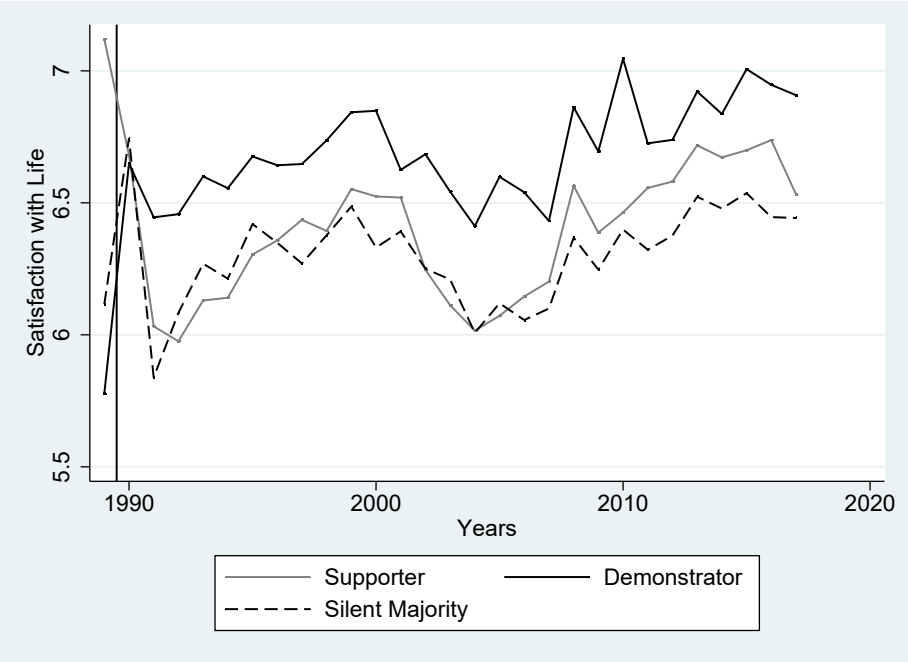
I include dummies for education and qualification in the GDR (in 1990) as a proxy of ability. In socialism, education was often used as an instrument for consolidation and perpetuation of political regimes and their elites (Fuchs-Schündeln & Masella, 2016). The curriculum aimed at creating a socialist personality, access to higher education was granted rather on the basis of political involvement than academic credentials alone. I distinguish between four levels of educational attainment: (0) No formal education degree (reference category in the regression), (1) Secondary school (*Polytechnische Hochschule*, POS) - 8 years, (2) Secondary School - 10 years, and (3) Upper Secondary Degree (*Erweiterte Oberschule*, EOS), surveyed in year 1990. Vocational attainment, or qualification, is classified as follows: (0) No vocational degree (reference category in the regression), (1) Vocational degree, and (2) University/Technical college. Education and qualification predicts the probability of belonging to the supporter group and demonstrators, and may also function as a predictor of economic success after transition, both as a signal for ability, and through increased working experience in higher productivity jobs in the GDR. If the 1990 measure of education and qualification is not available, I use the measure of the first time an individual appears in the

sample.

Standard errors are robust to control for heteroskedasticity, and are clustered at the individual level to take into account the panel data structure (repeated individuals of the same individual). Moreover, I control for year effects to account for differences in years.

3.4 Results

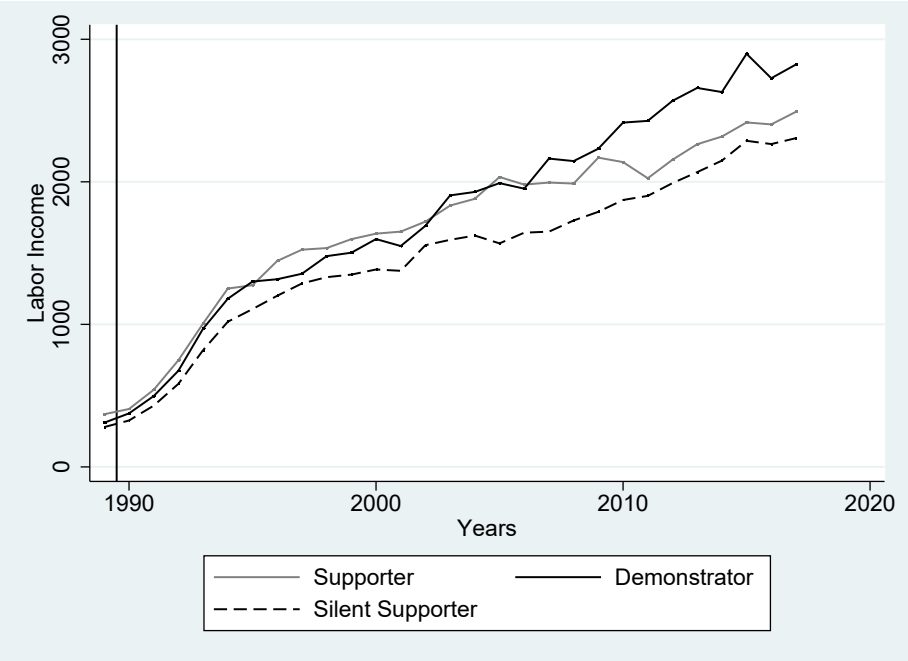
Figure 5: Life Satisfaction from Socialism to Capitalism



Note: SOEP 1990-2018, own calculations; for 1989, the retrospective life satisfaction from 1990 is inserted ("How satisfied were you with life five years ago"), afterwards the current life satisfaction

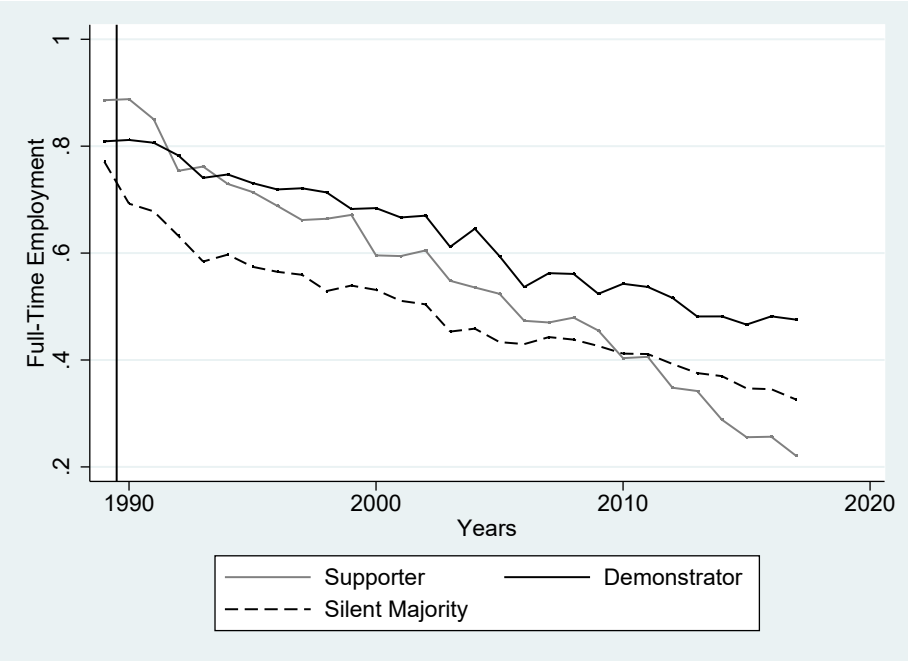
Figure 5 shows the raw development of satisfaction with life over time. Demonstrators improved their life satisfaction the most, while SED members show the strongest decrease. The largest drop for socialist supporters occurs in the immediate years after the fall of the Berlin Wall, but increases afterwards. Thus, the most of the drop in life satisfaction for supporters can be explained by higher levels of life satisfaction in the GDR. One explanation for the slow convergence of supporters and demonstrators after a decade in capitalism could

Figure 6: Income from Socialism to Capitalism



Note: SOEP 1990-2018, own calculations; for 1989, the retrospective income measure is inserted (the 1990 question for income in May 1989)

Figure 7: Employment from Socialism to Capitalism



Note: SOEP 1990-2018, own calculations; for 1989, the retrospective employment measure is inserted (the 2018 question about employment before reunification)

be that many opportunistic persons that were part of the SED needed some time to adjust to the new system.

The average development of incomes over time, also without the inclusion of control variables, is shown in Figure 6. While all three groups, supporters, demonstrators, and *silent majority*, start off with very similar incomes in 1989, they all improve their incomes substantially. However, with increasing years, the income of demonstrators show a wage premium compared to the other groups that start to show from the mid-2000.

Average employment rates are shown in Figure 7. Contrary to incomes, employment of all groups deteriorate after socialism. This parallel development is partly due to the government focus of increasing incomes to stop emigration. However, employment rates fell, potentially because of very high incomes and the economic breakdown in the early 1990s (see 3.2). Supporters start off with the highest employment share, but also the largest decrease in employment. Again, the most favorable development can be observed for demonstrators.

To check whether this development is also visible with the inclusion of controls, the regression of equation 1 is applied in Table 10. In column (1), the life satisfaction regression is applied without the inclusion of controls, and in column (2) with controls. In both regressions, supporters lose substantially in life satisfaction, while demonstrators improved their situation. More specifically, being a demonstrator in the GDR system relates to an improvement in life satisfaction of 0.514 point on the 0-10 life satisfaction scale. This magnitude is comparable to a life satisfaction effect of finding a job (Gielen & Van Ours, 2014).

Concerning incomes, demonstrators show increases that are also visible with the inclusion of all controls. Namely, being a demonstrator relates to an increase in incomes of about 159 € per month after reunification, compared to the average population, when factors influencing both the selection into groups and outcomes after reunification are held constant. A positive change in full-time employment for demonstrators is only visible without controls (column 5). Thus, significantly higher employment rates for demonstrators can be fully explained by more favorable individual characteristics of this group.

Table 10: Main Regression: Supporter and Demonstrator

	(1) LS	(2) LS	(3) INC	(4) INC	(5) EMP	(6) EMP
Sup.	-0.607***	-0.817***	22.241	-12.002	-0.031	-0.009
	(0.178)	(0.190)	(100.433)	(90.577)	(0.038)	(0.037)
Dem.	0.569***	0.514***	262.755***	159.174*	0.096***	0.019
	(0.191)	(0.189)	(90.465)	(88.514)	(0.034)	(0.032)
Age		-0.035		-334.464***		-0.151***
		(0.063)		(55.122)		(0.025)
Age^2		0.002		8.663***		0.004***
		(0.001)		(1.345)		(0.001)
Age^3		-0.000		-0.071***		-0.000***
		(0.000)		(0.011)		(0.000)
Male		0.015		210.894***		0.179***
		(0.152)		(75.405)		(0.027)
Educ.: 8 Years		0.925***		388.865***		0.264***
		(0.240)		(78.099)		(0.057)
Educ.: 10 Years		1.911***		567.723***		0.292***
		(0.268)		(82.817)		(0.059)
Educ.: High School		1.892***		832.210***		0.333***
		(0.340)		(136.624)		(0.072)
Qual.: Basic		-0.061		85.836		0.039
		(0.458)		(86.879)		(0.080)
Qual.: Gen. Maturity		-0.456		456.286***		0.147*
		(0.482)		(115.409)		(0.085)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Individuals	1,451	1,451	621	621	1,451	1,451
Obs.	27,666	27,666	11,193	11,193	22,791	22,791
R^2	0.019	0.075	0.009	0.355	0.006	0.177

robust SE in (); ***p<0.01, **p<0.05, *p<0.1; outcome variables are changes in life satisfaction, income, and full-time employment from socialism to capitalism.

Table 11: Main Regression: Silent Majority

	(1) LS	(2) LS	(3) INC	(4) INC	(5) EMP	(6) EMP
Sil. Sup.	-0.475***	-0.360**	-199.830**	-125.954	-0.082**	-0.032
	(0.176)	(0.181)	(85.965)	(77.579)	(0.038)	(0.036)
Sil. Dis.	0.385**	0.426**	-139.113	-69.048	-0.007	0.013
	(0.183)	(0.181)	(88.624)	(85.341)	(0.033)	(0.031)
Age		-0.064		-341.030***		-0.153***
		(0.063)		(55.434)		(0.025)
Age^2		0.002		8.781***		0.004***
		(0.001)		(1.358)		(0.001)
Age^3		-0.000		-0.072***		-0.000***
		(0.000)		(0.011)		(0.000)
Male		-0.040		210.872***		0.177***
		(0.152)		(75.500)		(0.027)
Educ.: 8 Years		0.942***		419.987***		0.262***
		(0.236)		(89.906)		(0.057)
Educ.: 10 Years		1.883***		593.104***		0.288***
		(0.262)		(89.055)		(0.059)
Educ.: High School		1.960***		859.907***		0.333***
		(0.342)		(143.864)		(0.072)
Qual.: Basic		-0.164		80.460		0.031
		(0.446)		(90.979)		(0.079)
Qual.: Gen. Maturity		-0.699		441.591***		0.135
		(0.472)		(119.275)		(0.085)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Individuals	1,451	1,451	621	621	1,451	1,451
Obs.	27,666	27,666	11,193	11,193	22,791	22,791
R^2	0.014	0.063	0.005	0.353	0.004	0.178

robust SE in (); ***p<0.01, **p<0.05, *p<0.1; outcome variables are changes in life satisfaction, income, and full-time employment from socialism to capitalism.

Following equation 3, I split the *silent majority* into *silent supporters* and *silent dissidents* and used as explanatory factors in Table 11. As expected *silent supporters* lose, while *silent dissidents* gain life satisfaction after the fall of the Berlin Wall, both without and with the inclusion of controls. The increases in life satisfaction for *silent dissidents* are comparable to increases for demonstrators. Thus, for individuals who were dissatisfied with the GDR system it paid off to remain silent during the Peaceful revolution, as their situation improved similarly to politically active protesters. The improvement of life satisfaction for nonpolitical dissidents is potentially also due to the circumstance that they supported the idea of a quick reunification with the West and the harmonization of political and economic conditions. In the elections of March 1990, the first free election in East Germany since Hitler abolished the Weimar Republic in 1933, the Helmut Kohl supporting *Alliance for Germany*, who stood for a quick reunification, won by a large margin (48.1%). Opposition groups, represented in the party *Democratic Awakening* only received 0.9 %, much less even than the successor of the discredited Communists, the new *Party for Democratic Socialism* that won a surprising 16.3 % of the vote (The New York Times, 1990). It, thus, became obvious that the *Silent Dissidents* prevailed in the elections.

Looking at individual change in income changes and employment, *silent supporters* show only lower outcomes when influencing factors are not held constant (column 3 and 5 in Table 11). Therefore, unfavorable characteristics for *silent supporters* can explain lower labor market outcomes after transition.

3.5 Conclusion

I analyzed with data on Germany's socialist past how former Communist supporters, demonstrators, and the *silent majority* in East Germany managed the transition into today's market-based democracy. The results reveal that former supporters became substantially less satisfied, while demonstrators increased satisfaction. Concerning incomes, demonstrators show slight increases, compared to the average population. Higher employment rates

for demonstrators disappear when controlling for individual characteristics. The transition success of the "silent majority" depended on the inner support of the system.

The results are important as they showed that both systems produced different winners and losers, a circumstance that is relevant for the acceptance of the system. Moreover, it is important that demonstrators that were partly responsible for the end of socialism in Germany, improved their lives in the new system.

4 SAINTS AND SINNERS: BUSINESS CULTURE IN THE FINANCIAL SECTOR

Abstract. Following the financial crisis and subsequent law suits against banks, the business ethic of the financial sector was scrutinized by the public. Do financial professionals think and behave in a different way than other professionals? Studying German panel data, I investigate whether differences in prosocial and risk preferences are prevalent, and whether preferences of financial professionals are shaped by socialization within the sector or whether professionals with different preferences are attracted by the sector. I compare financial and non-financial professionals and find lower prosocial and higher risk preferences for financial employees. The financial sector attracts rather than socializes riskier professionals, but prosocial preferences decrease with increasing experience in the sector. Lower prosocial and higher risk preferences yield benefits regarding career success in the finance industry.

Keywords: prosocial motivation; risk; financial sector; selection; socialization

JEL Codes: D64, D81, D53, D90, M5

4.1 Introduction

The financial sector plays a crucial role for the economy by managing risks, providing price signals, and promoting economic opportunities (Froot, Scharfstein, & Stein, 1993; Hayek, 1945; Levine, 2005). Why then is the sector perceived as highly selfish and even dishonest among professions (Ashraf & Bandiera, 2017)? Compared to medical doctors, for example, many financial activities are associated with higher (perceived) private than social returns (Zingales, 2015). Since the financial crisis in 2007/08 the financial sector came publicly under fire with ongoing lawsuits involving the causes of the crisis, the libor manipulation, and the enabling of tax evasion and money laundering. In the United Kingdom, banks had to pay $56bn in fines between 2011 and 2014, which equals more than 60 percent of their profits during this time (The Economist, 2014). The fines, however, were paid by banks and not financial professionals who were responsible for the crisis. Political blame has often been attached to a "failure of professionalism and ethics", to quote the British Parliamentary Commission on Banking Standards (PCBS) (The Economist, 2016). However, do financial professionals actually think and behave in an unethical way that might have contributed to the financial crisis?

Empirical evidence on risky and unethical behavior of financial professionals is rather divided in making such claims. Monetary experiments show that economic students, thus, possible future bankers, behave more selfishly and greedier than the average student (Frey & Meier, 2003; Wang, Malhotra, & Murnighan, 2011). Cohn, Fehr, & Maréchal (2014) find that professional bankers are more dishonest in a coin tossing experiment only when their professional identity is rendered salient, pointing out the necessity for changes in the business culture of banking. However, there is an ongoing discussion about the generalizability and replicability of the results. Stöckl (2015), Vranka & Houdek (2015), and Hupé (2018) assert that alternative explanations for those results cannot be ruled out, and a recent large-scale replication attempt by Rahwan, Yoeli, & Fasolo (2019) across several countries failed,

raising additional questions about existing unethical behavior of banking professionals (see also Cohn, Fehr, & Maréchal, 2019). Cross-sectional data from the European Social Survey reveal only negligible lower prosocial values of financial employees (Van Hoorn, 2015, 2017). Regarding risk aversion, bankers behave in experiments *less* risky when embedded in a professional context, suggesting that a problem with the business norm concerning risk behavior does not exist (Cohn, Fehr, & Maréchal, 2017). Moreover, financial markets in experiments show *less* overpricing bubbles when financial professionals were involved compared to economics students (Weitzel et al., 2020), suggesting that risk behavior of bankers is not a specific problem.

Different from the cross-sectional analysis of Van Hoorn (2015), the present study analyzes additionally risk preferences as well. Moreover, the panel data structure of the German Socio-Economic Panel (GSOEP) allows to test for selection and socialization effects of preferences. Regressions reveal lower prosocial and higher risk preferences for financial employees. The financial sector attracts rather than socializes riskier professionals, but prosocial preferences decrease with increasing experience in the sector. Lower prosocial and higher risk preferences yield benefits regarding career success in the finance industry (measured by income).

The results are important since they indicate a business norm that attracts and socializes professionals who think and behave in a riskier and less prosocial manner. Risky behavior can lead to welfare losses (Barber & Odean, 2001) and a low prosociality causes weaker contract enforcement and cooperation, and predicts welfare losses (Porta et al., 1996; Knack & Keefer, 1997; Cooper & Kagel, 2016; Lichter, Löffler, & Siegloch, 2019). Although financial regulation is a critical tool in improving the social impact of the financial sector, a cultural change in the banking industry is a potential complementary measure on which governments can focus.

The paper is set up as follows. Section 2 discusses theory and related literature, and section 3 data and methodology. Section 4 presents the results. Finally, Section 5 concludes.

4.2 Theory and Related Literature

4.2.1 Person-Organization Fit

This study has its roots in the Person-Organization fit of O'Reilly, Chatman, & Caldwell (1991) who state that personal traits can help being successful in an organization with similar values. The Person-Organization fit is, thus, the compatibility between the employee's traits (personality, preferences) and the organizational culture, and is a powerful determinant of work outcomes, such as authority or income. Certain personality traits or preferences are important in being successful in one industry, but may harm in another. The financial industry is not all the same, different banks and insurance companies and even departments within one company, adopt different workplace norms. Nonetheless, the financial industry shares similar norms, and face the same market conditions, regulatory constraints, and stakeholder expectations (Gordon, 1991). It remains, however, unclear whether a specific business norm is present. It could also be the case that few individuals acting alone, such as Bernie Madoff, are responsible for the recent malfeasance (Boddy, 2011), or, that the regulatory framework and incentive structure gave bankers the opportunity to behave in a certain way.

4.2.2 Prosociality, Risk and the Financial Sector

Preferences are important in explaining behavior of individuals, because they show what people want to do as well as what they want to have in the future.

Prosociality, as one preference, is the willingness to support other people's well being, and is an important aspect of human personality. It is the concern for happiness of other human beings (Lebel & Patil, 2018), and can also be described as the social purpose (of an individual or an organization) beyond profit maximization (Cassar, 2018). Individual prosociality is shaped in early childhood by socio-economic status, mother-child interaction and mothers' prosocial attitudes (Kosse et al., 2020). It affects economic outcomes at the state

level, such as the provision of public goods, contract enforcement, and economic growth in general (Putnam, Leonardi, & Nanetti, 1994; Porta et al., 1996; Knack & Keefer, 1997; Lebel & Patil, 2018; Cooper & Kagel, 2016; Lichter, Löffler, & Siegloch, 2019), and is therefore a crucial factor for the functioning of society. However, recent results suggest that individuals drawn by career opportunities are more talented and effective than those drawn by prosociality (Ashraf et al., 2020)

Risk preference, as another potential factor explaining financial employment, is mainly caused by genetics as well as socialization in early childhood, but can also be shaped by economic conditions and the work environment (Cesarini et al., 2009; Dohmen et al., 2011; Booth & Nolen, 2012; Guiso, Sapienza, & Zingales, 2018; Cohn, Fehr, & Maréchal, 2017). Higher risk preferences usually predict economic success such as income and self-employment (Dohmen et al., 2011; Caliendo, Fossen, & Kritikos, 2014), a variable payment scheme, for example, attracts relatively risky individuals (Dohmen & Falk, 2010). Excessive risk taking, however, can lead to instability and welfare losses (International Monetary Fund, 2008).

Expected Effects of the Financial Sector on Prosociality and Risk. The financial sector plays a crucial role in the functioning of the economy. Financial jobs are characterized by the risk of large losses, a hard-to-monitor effort, and a strong dependence on bonuses (Kaplan & Rauh, 2009), potentially enhancing risk behavior and suppressing prosocial behavior. Empirical studies about a certain business norm of bankers do not come to a consistent conclusion (Cohn, Fehr, & Maréchal, 2014; Hupé, 2018). Although experiments with financial professionals challenge the view that professional norms increase bank employee's willingness to take risks (Cohn, Fehr, & Maréchal, 2017; Weitzel et al., 2020), newspapers (The Economist, 2016; The Wall Street Journal, 21/4/2009), regulators (House of Commons Treasury Committee, 2008), and academics (Curtis, Harney, & Jones, 2013) point out the importance of changing the professional norm in the financial sector, and even state that "the culture in finance that permitted excessive and uncontrolled risk-taking and a loss of focus on end clients, were at the heart of the financial crisis" (Power, Ashby, &

Palermo, 2013).

From the above mentioned literature, two hypothesis are carried out:

Hypothesis 1: Financial professionals have a lower preference for prosociality and are more risk-loving; differences are either caused by an attraction or a socialization of professionals. Preference lead to actual behavior.

Hypothesis 2: Financial professionals with a lower prosociality and a higher risk preference are relatively more successful in their job.

4.3 Data and Methodology

4.3.1 Sample Selection

In the empirical analysis, I use unbalanced data from the 1984-2017 German Socio-Economic Panel (GSOEP), an annual panel survey, as representative of the resident German population (Goebel et al., 2019a). Included are all individuals between 18 and 65. Financial sector in the analysis contains financial services and insurance activities, except compulsory social security and the public sector (NACE classification: 65, 66 and 67). Financial professionals in the sample are managers, professionals, and associate professionals (ISCO-88 Occupation Code classification: 1-3). In the control group, professionals in the same occupations but who work in non-financial sectors and never worked in the financial sector before are considered. Thus, personal characteristics between financial and non-financial employees are relatively balanced in terms of age, college education, and employment experience (see Table 12).

Control and financial employees in the analysis therefore consists only of relatively high-skilled professionals, such as managers, professionals, and associate professionals. Remaining employees, these are clerks, service/ship/market sales workers, skilled agricultural and fishery workers, craft and related workers, plant and machine operators and assemblers, and elementary occupations are not included in either the financial group or the control group.

More information on the ISCO88 classification can be found on the website of the International Labour Organization, (https://www.ilo.org/public/english/bureau/stat/isco/). This was done in order to analyze only financial professionals, thus, whose work evolves around task that directly deal with financial products. And, to create a comparable control group, thus, professionals in other sectors who had, at one point in life, the opportunity to choose financial employment. In the empirical analysis, I control for other factors that might drive selection into the financial sector as well as individual preferences, such as age and education. The problem I would have when excluding group 3 (associate professionals, all occupations starting with 3 in the ISCO88 definition) is that I would lose many professionals that are directly involved in employment dealing with financial products. These are, for example, securities and Finance Dealers and Brokers (ISCO88 classification 3411), Finance and Sales Associate Professionals (3419), or Trade Brokers (3421). However, to check whether the main results are driven by a too broad measure of financial and control employees, in an additional step I redo the main regression separately for managers (ISCO88: 1), professionals (ISCO88: 2), and associate professional (ISCO88: 3). In order to further isolate the effect of risk and prosociality preferences on the decision to become a financial professional, I furthermore include the biographical characterics, such as college degree, HH income, and age in the regression. To compare only Business students would be a very interesting idea (and potentially more convincing). However, such a study would suffer from a small sample, with which a generalizability of results would be hard to argue.

Individuals that are neither in the financial group nor the control group are person-year observations where an individual is either employed as a non-professional (ISCO-88: 4-9), unemployed, in education, or out of the labor force. This group is included as the reference person-year observations for both the control and financial professionals, because the panel structure of the data can then take better into account the change of time-invariant heterogeneity over time (for example, an individual being observed in education and then in the financial sector), by applying a random effects model.

Table 12: Descriptive Statistics, Chapter 4

	Financial Sector	Control Group
Age of Individual	42.15	42.48
Share of Female Employees	0.40	0.50
Having a Partner	0.75	0.76
German Nationality	0.95	0.95
College Degree	0.35	0.44
Log HH Income	6.23	6.02
Full-Time Experience	16.97	15.35
Part-Time Experience	1.87	2.70
Observations	4,656	139,821

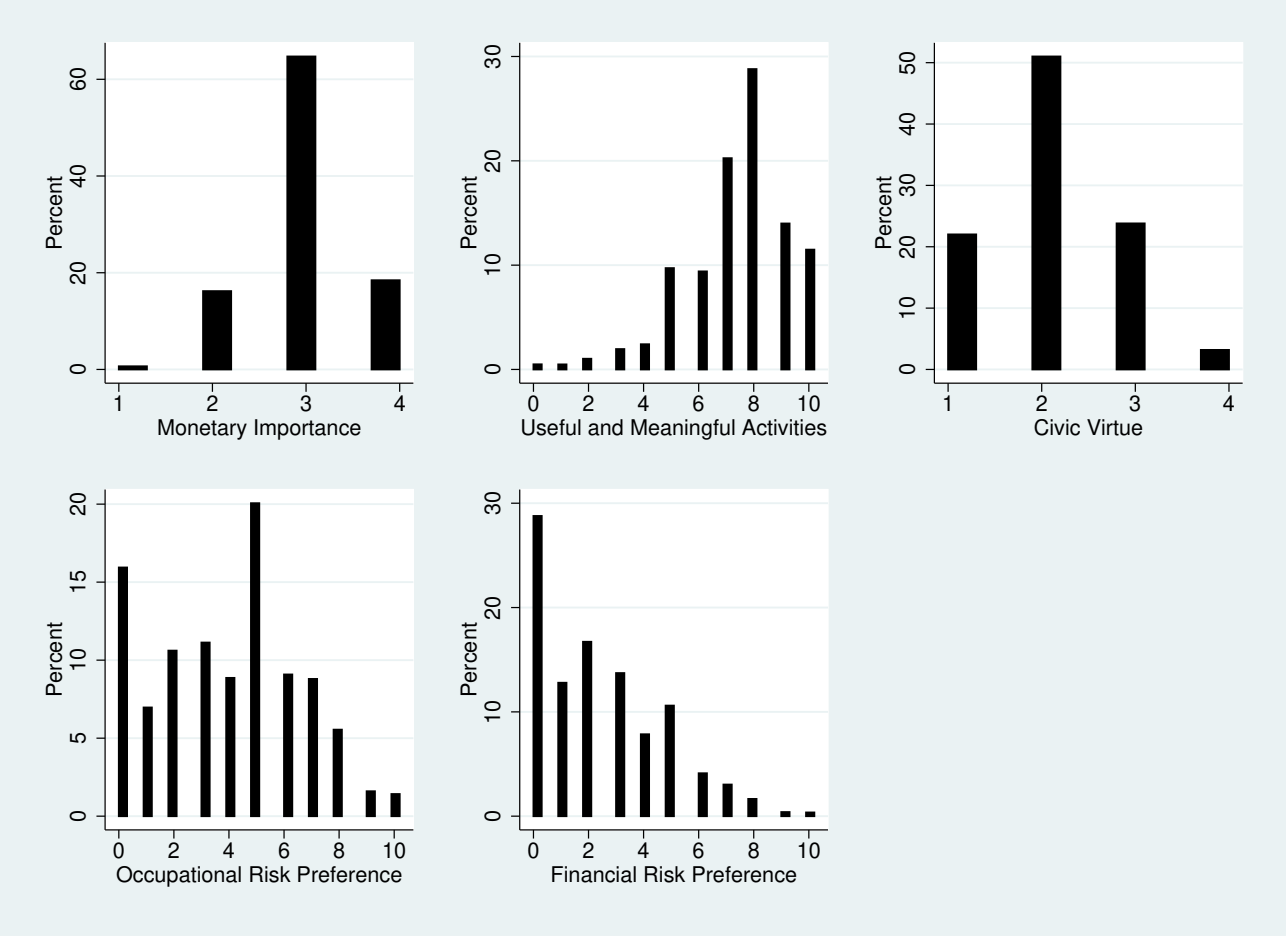
SOEP 1984-2017

4.3.2 Measures

It is tested whether working in the financial sector is associated with a lower average prosociality and a higher preference for risk. The independent variables *Financial Professional* and *Non-financial Professional* (0: No, 1: Yes) capture whether an individual is currently employed as a professional in either the financial or the non-financial sector.

Preferences. In the analysis, prosociality is captured by three variables. *Financial Motivation*, thus "the importance of being able to afford things", is used as the inverse of prosociality (for an overview of the variables, see Table 13). The measure is recoded so that higher values correspond to higher financial motivation, and ranges from 1 ("not at all important") to 4 ("very important"). Financial motivation is the opposite of prosocial motivation and reflects a rather selfish motivation; Necker & Voskort (2014), for example, use financial motivation to test selfishness in individuals living formerly in German socialism, and group the variable, among others, as "having success or zero-sum goals". The second variable measuring prosociality is *Self-Perceived Prosociality*, measured by the question "Do you have the feeling that what you are doing in life is useful and meaningful", where 0 represents "not at all valuable and useful" and 10 "completely valuable and useful". Employees scoring lower on this variable perceive what they are doing at work (among other things) as less useful, and less contributing to society or the world as a whole (Dur & Van Lent, 2019). The third

Figure 8: Distribution of Prosociality and Risk Answers



Note: SOEP 1984-2017, own calculations

prosocial variable *Civic Capital*, namely, the importance to be socially and politically active (Lichter, Löffler, & Siegloch, 2019) is recoded so that higher values correspond to higher civic capital (ranging from 1: "not at all important", 4:"very important").

For the specific purpose of our study I use two measures of risk, namely the *Willingness to take Risks in Financial Matters*, as well as the *Willingness to take Risks in Occupation*. Both variables are measured on a scale of 0-10, where 0 means "not at all willing to take risks" and 10 means "very willing to take risks". Self-reported risk attitudes in the GSOEP data are found to correlate with risky choices in incentivized lottery experiments. Domain risk preferences, such as financial risk preference or health risk preference, are shown to correlate with domain risk behavior such as higher risky investments or smoking behavior (Dohmen et al., 2011). Also prosocial preferences are shown to correlate with actual behavior (Kosse et al., 2020). The distribution of prosociality and risk answers are shown in Figure 8. For the regression, the variables are z-standardized (mean = 0, SE = 1) for a better comparison of differently coded variables.

Personal controls are used to hold factors constant that bias the findings if they are correlated with the explanatory and the dependent variable. These include age, sex, having a partner, German nationality, college degree, logarithmized monthly household income, and both full-time and part-time work experience. Year and regional (federal states of Germany) dummies are applied as well.

4.3.3 Methodology

To examine whether being employed in the financial sector relates to different preferences the following equation is applied:

$$Preference_{it} = FinancialProfessional_{it} + ControlProfessional_{it} \tag{4}$$

where $Preference_{it}$ is the dependent variable; it measures either the preference for prosociality or risk of an individual i in year t; $FinancialProfessional_{it}$ equals one if an individual

Table 13: Operationalization of Main Variables, Chapter 4

Variable	Item	Years
Dependent Variable		
Financial Sector	In which economic sector/branch of industry/service area is the company or institution that you work for? 1: Finance (NACE: 65-67), 0: Other Sectors	all
Prosociality		
Financial Motivation	Different things are important to different people, How important are the following things to you? Very important, important, less important or quite unimportant? - Being able to afford things for myself (1-4)	1990, 92, 95, 2004, 08, 10, 12, 16
Civic Capital	- To Be Socially And Politically Active (1-4)	
Self-perceived Prosociality	"Do you have the feeling that what you are doing in life is valuable and useful?" (0-10)	2015-2017
Risk Preference		
Financial Risk	"People can behave differently in different situations. How would you rate your willingness to take risks in the following areas?" (0-10) - regarding financial investments?	2004, 09, 14
Occupational Risk	- regarding your career prospects?	2004, 09, 14

GSOEP 1984-2017

is employed as a professional in the financial sector in time t; $ControlProfessional_{it}$ equals one if an individual is employed as a professional in the non-financial sector in time t. The above mentioned biographical control variables as well as regional and year dummies are applied. To account for the panel data structure and to control for unobserved heterogeneity of an individual over time, a random effects model is applied:

$$y_{it} = \mu + \beta_1(x_{it} - \tilde{x_i}) + \beta_2\tilde{x_i} + \beta_3 z_i + \upsilon_{i0} + \upsilon_{i1}(x_(it) - \tilde{x}) + \epsilon_{it0} \tag{5}$$

where y_{it} is the dependent variable (prosociality or risk), x_{it} is a time-varying independent variable and z_i is a time invariant independent variable. β_1 represents the average within effect of x_{it}, and β_2 represents the average between effect of x_{it}. The β_3 parameter represents the effect of the time-invariant variable z_i, and is therefore in itself a between effect. The random part of the model includes a random effect (υ_{i0}) attached to the intercept and a random effect (υ_{i1}) attached to the within slope (Bell, Fairbrother, & Jones, 2019).

Random effects models assist in controlling for unobserved heterogeneity when the heterogeneity is constant over time and not correlated with independent variables, while in fixed effects models the unobserved heterogeneity is assumed to be correlated. Using a random effects model instead of a fixed effects model is justified here because it can be argued that the individual unobserved heterogeneity is constant over time and not correlated with the explanatory variables (being a professional in either the financial sector or the control sector). An advantage of using a random effects model over a fixed effects model is that random effects are estimated with partial pooling, thus, when having few data points in a group (for example, financial professionals) the group's effect estimate will be based partially on the more abundant data from other groups (person-year observations in the financial sector). Moreover, when looking into differences between the financial and the non-financial sector it is more interesting to take the between-individual variance than the within-individual variance into account.

4.4 Results

4.4.1 Is the Financial Sector different?

Table 14 shows the result of equation 4. Financial employment is associated with a higher financial motivation (*FINMOT*) compared to other professionals (column 1). In terms of magnitude, a standard deviation higher monetary motivation increases the probability of financial sector employment by 14.7 percentage points. Although professional work is associated with higher self-perception of prosociality (*SELFP*), this is not the case for financial professionals (column 2). This aligns to findings that the social impact of bankers is perceived as particularly low among different professions (Ashraf & Bandiera, 2017). Civic capital (*CIVC*) is significant and positively related to being employed in the control group, but not for financial professionals. Thus, as expected from hypothesis 1, financial professionals have a lower individual prosociality than comparable professionals. Moreover, the preference for taking risks in financial matters (*RISKF*) is significantly increased with financial employment, and more than four times larger in magnitude than for non-financial professionals (column 4).

Even if a lower prosocial and a higher risk motivation is associated with actual behavioral consequences, the measures could still be problematic. It could be the case, that risky behavior is only present in the private and not the professional context; thus, individuals buy risky stocks, but not in their professional position as it is other people's money. Although self-reported risk regarding occupation is included, the behavioral consequence of on-the job risk cannot be measured here due to lack of data. Second, *clients* could drive the decisions of bankers. Then, professionals' attitudes and behavior are less meaningful, because they follow instructions and profit expectations of their clients. However, it can be argued that preferences of banking professionals, such as consultants and traders, play still a crucial part in financial decision-making.

Female differences (Table 17 in the Appendix) indicate that women in general score not

Table 14: Who sorts into the Financial Sector?

	(1) FINMOT	(2) SELFP	(3) CIVCAP	(4) RISKF	(5) RISKO
Finance	**0.147*** **	**-0.037**	**0.020**	**0.367*** **	**0.244*** **
	(0.03)	**(0.05)**	**(0.02)**	**(0.04)**	**(0.04)**
Control	**-0.013**	**0.144*** **	**0.082*** **	**0.086*** **	**0.148*** **
	(0.01)	**(0.01)**	**(0.01)**	**(0.01)**	**(0.01)**
Age	-0.018***	-0.014***	-0.001**	-0.012***	-0.024***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Female	-0.064***	0.132***	-0.073***	-0.376***	-0.251***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Having a Partner	0.075***	0.210***	-0.047***	0.087***	0.028*
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
German Nationality	-0.133***	-0.078***	0.193***	0.017	0.120***
	(0.01)	(0.02)	(0.01)	(0.02)	(0.02)
College Degree	-0.111***	0.132***	0.235***	0.182***	0.141***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Log HH Income	0.081***	-0.023***	0.003	0.091***	0.067***
	(0.00)	(0.01)	(0.00)	(0.01)	(0.01)
Full-Time Experience	0.008***	0.012***	-0.001	0.001	0.005***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Part-Time Experience	0.003***	0.011***	0.003***	0.005***	0.005***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Constant	0.227***	0.341***	1.957***	0.061	0.370***
	(0.04)	(0.05)	(0.03)	(0.05)	(0.05)
Year and Regional Dummies	Yes	Yes	Yes	Yes	Yes
Random Effects	Yes	Yes	Yes	Yes	Yes
Observations	101,760	58,069	101,506	51,133	49,239
Overall R^2	0.0424	0.0374	0.0806	0.0790	0.0965

robust SE in (); ***p<0.001, **p<0.01, *p<0.05; included are all individuals age 18-65; the coefficients *Finance* and *Control* are therefore the effect of financial and control employees on preferences, compared to preferences of all other person-year observations, such as non-professional employees, unemployed, etc.

necessarily higher on prosocial preferences, but much lower on both risk measures. Women in finance show a lower average financial motivation and risk than men in finance, also when comparing it to gender differences in other professions. Female professionals in non-financial sectors score rather lower on prosocial attitudes compared to non-financial professional men, but much lower on risk measures. Thus, hiring more women could induce lower risk in the financial sector, but not necessarily increase prosocial preferences. Gender differences in risk align with previous studies (Booth & Nolen, 2012). Barber & Odean (2001) show that male financial professionals lose more money through excessive trades over the year than women.

Sensitivity Checks. Since the three included occupations, namely, managers, professionals, and associate professionals could be heterogeneous in their preferences, I perform a sensitivity check. More specifically, I redo the regressions in Table 14, but consider only managers in the financial and the control group (Table 18), then only professionals (Table 19), and then only associate professionals (Table 20).

When financial managers are compared to non-financial managers, the results are very similar. Financial managers score significantly higher on monetary motivation and financial risk preference, while non-financial managers score higher (than the average population) on civic capital. Interestingly, the risk preference concerning occupational matters is even slightly lower for non-financial managers. If only professionals are considered (Table 19) financial professionals score higher on financial and occupational risk, but not anymore on monetary motivation (column 1). Non-financial professionals score higher on the prosocial preferences self-perceived prosociality and civic capital. Associated financial professionals (Table 20) score higher on monetary motivation, and risk preferences, while associated non-financial professionals score higher on the prosocial preferences. Altogether, the sensitivity check confirms the main results.

4.4.2 Selection vs. Socialization

Do differences stem from the selection of different individuals or from a socialization of individuals during their time in the financial sector?

Selection. To see whether different preferences were already present before the first time an individual started working in the financial sector, preferences of one year before first financial employment are considered. The control group consists of individuals who start working in t+1 in control professions (for the first time in the sample). Individuals that worked before as either financial or non-professionals are dropped from the sample. The labor status in the sample is therefore in the observed year t either education, non-professional job, unemployment, or being out of the labor force. If financial professionals show differences in risk and prosociality already one year before starting to work in the sector, an attraction of individuals with different preferences is present. An ordinary least squares regression is applied. The above mentioned controls are applied, but no random effects, because an individual is only observed once. Following Caliendo, Fossen, & Kritikos (2014), if preferences are missing for the individual, the value of an individual of up to three years before is inserted, as preferences are shown to be relatively stable over three years (Schildberg-Hörisch, 2018). The OLS regression in Table 15 shows that only financial risk preference is more pronounced a year before the career start in finance.

Socialization. Is prosociality therefore increasing with time in the financial sector, thus, does the financial business norm indoctrinates professionals to become less prosocial, as Cohn, Fehr, & Maréchal (2014) find? The following equation is applied and follows roughly the approach by Ayaita, Gülal, & Yang (2018):

$$Preference_{it} = FinancialExperience_{it} + NonFinancialExperience_{it} \tag{6}$$

where $(Non-)FinancialExperience_{it}$ is measured by the the number of times an individual is observed in time t to work as a (non-)financial professional in the GSOEP data.

Table 15: Selection into the Financial Sector

	(1) FINMOT	(2) SELFP	(3) CIVC	(4) RISKF	(5) RISKO
Finance$_{t+1}$	**0.074**	**-0.037**	**0.012**	**0.282*** **	**0.104**
	(0.05)	**(0.12)**	**(0.05)**	**(0.06)**	**(0.06)**
Age	-0.025***	0.001	0.008***	-0.007*	-0.009***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Female	-0.076**	0.064	-0.131***	-0.458***	-0.266***
	(0.03)	(0.05)	(0.02)	(0.03)	(0.03)
Having a Partner	0.101***	0.152**	-0.059*	0.115***	0.045
	(0.03)	(0.05)	(0.03)	(0.03)	(0.03)
German Nationality	-0.171***	-0.081	0.241***	-0.025	-0.038
	(0.05)	(0.07)	(0.05)	(0.06)	(0.05)
College	-0.139***	0.039	0.228***	0.144***	0.072
	(0.03)	(0.05)	(0.03)	(0.04)	(0.04)
Log HH Income	0.072***	-0.062*	0.029	0.094***	0.097***
	(0.02)	(0.03)	(0.02)	(0.02)	(0.02)
Full-Time Experience	0.013***	-0.001	-0.013***	-0.001	-0.003
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Part-Time Experience	0.002	-0.005	0.000	0.006	-0.001
	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)
Constant	0.110	0.188	-0.428*	0.166	0.057
	(0.17)	(0.22)	(0.17)	(0.18)	(0.18)
Year and Regional Dummies	Yes	Yes	Yes	Yes	Yes
Random Effects	No	No	No	No	No
Observations	7,515	2,268	7,508	4,815	4,806
Adjusted R^2	0.0461	0.0086	0.0456	0.0739	0.0482

SE in (); ***p<0.001, **p<0.01, *p<0.05; included are only individuals that start working in the financial or the control group in the next year (t+1); preferences are inserted from up to three years before/three years after if missing

Table 16: Socialization in the Financial Sector (Years in Finance)

	(1) FINMOT	(2) SELFP	(3) CIVC	(4) RISKF	(5) RISKO
Financial Experience	**0.009**	**-0.023*** **	**-0.018*** **	**0.018** **	**-0.003**
	(0.01)	**(0.01)**	**(0.00)**	**(0.01)**	**(0.01)**
Control Experience	**-0.000**	**-0.008*** **	**-0.008*** **	**-0.002**	**-0.007*** **
	(0.00)	**(0.00)**	**(0.00)**	**(0.00)**	**(0.00)**
Age	-0.022***	0.005**	0.013***	-0.006**	-0.010***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Female	0.008	0.091***	-0.093***	-0.491***	-0.290***
	(0.01)	(0.02)	(0.01)	(0.02)	(0.02)
Having a Partner	0.077***	0.078***	-0.046***	0.106***	0.022
	(0.01)	(0.02)	(0.01)	(0.02)	(0.02)
German Nationality	-0.120***	-0.121***	0.161***	-0.142***	-0.128***
	(0.03)	(0.03)	(0.02)	(0.04)	(0.04)
College Degree	-0.110***	0.067***	0.170***	0.122***	0.035*
	(0.01)	(0.02)	(0.01)	(0.02)	(0.02)
Log HH Income	0.087***	-0.038***	-0.008	0.106***	0.068***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Full-Time Experience	0.011***	-0.004*	-0.010***	-0.003	-0.004
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Part-Time Experience	0.000	-0.005*	-0.004*	0.000	-0.007**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Constant	0.133	0.269**	1.752***	0.179	0.405***
	(0.08)	(0.09)	(0.06)	(0.10)	(0.09)
Year and Regional Dummies	Yes	Yes	Yes	Yes	Yes
Random Effects	Yes	Yes	Yes	Yes	Yes
Observations	32,084	21,123	32,038	17,116	17,067
Overall R^2	0.0459	0.0199	0.0743	0.0934	0.0627

SE in (); ***p<0.001, **p<0.01, *p<0.05; included are only individuals that either work in the financial sector or in the control sector

If the coefficient for $FinancialExperience_{it}$ is significant and the magnitude larger than for the coefficient of $NonFinancialExperience_{it}$, a socialization effect of prosociality and risk is present in the financial sector. Included in the regression are only professionals; controls and random effects are applied. Results reveal that prosocial preferences, except financial motivation, decreases stronger with increasing time as a financial professional, relative to non-financial experience. For example, one year more in the financial sector reduces civic capital significantly by .018 of a standard deviation. Financial experience is associated with a higher preference for risk compared to control experience (Table 16).

In sum, while differences in financial risk preferences exist already before the start of the financial career (selection effect), differences in other preferences are developed over time in finance.

4.4.3 Incentives in the Financial Sector

Does the financial sector additionally reward low prosociality and high risk? This is tested by looking into the impact of preferences on personal logarithmized net income as a proxy for career success:

$$NetIncome_{it} = FinSector * Preference_{it} + NonFinSector * Preference_{it} \qquad (7)$$

where $NetIncome_{it}$ is the personal income of an individual i in time t; (Non-) $FinSector*$ $Preference_{it}$ is an interaction term which is zero if an individual does not work in the (non-) financial sector in time t and shows the preference if an individual works in the financial sector. Controls and random effects are applied.

The positive influence of financial motivation on income is significant and twice as large for financial professionals than for control professionals (Table 21, column 1). Also self-perceived prosociality is only associated with higher wages in the non-financial sector. Taking higher (self-reported) risks in financial and occupational matters has a much stronger positive effect

on income in the financial sector. Thus, there is an indication of an incentive to think (and behave) less prosocial and riskier in the financial sector in order to be more successful in the career. The findings somewhat contradict a recent study by Kirchler, Lindner, & Weitzel (2018) who showed in experiments with professional bankers that underperformers became riskier when they received feedback on their anonymous ranking among peers, even if the the ranking was not payoff-relevant. Moreover, the results indicate doubt of newspapers reports that, although the board of banks are willing to change the business culture in their companies, they find it difficult to implement it at lower levels (The Economist, 2016).

4.5 Conclusion

This paper analyzed whether financial professionals are less prosocial and more risky than comparable professionals. Regressions revealed that prosociality is lower and risk higher for financial professionals. While higher risk preferences are already present before the start of financial employment, indicating an attraction of risky individuals, prosociality is lowered with increasing time in finance. Risk and Prosociality differences are associated with revealed preferences and yield benefits for financial professionals in the sector.

The results are important since they indicate a business norm that attracts and socializes professionals who think and behave in a riskier and less prosocial manner. Although financial regulation is a critical tool in avoiding future malfeasance, a cultural change in the banking industry is a complementary measure on which governments can focus.

Appendix Chapter 4

Table 17: Who sorts into the Financial Sector? Female Differences

	(1) FINMOT	(2) SELFP	(3) CIVC	(4) RISKF	(5) RISKO
Female	-0.090***	0.134***	-0.071***	-0.334***	-0.230***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Finance	0.118**	0.053	0.061	0.511***	0.351***
	(0.04)	(0.07)	(0.03)	(0.05)	(0.05)
Female*Finance	**0.060**	**-0.179**	**-0.091**	**-0.352*** **	**-0.268** **
	(0.06)	**(0.10)**	**(0.05)**	**(0.08)**	**(0.08)**
Control	-0.060***	0.145***	0.086***	0.153***	0.178***
	(0.01)	(0.02)	(0.01)	(0.02)	(0.02)
Female*Control	**0.085*** **	**-0.002**	**-0.005**	**-0.121*** **	**-0.055** **
	(0.01)	**(0.02)**	**(0.01)**	**(0.02)**	**(0.02)**
Age	-0.018***	-0.014***	-0.001**	-0.012***	-0.024***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Having a Partner	0.078***	0.210***	-0.047***	0.085***	0.027*
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
German Nationality	-0.132***	-0.078***	0.193***	0.015	0.119***
	(0.01)	(0.02)	(0.01)	(0.02)	(0.02)
College Degree	-0.107***	0.131***	0.234***	0.177***	0.139***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Log HH Income	0.081***	-0.023***	0.003	0.091***	0.067***
	(0.00)	(0.01)	(0.00)	(0.01)	(0.01)
Full-Time Experience	0.008***	0.012***	-0.001	0.002*	0.005***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Part-Time Experience	0.003**	0.011***	0.003***	0.005***	0.005***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Constant	0.234***	0.340***	1.957***	0.053	0.366***
	(0.04)	(0.05)	(0.03)	(0.05)	(0.05)
Year and Regional Dummies	Yes	Yes	Yes	Yes	Yes
Random Effects	Yes	Yes	Yes	Yes	Yes
Observations	101,760	58,069	101,506	51,133	49,239
Overall R^2	0.0429	0.0374	0.0807	0.0803	0.0969

robust SE in (); ***p<0.001, **p<0.01, *p<0.05; Female*Finance is an interaction term that equals one if a female individual works in the financial sector; Female*Control represents women working as professionals in other sectors; included are all individuals age 18-65; the coefficients *Finance* and *Control* are therefore the effect of financial and control employment on preferences compared to all other person-year observations (non-professional employees, unemployed, etc.)

Table 18: Sensitivity Check: Only Managers

	(1) FINMOT	(2) SELFP	(3) CIVC	(4) RISKF	(5) RISKO
FIN	0.155*	-0.034	0.009	0.538***	0.236**
	(0.07)	(0.10)	(0.05)	(0.09)	(0.09)
CONTROL	0.031	0.059*	0.046***	0.159***	0.311***
	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)
Age	-0.018***	-0.015***	-0.002***	-0.012***	-0.024***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Female	-0.064***	0.136***	-0.072***	-0.372***	-0.243***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Having a Partner	0.074***	0.222***	-0.041***	0.092***	0.035**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
German Nationality	-0.134***	-0.058***	0.203***	0.030	0.140***
	(0.01)	(0.02)	(0.01)	(0.02)	(0.02)
College Degree	-0.117***	0.188***	0.269***	0.213***	0.193***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Log Income	0.081***	-0.012	0.008*	0.097***	0.076***
	(0.00)	(0.01)	(0.00)	(0.01)	(0.01)
Full-Time Experience	0.008***	0.012***	-0.000	0.002*	0.005***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Part-Time Experience	0.003***	0.012***	0.004***	0.005***	0.006***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Constant	0.229***	0.306***	1.944***	0.046	0.340***
	(0.04)	(0.05)	(0.03)	(0.05)	(0.05)
No. of Obs.	101,760	58,069	101,506	51,133	49,239
Overall R^2	0.042	0.031	0.076	0.078	0.097

SE in (); ***p<0.001, **p<0.01, *p<0.05; included are all individuals age 18-65; the coefficients *Finance* and *Control* are therefore the effect of financial and control employment on preferences compared to all other person-year observations (non-professional employees, unemployed, etc.)

Table 19: Sensitivity Check: Only Professionals

	(1) FINMOT	(2) SELFP	(3) CIVC	(4) RISKF	(5) RISKO
FIN	0.052	-0.062	0.006	0.269**	0.208*
	(0.07)	(0.09)	(0.05)	(0.10)	(0.10)
CONTROL	-0.000	0.097***	0.040***	0.055***	0.080***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Age	-0.018***	-0.014***	-0.002***	-0.012***	-0.024***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Female	-0.064***	0.128***	-0.076***	-0.380***	-0.255***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Having a Partner	0.075***	0.218***	-0.042***	0.094***	0.039***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
German Nationality	-0.134***	-0.064***	0.201***	0.028	0.139***
	(0.01)	(0.02)	(0.01)	(0.02)	(0.02)
College Degree	-0.116***	0.194***	0.271***	0.221***	0.206***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Log Income	0.081***	-0.015*	0.007*	0.098***	0.076***
	(0.00)	(0.01)	(0.00)	(0.01)	(0.01)
Full-Time Experience	0.008***	0.012***	-0.000	0.002*	0.005***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Part-Time Experience	0.003***	0.011***	0.004***	0.005***	0.005***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Constant	0.228***	0.311***	1.943***	0.039	0.331***
	(0.04)	(0.05)	(0.03)	(0.05)	(0.05)
No. of Obs.	101,760	58,069	101,506	51,133	49,239
Overall R^2	0.042	0.033	0.077	0.076	0.092

SE in (); ***p<0.001, **p<0.01, *p<0.05; included are all individuals age 18-65; the coefficients *Finance* and *Control* are therefore the effect of financial and control employment on preferences compared to all other person-year observations (non-professional employees, unemployed, etc.)

Table 20: Sensitivity Check: Only Associated Professionals

	(1) FINMOT	(2) SELFP	(3) CIVC	(4) RISKF	(5) RISKO
FIN	0.154*	-0.024	0.010	0.536***	0.227*
	(0.07)	(0.10)	(0.05)	(0.09)	(0.09)
CONTROL	-0.000	0.098***	0.040***	0.055***	0.080***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Age	-0.018***	-0.014***	-0.002***	-0.012***	-0.024***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Female	-0.064***	0.128***	-0.076***	-0.380***	-0.255***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Having a Partner	0.075***	0.218***	-0.042***	0.093***	0.039***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
German Nationality	-0.134***	-0.064***	0.201***	0.028	0.139***
	(0.01)	(0.02)	(0.01)	(0.02)	(0.02)
College Degree	-0.116***	0.193***	0.271***	0.220***	0.206***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Log Income	0.081***	-0.015*	0.007*	0.097***	0.076***
	(0.00)	(0.01)	(0.00)	(0.01)	(0.01)
Full-Time Experience	0.008***	0.012***	-0.000	0.002*	0.005***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Part-Time Experience	0.003***	0.011***	0.004***	0.005***	0.005***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Constant	0.228***	0.311***	1.943***	0.042	0.331***
	(0.04)	(0.05)	(0.03)	(0.05)	(0.05)
No. of Obs.	101,760	58,069	101,506	51,133	49,239
Overall R^2	0.042	0.033	0.077	0.077	0.092

SE in (); ***p<0.001, **p<0.01, *p<0.05;included are all individuals age 18-65; the coefficients *Finance* and *Control* are therefore the effect of financial and control employment on preferences compared to all other person-year observations (non-professional employees, unemployed, etc.)

Table 21: Incentives in the Financial Sector (Career Success)

	(1) WAGE	(2) WAGE	(3) WAGE	(4) WAGE	(5) WAGE
FINMOT*Finance	0.077***				
	(0.02)				
FINMOT*Control	0.030***				
	(0.00)				
SELFP*Finance		0.030			
		(0.04)			
SELFP*Control		0.026***			
		(0.01)			
CIVC*Finance			0.113***		
			(0.01)		
CIVC*Control			0.099***		
			(0.00)		
RISKF*Finance				0.170***	
				(0.03)	
RISKF*Control				0.040***	
				(0.01)	
RISKO*Finance					0.150***
					(0.03)
RISKO*Control					0.023***
					(0.01)
Age	-0.015***	-0.011***	-0.016***	-0.016***	-0.014***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Female	-0.404***	-0.298***	-0.412***	-0.364***	-0.372***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Having a Partner	0.164***	0.171***	0.162***	0.151***	0.157***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
German Nationality	0.184***	0.185***	0.139***	0.153***	0.158***
	(0.01)	(0.02)	(0.01)	(0.02)	(0.02)
College Degree	0.649***	0.603***	0.527***	0.643***	0.646***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Full-Time Experience	0.035***	0.035***	0.036***	0.037***	0.036***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Part-Time Experience	0.009***	0.005***	0.010***	0.007***	0.006***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Constant	6.740***	6.840***	6.736***	7.031***	0.000
	(0.03)	(0.05)	(0.03)	(0.04)	(.)
Year and Regional Dummies	Yes	Yes	Yes	Yes	Yes
Random Effects	Yes	Yes	Yes	Yes	Yes
Observations	72,574	44,215	72,418	37,358	37,295
Overall R^2	0.2914	0.2581	0.3114	0.2950	0.2945

robust SE in (); ***p<0.001, **p<0.01, *p<0.05; since the effect on net log income is tested, only employees are included in this regression; in column (6) all preferences are jointly tested except self-perceived prosociality, as it is only observed from 2015-2017

References

Abraham, M., Rottmann, M., & Stephan, G. (2018). Sanktionen in der Grundsicherung: Was als gerecht empfunden wird. *IAB-Kurzbericht*, 19/2018.

Alesina, A., Di Tella, R., & MacCulloch, R. (2004). Inequality and happiness: Are Europeans and Americans different?. *Journal of Public Economics*, 88(9-10): 2009–2042.

Alesina, A. & Fuchs-Schündeln, N. (2007). Goodbye lenin (or not?): The effect of communism on people's preferences. *American Economic Review*, 97(4): 1507–1528.

Andren, D., Earle, J. S., & Săpătoru, D. (2005). The wage effects of schooling under socialism and in transition: Evidence from Romania, 1950–2000. *Journal of Comparative Economics*, 33(2): 300–323.

Angrist, J. D. & Pischke, J.-S. (2008). *Mostly Harmless Econometrics: An Empiricists' Companion*, Princeton University Press, Princeton, NJ.

Arent, S. & Nagl, W. (2011). Unemployment benefit and wages: The impact of the labor market reform in germany on (reservation) wages. *Ifo Working Paper*, 101.

Ashraf, N. & Bandiera, O. (2017). Altruistic capital. *American Economic Review*, 107(5): 70–75.

Ashraf, N., Bandiera, O., Davenport, E., & Lee, S. S. (2020). Losing prosociality in the quest for talent? Sorting, selection, and productivity in the delivery of public services. *American Economic Review*, 110(5): 1355–1394.

Atkinson, A. B., Micklewright, J., & Micklewright, M. (1992). *Economic transformation in Eastern Europe and the Distribution of Income*, Cambridge University Press.

Ayaita, A., Gülal, F., & Yang, P. (2018). Where does the good shepherd go? Civic virtue and sorting into public sector employment. *German Economic Review*, 20(4): 571–599.

Barber, B. M. & Odean, T. (2001). Boys will be boys: Gender, overconfidence, and common stock investment. *The Quarterly Journal of Economics*, 116(1): 261–292.

Bauernschuster, S., Falck, O., Gold, R., & Heblich, S. (2012). The shadows of the socialist past: Lack of self-reliance hinders entrepreneurship. *European Journal of Political Economy*, 28(4): 485–497.

Becker, G. S. & Murphy, K. M. (1988). A theory of rational addiction. *Journal of political Economy*, 96(4): 675–700.

Becker, S. O., Mergele, L., & Woessmann, L. (2020). The separation and reunification of germany: Rethinking a natural experiment interpretation of the enduring effects of communism. *Journal of Economic Perspectives*, 34(2): 143–171.

Bell, A., Fairbrother, M., & Jones, K. (2019). Fixed and random effects models: Making an informed choice. *Quality & Quantity*, 53(2): 1051–1074.

Bentham, J. (1789). *An Introduction to the Principle of Morals and Legislations*, Oxford, UK: Blackwell.

Berger, E. M. (2010). The Chernobyl disaster, concern about the environment, and life satisfaction. *Kyklos*, 63(1): 1–8.

Bertelsmann Transformation Index (2020) Homepage `https://www.bti-project.org/en/home.html?&cb=00000` Accessed: 21 April 2020.

Bird, E. J., Frick, J. R., & Wagner, G. G. (1998). The income of socialist upper classes during the transition to capitalism: Evidence from longitudinal East German data. *Journal of Comparative Economics*, 26(2): 211–225.

Bishop, J. A. & Liu, H. (2008). Liberalization and rent-seeking in china's labor market. *Public Choice*, 135(3-4): 151–164.

Boddy, C. R. (2011). Corporate psychopaths, bullying and unfair supervision in the workplace. *Journal of Business Ethics*, 100(3): 367–379.

Booth, A. L. & Nolen, P. (2012). Gender differences in risk behaviour: Does nurture matter?. *The Economic Journal*, 122(558): 56–78.

Bradley, J. & Kügler, A. (2019). Labor market reforms: An evaluation of the Hartz policies in Germany. *European Economic Review*, 113: 108–135.

Caliendo, M., Fossen, F., & Kritikos, A. S. (2014). Personality characteristics and the decisions to become and stay self-employed. *Small Business Economics*, 42(4): 787–814.

Camerer, C. F. & Hogarth, R. M. (1999). The effects of financial incentives in experiments: A review and capital-labor-production framework. *Journal of Risk and Uncertainty*, 19(1-3): 7–42.

Campa, P. & Serafinelli, M. (2019). Politico-economic regimes and attitudes: Female workers under state socialism. *Review of Economics and Statistics*, 101(2): 233–248.

Cassar, L. (2018). Job mission as a substitute for monetary incentives: Benefits and limits. *Management Science*, 65(2): 896–912.

Cesarini, D., Dawes, C. T., Johannesson, M., Lichtenstein, P., & Wallace, B. (2009). Genetic variation in preferences for giving and risk taking. *The Quarterly Journal of Economics*, 124(2): 809–842.

Chabé-Ferret, S. (2015). Analysis of the bias of matching and difference-in-difference under alternative earnings and selection processes. *Journal of Econometrics*, 185(1): 110–123.

Chadi, A. (2010). How to distinguish voluntary from involuntary unemployment: On the relationship between the willingness to work and unemployment-induced unhappiness. *Kyklos*, 63(3): 317–329.

Clark, A. E. (2003). Unemployment as a social norm: Psychological evidence from panel data. *Journal of Labor Economics*, 21(2): 323–351.

Clark, A. E., Frijters, P., & Shields, M. A. (2008). Relative income, happiness, and utility: An explanation for the Easterlin paradox and other puzzles. *Journal of Economic Literature*, 46(1): 95–144.

Cohn, A., Fehr, E., & Maréchal, M. A. (2014). Business culture and dishonesty in the banking industry. *Nature*, 516: 86–89.

Cohn, A., Fehr, E., & Maréchal, M. A. (2017). Do professional norms in the banking industry favor risk-taking?. *The Review of Financial Studies*, 30(11): 3801–3823.

Cohn, A., Fehr, E., & Maréchal, M. A. (2019). Selective participation may undermine replication attempts. *Nature*, 575(7782): E1–E2.

Collischon, M., Eberl, A., & Jahn, K. (2018). The effect of compulsory service on life satisfaction and its channels. *IAB Discussion Paper*, 24/2018.

Cooper, D. J. & Kagel, J. H. (2016). Other-regarding preferences. *The Handbook of Experimental Economics*, 2: 217.

Curtis, R., Harney, S., & Jones, C. (2013). Ethics in a time of crisis: Editorial introduction to special focus. *Business Ethics: A European Review*, 22(1): 64–67.

Davidson, R. J., Marshall, J. R., Tomarken, A. J., & Henriques, J. B. (2000). While a phobic waits: Regional brain electrical and autonomic activity in social phobics during anticipation of public speaking. *Biological psychiatry*, 47(2): 85–95.

de Haan, F. (2012) Women as the motor of modern life In *Bonnie G. Smith and Joanna Regulska, eds., Women and Gender in Postwar Europe: From Cold War to European Union* New York: Routledge.

Der Spiegel (2008) "Der lautlose Transfer der DDR-Spione" https://www.spiegel.de/politik/deutschland/stasi-recycling-der-lautlose-transfer-der-ddr-spione-a-557609.html Accessed: 23 April 2020.

Deter, M. (2020a). Hartz and minds: Happiness effects of reforming an employment agency. *Journal of Happiness Studies*, pages 1–20.

Deter, M. (2020b). Prosociality and risk preferences in the financial sector. *SOEPpapers on Multidisciplinary Panel Data Research No. 1075*, .

Die Zeit (2004) "Wie aus mehr weniger wird. Die Bundesregierung benutzt Hartz IV, um klammheimlich die Sozialhilfe zu senken" https://www.zeit.de/2004/52/ALG_II Accessed: 03 March 2020.

Die Zeit (2018) "Wie fies ist Hartz IV?" zeit.de/2018/49/hartz-iv-grundsicherung-sanktionen-existenzminimum-sozialleistungen Accessed: 3 March 2020.

Diener, E., Lucas, R. E., & Scollon, C. N. (2006). Beyond the hedonic treadmill: Revising the adaptation theory of well-being. *American Psychologist*, 61(4): 305–314.

Dohmen, T. & Falk, A. (2010). You get what you pay for: Incentives and selection in the education system. *The Economic Journal*, 120(546): 256–271.

Dohmen, T., Falk, A., Huffman, D., & Sunde, U. (2012). The intergenerational transmission of risk and trust attitudes. *The Review of Economic Studies*, 79(2): 645–677.

Dohmen, T., Falk, A., Huffman, D., Sunde, U., Schupp, J., & Wagner, G. G. (2011). Individual risk attitudes: Measurement, determinants, and behavioral consequences. *Journal of the European Economic Association*, 9(3): 522–550.

Dolan, P., Peasgood, T., & White, M. (2008). Do we really know what makes us happy? A review of the economic literature on the factors associated with subjective well-being. *Journal of Economic Psychology*, 29(1): 94–122.

Dur, R. & Van Lent, M. (2019). Socially useless jobs. *Industrial Relations: A Journal of Economy and Society*, 58(1): 3–16.

Easterlin, R. A. (1974). Does economic growth improve the human lot? Some empirical evidence. , pages 89–125.

Easterlin, R. A. (2009). Lost in transition: Life satisfaction on the road to capitalism. *Journal of Economic Behavior & Organization*, 71(2): 130–145.

Eggs, J. (2013). Unemployment Benefit II, unemployment and health. *IAB Discussion Paper*, 12/2013.

Eichhorst, W. & Marx, P. (2011). Reforming German labour market institutions: A dual path to flexibility. *Journal of European Social Policy*, 21(1): 73–87.

Elster, J. (1998). Emotions and economic theory. *Journal of Economic Literature*, 36(1): 47–74.

Encyclopedia Britannica (2020) "The East German System" `https://www.britannica.com/place/Germany/Modern-economic-history-from-partition-to-reunification` Accessed: 21 April 2020.

Eurostat (2020) Unemployment rate - seasonally adjusted data `https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=une_rt_m&lang=en` Accessed: 3 March 2020.

Federal Commission on German Reunification (2020) Concluding report `https://https://www.bundesregierung.de/breg-de/aktuelles/30-jahre-einheit-1825750` Accessed: 21 April 2021.

Federal Statistical Office of Germany (2020) Registered unemployed, unemployment as a percentage of the civilian labour force, registered vacancies: Länder, years https://www-genesis.destatis.de/genesis/online?operation=sprachwechsel&language=en Accessed: 03 March 2020.

Ferrer-i-Carbonell, A. (2005). Income and well-being: An empirical analysis of the comparison income effect. *Journal of Public Economics*, 89(5-6): 997–1019.

Ferrer-i-Carbonell, A. & Frijters, P. (2004). How important is methodology for the estimates of the determinants of happiness?. *The Economic Journal*, 114(497): 641–659.

Frank, R. H. (1985). *Choosing the right pond: Human behavior and the quest for status*, Oxford University Press.

Frederick, S., Loewenstein, G., & O'donoghue, T. (2002). Time discounting and time preference: A critical review. *Journal of economic literature*, 40(2): 351–401.

Freedom House Index (2020) "Expanding Freedom and Democracy" https://freedomhouse.org/ Accessed: 21 April 2020.

Frey, B. S. & Meier, S. (2003). Are political economists selfish and indoctrinated? Evidence from a natural experiment. *Economic Inquiry*, 41(3): 448–462.

Frey, B. S. & Stutzer, A. (2000). Happiness, economy and institutions. *The Economic Journal*, 110(466): 918–938.

Frey, B. S. & Stutzer, A. (2002). What can economists learn from happiness research?. *Journal of Economic Literature*, 40(2): 402–435.

Friehe, T. & Pannenberg, M. (2020). Time preferences and political regimes: Evidence from reunified Germany. *Journal of Population Economics*, 33(1): 349–387.

Frijters, P., Haisken-DeNew, J. P., & Shields, M. A. (2005). The causal effect of income on health: Evidence from German reunification. *Journal of Health Economics*, 24(5): 997–1017.

Froot, K. A., Scharfstein, D. S., & Stein, J. C. (1993). Risk management: Coordinating corporate investment and financing policies. *The Journal of Finance*, 48(5): 1629–1658.

Fuchs-Schündeln, N. & Masella, P. (2016). Long-lasting effects of socialist education. *Review of Economics and Statistics*, 98(3): 428–441.

Gardner, J. & Oswald, A. J. (2007). Money and mental wellbeing: A longitudinal study of medium-sized lottery wins. *Journal of Health Economics*, 26(1): 49–60.

Geishecker, I. & Haisken-DeNew, J. P. (2004). Landing on all fours? Communist elites in post-Soviet Russia. *Journal of Comparative Economics*, 32(4): 700–719.

German Historical Museum (2021) "Der schönste Tag im Jahr - der 4. November 1989" `https://www.dhm.de/archiv/ausstellungen/4november1989/htmtag.html` Accessed: 29 March 2021.

Gielen, A. C. & Van Ours, J. C. (2014). Unhappiness and job finding. *Economica*, 81(323): 544–565.

Gieseke, J. (2015). Auf der Suche nach der schweigenden Mehrheit Ost. Die geheimen Infratest-Stellvertreterbefragungen und die DDR-Gesellschaft 1968–1989. *Zeithistorische Forschungen/Studies in Contemporary History*, 12(1).

Goebel, J., Grabka, M., Liebig, S., Kroh, M., Richter, D., Schröder, C., & Schupp, J. (2019a). The German Socio-Economic Panel Study (SOEP). *Jahrbücher für Nationalökonomie und Statistik/Journal of Economics and Statistics*, 239(2): 345–360.

Goebel, J., Grabka, M. M., Liebig, S., Kroh, M., Richter, D., Schröder, C., & Schupp, J.

(2019b). The German Socio-Economic Panel (SOEP). *Jahrbücher für Nationalökonomie und Statistik/Journal of Economics and Statistics*, 239(2): 345–360.

Goebel, J. & Richter, M. (2007). Nach der Einführung von Arbeitslosengeld II: Deutlich mehr Verlierer als Gewinner unter den Hilfeempfängern. *DIW Wochenbericht*, 74(50): 753–761.

Gordon, G. G. (1991). Industry determinants of organizational culture. *Academy of Management Review*, 16(2): 396–415.

Grant, A. M. & Schwartz, B. (2011). Too much of a good thing: The challenge and opportunity of the inverted U. *Perspectives on Psychological Science*, 6(1): 61–76.

Gruber, J. & Köszegi, B. (2001). Is addiction "rational"? theory and evidence. *The Quarterly Journal of Economics*, 116(4): 1261–1303.

Gruber, J. & Mullainathan, S. (2005). Do cigarette taxes make smokers happier?. *The B.E. Journal of Economic Analysis & Policy*, 5(1): 1–45.

Guiso, L., Sapienza, P., & Zingales, L. (2018). Time varying risk aversion. *Journal of Financial Economics*, 128(3): 403–421.

Guriev, S. & Melnikov, N. (2018). Happiness convergence in transition countries. *Journal of Comparative Economics*, 46(3): 683–707.

Hagenaars, A. J., De Vos, K., Asghar Zaidi, M., et al. (1994). Poverty statistics in the late 1980s: Research based on micro-data. *Office for Official Publications of the European Communities*, .

Hayek, F. A. (1945). The use of knowledge in society. *The American Economic Review*, 35(4): 519–530.

Headey, B., Kelley, J., & Wearing, A. (1993). Dimensions of mental health: Life satisfaction, positive affect, anxiety and depression. *Social Indicators Research*, 29(1): 63–82.

Heineck, G. & Süssmuth, B. (2013). A different look at lenin's legacy: Social capital and risk taking in the two Germanies. *Journal of Comparative Economics*, 41(3): 789–803.

Hensel, J., Kamiński, Ł., Persak, K., & Gieseke, J. (2009). *Handbuch der kommunistischen Geheimdienste in Osteuropa 1944-1991*, Ruprecht Gmbh & Company.

Hertweck, M. S. & Sigrist, O. (2012). The aggregate effects of the Hartz reforms in Germany. *Working Paper University of Konstanz*, 83/2012.

Hetschko, C., Knabe, A., & Schöb, R. (2014). Changing identity: Retiring from unemployment. *The Economic Journal*, 124(575): 149–166.

Hirschman, A. O. (1993). Exit, voice, and the fate of the German Democratic Republic: An essay in conceptual history. *World politics*, 45(2): 173–202.

Hochmuth, B., Kohlbrecher, B., Merkl, C., & Gartner, H. (2019). Hartz IV and the decline of German unemployment: A macroeconomic evaluation. *IZA Discussion Paper*, 12260.

House of Commons Treasury Committee (2008). Banking crisis: Dealing with the failure of the UK banks. *Seventh Report of Session*, 9(2008-09): 4.

Hupé, J.-M. (2018) Shortcomings of experimental economics to study human behavior: a reanalysis of cohn et al. 2014, nature 516, 86–89,"Business culture and dishonesty in the banking industry", SocArXiv.

International Monetary Fund (2008) Global financial stability report: Containing systemic risks and restoring financial soundness.

Kahneman, D. (2006). Objective happiness. *Well-being: The foundations of hedonic psychology*, 3(25): 1–23.

Kahneman, D. & Krueger, A. B. (2006). Developments in the measurement of subjective well-being. *Journal of Economic Perspectives*, 20(1): 3–24.

Kaplan, S. N. & Rauh, J. (2009). Wall Street and Main Street: What contributes to the rise in the highest incomes?. *The Review of Financial Studies*, 23(3): 1004–1050.

Kettner, A. & Rebien, M. (2007). Hartz-IV-Reform: Impulse für den Arbeitsmarkt. *IAB Kurzbericht*, 19/2007.

Kirchler, M., Lindner, F., & Weitzel, U. (2018). Rankings and risk-taking in the finance industry. *The Journal of Finance*, 73(5): 2271–2302.

Knack, S. & Keefer, P. (1997). Does social capital have an economic payoff? A cross-country investigation. *The Quarterly Journal of Economics*, 112(4): 1251–1288.

Koehler, J. O. (2008). *STASI: The untold story of the East German secret police*, Hachette UK.

Kohn, M. L. & Schooler, C. (1983). *Work and personality: An inquiry into the impact of social stratification*, Ablex Pub.

Kosse, F., Deckers, T., Pinger, P., Schildberg-Hörisch, H., & Falk, A. (2020). The formation of prosociality: Causal evidence on the role of social environment. *Journal of Political Economy*, 128(2): 434–467.

Kowalczuk, I.-S. (2019). *Die Übernahme. Wie Ostdeutschland Teil der Bundesrepublik wurde*, C.H. Beck, München.

Krause, M. U. & Uhlig, H. (2012). Transitions in the German labor market: Structure and crisis. *Journal of Monetary Economics*, 59(1): 64–79.

Kurz-Scherf, I. & Winkler, G. (1994). *Daten und Fakten zur sozialen Lage in den neuen Bundesländern. Berlin: Sozialwissenschaftliches Forschungszentrum Berlin Brandenburg/GSFP*, Sozialreport 1994.

Layard, R. (2011). *Happiness: Lessons from a new science*, Penguin UK.

Lebel, R. D. & Patil, S. V. (2018). Proactivity despite discouraging supervisors: The powerful role of prosocial motivation. *Journal of Applied Psychology*, 103(7): 724.

Lempert, W. (2006). *Berufliche Sozialisation: Persönlichkeitsentwicklung in der betrieblichen Ausbildung und Arbeit*, Schneider-Verlag Hohengehren.

Levine, R. (2005). Finance and growth: Theory and evidence. *Handbook of Economic Growth*, 1: 865–934.

Lichter, A., Löffler, M., & Siegloch, S. (2019). The long-term costs of government surveillance: Insights from stasi spying in East Germany. *ZEW-Centre for European Economic Research Discussion Paper*, (19-049).

Loewenstein, G. (1999). Because it is there: The challenge of mountaineering... for utility theory. *Kyklos*, 52(3): 315–343.

Lohmann, S. (1994). The dynamics of informational cascades: The Monday demonstrations in Leipzig, East Germany, 1989-91. *World Politics*, 47.

Lucas, R. E., Clark, A. E., Georgellis, Y., & Diener, E. (2004). Unemployment alters the set point for life satisfaction. *Psychological science*, 15(1): 8–13.

Malmendier, U. & Nagel, S. (2011). Depression babies: do macroeconomic experiences affect risk taking?. *The Quarterly Journal of Economics*, 126(1): 373–416.

Manager Magazin (2001) "Es gibt kein Recht auf Faulheit" `manager-magazin.de/unternehmen/artikel/a-126811.html` Accessed: 03 March 2020.

McLaughlin, J. S. (2017). Does communist party membership pay? Estimating the economic returns to party membership in the labor market in China. *Journal of Comparative Economics*, 45(4): 963–983.

Mitteldeutscher Rundfunk (2004) "Blühende Landschaften oder Zukunft Ost heißt Urwald" https://web.archive.org/web/20040619165057/http://www.mdr.de/artour/archiv/1326250.html Accessed: 23 April 2020.

Necker, S. & Voskort, A. (2014). Politics and parents—intergenerational transmission of values after a regime shift. *European Journal of Political Economy*, 36: 177–194.

Ockenfels, A. & Weimann, J. (1999). Types and patterns: An experimental East-West-German comparison of cooperation and solidarity. *Journal of Public Economics*, 71(2): 275–287.

O'Reilly, C. A., Chatman, J., & Caldwell, D. F. (1991). People and organizational culture: A profile comparison approach to assessing person-organization fit. *Academy of Management Journal*, 34(3): 487–516.

Oswald, A. J. (1997). Happiness and economic performance. *The Economic Journal*, 107(445): 1815–1831.

Popplewell, R. (1992). The Stasi and the East German Revolution of 1989. *Contemporary European History*, 1(1): 37–63.

Porta, R. L., Lopez-De-Silane, F., Shleifer, A., & Vishny, R. W. (1996). Trust in large organizations. *American Economic Review*, 87(2): 333–338.

Power, M., Ashby, S., & Palermo, T. (2013). *Risk culture in financial organisations: A research report*, CARR-Analysis of Risk and Regulation.

Putnam, R. D., Leonardi, R., & Nanetti, R. Y. (1994). *Making democracy work: Civic traditions in modern Italy*, Princeton university press.

Rahwan, Z., Yoeli, E., & Fasolo, B. (2019). Heterogeneity in banker culture and its influence on dishonesty. *Nature*, 575(7782): 345–349.

Rainer, H. & Siedler, T. (2009). Does democracy foster trust?. *Journal of Comparative Economics*, 37(2): 251–269.

Richter, B. (2013) *Essays in Behavioral Economics-Evidence on Self-selection Into Jobs, Social Networks and Leniency* Ph.D. thesis. Goethe University Frankfurt.

Rödder, A. (2009). *Deutschland einig Vaterland: Die Geschichte der Wiedervereinigung*, CH Beck.

Rothe, T. & Wälde, K. (2017). Where did all the unemployed go? Non-standard work in Germany after the Hartz reforms. , .

Schettkat, R. (2020). Micro-foundations of diverging economic policies: Keynesian, behavioural, neoclassic. *Intereconomics*, 55: 105–111.

Schildberg-Hörisch, H. (2018). Are risk preferences stable?. *Journal of Economic Perspectives*, 32(2): 135–54.

Schwarz, N. & Strack, F. (1999). Reports of subjective well-being: Judgmental processes and their methodological implications. *Well-being: The foundations of hedonic psychology*, 7: 61–84.

Shaffer, H. G. (2013). *Women in the Two Germanies: A comparative study of a socialist and a non-socialist society*, Elsevier.

Shleifer, A. (1997). Government in transition. *European Economic Review*, 41(3-5): 385–410.

Statista (2019) Anteil der Langzeitarbeitslosen an allen Arbeitslosen in Deutschland von 1993 bis 2019 `https://de.statista.com/statistik/daten/studie/17425/umfrage/anteil-der-langzeitarbeitslosen-in-deutschland/` Accessed: 03 March 2020.

Statista (2020) Höhe des Hartz IV Regelsatzes von 2005 bis 2019 https://de.statista.com/statistik/daten/studie/241114/umfrage/entwicklung-des-hartz-iv-regelsatzes/ Accessed: 03 March 2020.

Statista (2020a) "Population in West and East Germany 1991-2018" https://de.statista.com/statistik/daten/studie/1058231/umfrage/zahl-der-einwohner-in-ost-und-westdeutschland/ Accessed: 23 April 2020.

Statista (2020b) "Unemployment Rate in West and East Germany 1994-2020" https://de.statista.com/statistik/daten/studie/915315/umfrage/arbeitslosenquote-in-west-und-ostdeutschland/ Accessed: 23 April 2020.

Stern (2009) "Statistik des Schreckens - Eine Diktatur in Zahlen" https://www.stern.de/politik/deutschland/mauerfall/statistik-des-schreckens-eine-diktatur-in-zahlen-3448144.html Accessed: 23 April 2020.

Stevenson, B. & Wolfers, J. (2008). Economic growth and subjective well-being: Reassessing the Easterlin paradox. *National Bureau of Economic Research*, 1428.

Stigler, G. J. & Becker, G. S. (1977). De gustibus non est disputandum. *The American Economic Review*, 67(2): 76–90.

Stöckl, T. (2015). Dishonest or professional behavior? Can we tell? A comment on: Cohn et al. 2014, nature 516, 86–89,"Business culture and dishonesty in the banking industry". *Journal of Behavioral and Experimental Finance*, 8: 64–67.

Süddeutsche Zeitung (2019) "Wie die Parteien Hartz IV reformieren wollen" www.sueddeutsche.de/wirtschaft/hartz-iv-reform-gruene-spd-fdp-1.4339922 Accessed: 03 March 2020.

Thaler, R. (1980). Toward a positive theory of consumer choice. *Journal of Economic Behavior & Organization*, 1(1): 39–60.

Thaler, R. H. & Ganser, L. (2015). *Misbehaving: The Making of Behavioral Economics*, WW Norton New York.

The Economist (2009) "The gunshot that hoaxed a generation" https://www.economist.com/europe/2009/05/28/the-gunshot-that-hoaxed-a-generation Accessed: 21 April 2020.

The Economist (2014) "Saints and sinners" https://www.economist.com/news/2014/11/13/saints-and-sinners?zid=300&ah=e7b9370e170850b88ef129fa625b13c4 Accessed: 27 January 2020.

The Economist (2016) "Culture Wars" https://www.economist.com/britain/2016/01/14/culture-wars?zid=300&ah=e7b9370e170850b88ef129fa625b13c4 Accessed: 27 January 2020.

The Economist (2018) "What the German economic model can teach Emmanuel Macron" https://www.economist.com/finance-and-economics/2017/05/27/what-the-german-economic-model-can-teach-emmanuel-macron Accessed: 3 March 2020.

The New York Times (1990) "Conservatives Backed By Kohl Top East German Vote Solidly But Appear To Need Coalition" https://www.nytimes.com/1990/03/19/world/conservatives-backed-kohl-top-east-german-vote-solidly-but-appear-need-coalition.html Accessed: 23 April 2020.

The Wall Street Journal (21/4/2009) "A crisis of ethic proportions" https://www.wsj.com/articles/SB124027114694536997, note = Accessed: 27 January 2020.

Thomsen, S. L., Walter, T., & Boockmann, B. (2009). Intensifying the use of benefit sanctions–An effective tool to shorten welfare receipt and speed up transitions employment?. *ZEW-Centre for European Economic Research Discussion Paper*, 09-072.

Tversky, A. & Kahneman, D. (1991). Loss aversion in riskless choice: A reference-dependent model. *The Quarterly Journal of Economics*, 106(4): 1039–1061.

Van Hoorn, A. (2015). The global financial crisis and the values of professionals in finance: An empirical analysis. *Journal of Business Ethics*, 130(2): 253–269.

Van Hoorn, A. (2017). Organizational culture in the financial sector: Evidence from a cross-industry analysis of employee personal values and career success. *Journal of Business Ethics*, 146(2): 451–467.

Van Praag, B. M., Van Praag, B., Ferrer-i Carbonell, A., et al. (2004). *Happiness quantified: A satisfaction calculus approach*, Oxford University Press.

Večerník, J. (1995). Changing earnings distribution in the Czech Republic: Survey evidence from 1988–1994. *Economics of Transition*, 3(3): 355–371.

Veenhoven, R. (2008). Healthy happiness: Effects of happiness on physical health and the consequences for preventive health care. *Journal of Happiness Studies*, 9(3): 449–469.

Vranka, M. A. & Houdek, P. (2015). Many faces of bankers' identity: How (not) to study dishonesty. *Frontiers in Psychology*, 6: 302.

Wang, L., Malhotra, D., & Murnighan, J. K. (2011). Economics education and greed. *Academy of Management Learning & Education*, 10(4): 643–660.

Warr, P. (1987). *Work, unemployment, and mental health*, Oxford University Press.

Weitzel, U., Huber, C., Huber, J., Kirchler, M., Lindner, F., & Rose, J. (2020). Bubbles and financial professionals. *The Review of Financial Studies*, 33(6): 2659–2696.

Wirtschaftsdienst (2019). Hartz IV - Reform einer umstrittenen politischen Maßnahme. *Wirtschaftsdienst*, 4: 235–255.

Woodcock, S. D. (2018). The effect of the Hartz labor market reforms on post-unemployment outcomes, sorting, and matching. *IZA Conference Paper*, 2018.

Wooldridge, J. M. (2010). *Econometric analysis of cross section and panel data*, MIT press.

Zick, A., Küpper, B., & Berghan, W. (2019) "Verlorene Mitte - Feindselige Zustände: Rechtsextreme Einstellungen in Deutschland 2018/19" `fes.de/forum-berlin/gegen-rechtsextremismus/mitte-studie/` Accessed: 3 March 2020.

Zingales, L. (2015). Presidential address: Does finance benefit society?. *The Journal of Finance*, 70(4): 1327–1363.