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A Job Guarantee Proposal for Austria: Public Policy for Full Employment and the Reduction of Poverty and Inequality

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**A Job Guarantee Proposal for Austria:
Public Policy for Full Employment and the Reduction of Poverty and Inequality**

Thesis Submitted to Levy Economics Institute of Bard College

by Daniel Haim

Annandale-on-Hudson, New York, May 2021

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PLAGIARISM STATEMENT

I have written this project using my own words and ideas, except otherwise indicated. I have subsequently attributed each word, idea, figure, and table which is not my own to their respective authors. I am aware that paraphrasing is plagiarism unless the source is duly acknowledged. I understand that the incorporation of material from other works without acknowledgment will be treated as plagiarism. I have read and understand the Levy Economics Institute of Bard College statement on plagiarism and academic honesty as well as the relevant pages in the Student Handbook.

A handwritten signature in cursive script that reads "Daniel Haim".

Daniel Haim, 25 May 2021

ABSTRACT

The Austrian labor market has experienced high rates of involuntary unemployment for several years, and the COVID-19 pandemic has likely exacerbated the problem. Part-time employment rates, especially high for women, have fed into time-related underemployment. Many people have left the labor force wanting to work. Aside from the short-lived *Aktion 20,000* program, labor market policies have been ineffective in addressing these issues. A different, more promising approach is the job guarantee. In a job guarantee, the state acts as an employer-of-last resort, granting everyone willing to work the right to a job at a minimum wage. This thesis argues that a job guarantee is an effective and equitable policy to reach full employment, reduce poverty, and reduce income inequality in Austria. Applying a microsimulation approach, three benchmark scenarios are estimated using survey data from EU-SILC 2019, the Austrian labor force survey, and registry data from the Public Employment Service (Arbeitsmarktservice, AMS). In the simulation, between 169,460 and 613,483 people join the program, depending on eligibility criteria. A job guarantee is found to have large and significant impacts on the share of people at risk of poverty in Austria, decreasing the overall headcount ratio by 10.8 to 29.0 percent. Among job guarantee participants, the share of people at risk of poverty in the different benchmark scenarios drops from a range of 37.9 to 47.9 percent to a range of 4.3 to 19.3 percent. Income inequality measured by the Gini coefficient is found to decrease from 0.346 to between 0.335 and 0.341. The thesis offers suggestions for a just and equitable implementation of a job guarantee policy in Austria. Type of jobs, a participatory democratic implementation process, perspectives on gender-sensitive policy design, and ideas for the administration of the program are provided. The net costs of the different scenarios are estimated at 0.9 to 3.7 percent of 2020 GDP, not including multiplier effects.

Keywords: Job Guarantee; Austria; Public Service Employment; Employer of Last Resort; ELR; Unemployment; Full Employment; Poverty; Inequality; Gender Inequality; Public Policy; Labor Market Policy; Policy Design

JEL Classifications: D31, E24, E61, H41, I38, J21, J45, J68

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1 INTRODUCTION

The Austrian labor market is unable to provide meaningful employment to everyone willing to work. Over the past 10 years, unemployment rates have never dropped below 6.7 percent by national definition or below 4.5 percent by ILO definition (Arbeitsmarktservice Österreich 2021; Statistik Austria 2021b). Slow economic growth and an increase in the labor supply had led to a continuous increase of unemployment with a peak in 2015/16. A decline in recent years was reversed by the COVID-19 pandemic, which has brought average unemployment rates up to 9.9 percent by national definition and 5.4 percent by ILO definition in 2020. Long-term joblessness of over 12 months remains a persistent scourge, affecting more than 150,000 people in 2020, especially persons with low qualifications. Yet official unemployment numbers only present a partial picture of the hardships people face on the labor market: Roughly 2 percent of the population reported time-related underemployment in 2020, and an additional 1.8 percent has left the labor force wanting to work but unable to find a job. Women are disproportionately affected by underemployment, as women in Austria report a high part-time employment rate of 47.3 percent in 2020—compared to only 10.7 percent for men.

A job guarantee is a promising approach to adequately address these issues in the Austrian labor market. In a job guarantee, the state acts as an employer-of-last-resort, guaranteeing everyone willing to work the right to a job at a minimum wage. A job guarantee is voluntary and set up as a permanent, counter-cyclical program. The main objective of a job guarantee policy is to battle unemployment. Many authors refer to the public works programs of the New Deal era in the United States in the 1930s as a historic example of a successful public job creation program. More recently, Argentina and India implemented limited job guarantee policies to combat both unemployment and poverty. A job guarantee offers other benefits as well (Minsky 2013; Wray et al. 2018; Wray 2020; Tcherneva 2020): a decrease in macroeconomic instability, the provisioning of public goods and services to society, a reduction in poverty and inequality, higher labor standards, and the revitalization of communities.

In Austria, the short-lived *Aktion 20,000* program was introduced in 2017 to provide long-term unemployed people aged 50 years and older a job. Several authors (Tamesberger and Theurl 2019; Picek 2020; Biehl et al. 2020) have called for the expansion of such policies to provide

the most vulnerable groups in the Austrian labor market better chances for employment. However, none of these authors have estimated how many people might join a universal job guarantee and what the potential effects of the program on personal and household income would be.

This thesis provides a more comprehensive look at how a job guarantee could create full employment and reduce poverty rates and income inequality in Austria. The selection of eligible participants is simulated to estimate the potential size of a universal job guarantee. This allows for the analysis of the program's effects on poverty and income inequality, using survey data from EU-SILC 2019 and additional data from the Austrian labor force survey as well as registry data from the Public Employment Service (Arbeitsmarktservice, AMS). Through the microsimulation approach, it is possible to see which households benefit the most from the policy and to compare the rates for the risk of poverty, poverty gaps, and poverty severity before and after introducing the policy. Income inequality is measured by a Gini decomposition by sources of income, and by looking at changes in hourly gender pay gaps.

The thesis is structured as follows. Chapter 2 provides a comprehensive literature review of labor market policies in Austria, theoretical contributions to explain involuntary unemployment, and the benefits of a job guarantee. In Chapter 3, the methodology utilized in this thesis is described in detail, covering the aging process of the dataset, how different benchmark scenarios are simulated, and how poverty and income inequality are analyzed. Chapter 4 allows the reader to get more familiar with potential target groups of a job guarantee in Austria. The chapter also explains how both a program wage and a weekly standard of hours worked can be defined for a job guarantee. In Chapter 5, the results of the microsimulation are presented. Chapter 6 complements the results of the microsimulation by providing a discussion of policy design and the implementation process. Chapter 7 closes the thesis by first offering a discussion on the limits on the scope of this thesis and ideas for further research. In the concluding section, the job guarantee is situated as an effective public policy to address a multitude of crises.

2 LITERATURE REVIEW

This thesis intersects with a broad array of literature, beginning with a historical review of labor market policies in Austria. We move on to consider theoretical explanations of unemployment in economics, outlining both orthodox and heterodox approaches. The third section presents different aspects of the job guarantee, covering historic job guarantee policies and proposals, Hyman P. Minsky's writings about the job guarantee, the job guarantee as a pillar of Modern Money Theory, potential obstacles to the job guarantee, and recent implementations and proposals. The chapter closes with the statement of the research questions for this thesis.

2.1 Labor Market Policies in Austria

Historically, the largest job guarantee programs in capitalist countries were drafted as a reaction to the mass unemployment and increased poverty caused by the Great Depression. This was not the case in Austria, even though the effects of the crisis were dire. Mass unemployment was widespread, and the unemployment rate peaked at 26 percent in 1933. In the same year, Jahoda, Lazarsfeld, and Zeisel (1975) showed how long-term unemployment leads to passive resignation, depression, and apathy in their groundbreaking socio-psychological study about the unemployed in the village of Marienthal, Lower Austria.

Yet the Austro-Fascist regime that took over the government after a coup d'état in 1934 continued to believe the orthodox narrative of the self-healing powers of the market. Their priorities were to reduce public expenditure, repress and dissolve unions, weaken labor laws, and try to stabilize the Austrian Schilling (Tálos 2013). Chancellor Schuschnigg announced an "Arbeitsschlacht" (Battle of Labor) in 1935, but this was not an effective turnabout from previous orthodox policy and only a few publicly financed employment projects came underway, most famously the construction of scenic roads such as the Großglockner High Alpine Road and the Wiener Höhenstraße. Unemployment remained high at 22 percent in 1937, paving the way for public support for the annexation of Austria by Nazi Germany the following year.

After the war, Austria experienced high rates of economic growth. This was due to several reasons (Rathkolb 2015, 106–7): the legacy of investment and industrialization based on forced

labor during National Socialism, nationalizing industries and capital (both from expelled Jewish owners and later German owners), European growth, receiving the second-highest per capita European Recovery Plan (Marshall Plan) aid flows in Europe, restrictive monetary stability policy, radical wage and price policy at the expense of wage earners, and the social partnership. The legacy of National Socialism also included an enlarged bureaucracy, renunciation of monetarism, and an orientation towards a planned economy after the war.

These legacies help explain the later success of what has been coined “Austro-Keynesianism” (Chaloupek and Marterbauer 2008), policies mostly associated with Chancellor Bruno Kreisky in the 1970s and early 1980s. Kreisky was ideologically an adherent of functional finance and the view that the government can implement full employment policies¹. Compared to other Keynesian full employment regimes for small economies, Austria decided to limit its policy space for currency devaluation by trying to establish the Austrian Schilling as a hard currency, pegging it to the Deutsche Mark. In addition, Austro-Keynesianism was different compared to textbook hydraulic Keynesianism with the latter’s focus on discretionary fiscal policy. Instead, Austro-Keynesianism tried to guarantee the stability of the sociopolitical framework, thereby reducing uncertainty. This was only possible through a wage policy based on the corporatist social partnership established after World War II, in which the social partners² helped control rises in prices and wages. This helps explain why real wages grew faster than in comparable European countries between 1970 and 2007 while nominal wages grew slower (Chaloupek and Marterbauer 2008, 56–57).

Unemployment numbers were kept low through a combination of socialized investment, hoarding employees in nationalized industries, a reduction of working hours with the introduction of the 40 hour week in 1975 and a fourth week of paid vacation in 1977, and by

¹ In political speeches at the time, Chancellor Kreisky was famous for saying “And if someone asks me what it is like with debt then I just say what I keep saying: that a few billion [Schilling] more in debts cause me fewer sleepless nights than a few hundred thousand more unemployed people.” (kontrast.at 2020, own translation)

² The Social Partnership consists of organizations representing employers, employees, and farmers, both with voluntary membership (Austrian Trade Union Federation) and legal representation (Austrian Chambers of Labor, Austrian Economic Chambers, Austrian Agricultural Chambers, Austrian Chambers for Agricultural Workers). The Federation of Austrian Industries is also considered part of the greater Social Partnership framework.

using migrant workers as a buffer stock³ (Unger 2001). As a result of Austro-Keynesian economics unemployment and inflation were kept much lower than in the rest of Europe between 1970 and 1999. The average unemployment rate was at 3.3 percent on average in Austria compared to 6.4 percent in the rest of Europe, inflation stood at 4.1 percent on average compared to 6.9 percent in the rest of Europe (Unger 2001, 3).

Some elements of Austro-Keynesianism endured the 1980s, but the ascension to the European Union in 1995 brought a substantial change in economic and labor market policies. Austria joined the Economic and Monetary Union, following the “Brussels consensus” aimed at price stability and budget surpluses (Chaloupek and Marterbauer 2008, 64). With the 1990s came the rise of “Austro-Neoliberalism” (Unger 1999): balanced budgets, reduction of taxes to increase international competitiveness, privatization and deregulation of industries, while the labor market saw only a few flexibilizations initially.

The 1990s also brought the foundation of the Public Employment Service (Arbeitsmarktservice, AMS), a service enterprise under public law commissioned by the Federal Ministry of Labor to prevent and eradicate unemployment. The legal framework for the AMS states that this goal is undertaken “within the framework of the Federal Government’s policy of full employment” (Arbeitsmarktservicegesetz – AMSG, §29, own translation). Yet the creation of the AMS also coincided with the rise of workfare as the basis for social policy, with the unemployed increasingly viewed as customers of the AMS with individual deficits whose service needs to be optimized (Atzmüller 2009).

Unemployment benefits have been reduced since the 1990s. Today, unemployed persons who have worked at least 52 weeks in the past two years generally receive 55 percent of the average daily net wage calculated based on the monthly wages of the previous twelve months (Arbeitslosenversicherungsgesetz – AIVG, §21). At the same time, punitive measures have been introduced and expanded. Unemployed persons temporarily lose benefits for at least six weeks

³ Austria entered a bilateral labor recruitment agreement with Turkey in 1964 after high growth rates resulted in labor supply shortages. The Turkish Employment Service sent 34,461 workers between 1961-1973 (Akgündüz 1993, 174). A similar labor recruitment agreement was negotiated with Yugoslavia in 1966, leading to an influx of migrant workers with a peak of 178,134 workers from Yugoslavia working in Austria in 1973 (Biffl 1984, 652). Between 1973 and 1978 the number of migrant workers was reduced by 30 percent, reducing total labor supply by 2 percent (Unger 2001, 4).

if they refuse to take a job assigned by the AMS, if they refuse to participate in training or deny cooperation in measures commissioned by the AMS to increase employability, or if they cannot prove their active search for employment (AIVG). Active labor market policies have been introduced to increase the employability of people looking for work through consultations, coaching, and training offered by the AMS, while sanctions to temporarily suspend benefits have increased fivefold between 1990 and 2005. In 2019 the AMS imposed 145,671 sanctions (Arbeitsmarktservice Österreich 2020a, 73). These measures have been criticized as methods to discipline the unemployed (Atzmüller 2009, 30–31).

The Great Recession was at the time the largest economic downturn in Austria since World War II, with real GDP falling by 3.8 percent in 2009 (Eppel et al. 2018, 4). Unemployment increased from 5.9 in 2008 to 7.2 percent in 2009. Between 2012 and 2016 unemployment rose again from 7 to 9.1 percent. The number of long-term unemployment tripled between 2008 and 2017 from 53,000 to 153,000 (Eppel et al. 2018, 11). Three groups were most affected by hysteresis in the labor market: persons aged 55 and older (15 percent of unemployed in 2017), people with health issues (21 percent of unemployed in 2017), and foreigners (31 percent of unemployed in 2017). In addition, 46 percent of all unemployed have only completed compulsory education.

The Austrian labor market has seen an increase in atypical and precarious work relations in recent years. In 2017, 8 percent of wage earners were “working poor,” not earning enough to live above the poverty line (Bohrn Mena 2018, 22). 34.3 percent of all workers were in atypical employment in 2016, which includes part-time work, temporary work contracts, and labor leasing (Bohrn Mena 2018, 27).

As a reaction to the dramatic increase in long-term unemployment, the federal government introduced the *Aktion 20,000* program in 2017. *Aktion 20,000* was a targeted job program for long-term unemployed people aged 50 years and older. Administered by the AMS the goal was to halve long-term unemployment in the target group by creating federal jobs, jobs in communities, and in non-profit organizations. Participants were paid the prevailing wage in the sectors, with the AMS providing funding for up to two years. The project was scheduled to run from 2017 to 2019, but new admissions were halted after 6 months due to a change in government. 3,824 of 74,361 eligible persons participated (Hausegger and Krüse 2019, 6).

Among the participants, the average time of unemployment before joining the program was 2.8 years, and the average duration in the program was 1.3 years. 31.7 percent of participants remained in employment three months after funding stopped.

In a qualitative study (Hausegger and Krüse 2019) based on interviews with participants, 52 percent of respondents said they had not expected to find work anymore previous to joining the program. The jobs created were mainly in the social and environmental sectors. A study on the fiscal impacts of *Aktion 20,000* (Walch and Dorofeenko 2020) found that while public net expenses for program participants were two times higher than for comparable unemployed persons while they were in the *Aktion 20,000* program period, this ratio inverted in the period after the program, making the program financially feasible in the long run. The positive fiscal effects due to 31.7 percent of program participants remaining in employment after funding stopped meant that the program costs would have been recovered 45 months after the end of the program (Walch and Dorofeenko 2020, 93).

The COVID-19 pandemic caused the Austrian government to take measures—lockdowns, travel bans, restriction on movement—that severely impacted the economy and the labor market. To stabilize employment and income several European countries implemented short-time work schemes. In Austria, employees received 80-90 percent of their previous net monthly wage from their employers, while employers were reimbursed by the government for all hours not worked. Hours could be reduced by 10-90 percent until September 2020, after which the scheme was changed to reduce hours by 20-70 percent.

The short-time work regulations in Austria were comparatively generous and prevented mass unemployment as severe as in countries like the United States (Huemer, Kogler, and Mahringer 2021). Short-time work schemes had been used during the Great Recession 2008-09, with 65,000 beneficiaries. However, the short-time work scheme implemented during the COVID-19 pandemic dwarfs this number: 1.24 million employees benefitted from the policy in 2020, 44 percent of which were women (compared to only 19 percent in 2009). In April 2020—at the height of the crisis—29.5 of all active employees were in short-time work schemes, at the end of 2020 the share was still at around 8 percent.

The limited success of the *Aktion 20,000* program and the labor market crisis caused by the COVID-19 pandemic have led to calls for the introduction of broader job guarantee policies in Austria. Before going into detail about the job guarantee as a tool for labor market policies the next section first provides a summary of theoretical explanations of unemployment in economics.

2.2 Involuntary Unemployment in Economics

Involuntary unemployment is a structural problem in capitalist economies. However, most governments have the policy space available to implement full employment policies successfully and effectively. While this hypothesis seems radical to many orthodox neoclassical economists, it was a logical conclusion for John M. Keynes (1997) and Hyman P. Minsky (2008) based on their analysis of capitalism. The orthodox and heterodox schools of thought in economics offer different explanations for unemployment and come to different conclusions about whether involuntary unemployment is something governments should be concerned about.

2.2.1 The Orthodox Narrative

In neoclassical theory, a profit-maximizing firm will employ workers up to the point where real wages match their marginal product of labor⁴. Workers are assumed to be utility-maximizing rational individuals that choose between the disutility of labor and the utility of either leisure or the ability to purchase more consumer goods. Neoclassical economists assert that labor markets clear as long as real wages are flexible. Every worker who wants a job at the market-clearing wage can find one and every employer who wants to hire workers at the market-clearing wage can find them.

Involuntary unemployment does not exist as long as the real wage is determined exclusively by labor demand and labor supply (Lucas 1981). Workers may always choose to refuse union membership and offer work at lower wages than the wage floor a union tries to set. Mass unemployment as we have witnessed during and after the Great Depression in the 1930s is thus explained by high real wages that did not fall to equilibrium levels by workers not choosing to

⁴ The following exposition of textbook neoclassical labor market theory follows Mitchell, Wray and Watts (2019).

offer work at lower wages. If an economy with high unemployment is in a temporary disequilibrium state, the forces of the market—the vulgarized version of the invisible hand—will do their magic to reach a full-employment equilibrium in the long run. Monetary policy has no role to play in this as it is believed to be ineffective to influence real variables.

In the modernized New Keynesian Economics version, long-term unemployment may still exist due to institutional rigidities that prevent the real wage from falling or rising freely. Examples are a minimum wage that is set by the government, higher wages that strong unions have fought for, or labor law regulations. These rigidities prevent wages from dropping to equilibrium levels.

Empirical studies do not support these claims. Increases in employment protection laws and especially increases in protection for workers employed in different forms of employment, such as part-time, fixed-term, and temporary agency work, are correlated with rising employment and falling unemployment in the long run (Adams et al. 2019). The introduction of minimum wage laws has been found to have no statistically significant negative effect on local employment, low-skilled employment, or youth employment (Card and Krueger 1994; 1995; Dube, Lester, and Reich 2010; Sturn 2017).

Workers might also be unemployed because they do not offer the skills the current local labor market requires. The problem of unemployment turns into a problem of the unemployed: They either lack the proper investment into their human capital, they are not flexible enough to move to a labor market where their skill set is demanded, or they exhibit traits that make them unemployable, i.e., lacking the right attitude. These views have become more popular with the rise of neoliberalism, which has resulted in the transformation of the Keynesian welfare state with its focus on domestic full employment, redistributive welfare, and the central role of the national state to a “Schumpeterian workfare state” (Jessop 1996, 176). The latter’s objective is to increase international competitiveness while subordinating social policy to the needs of labor market flexibility and the open economy. The centrality of national governments in the management of economic and social relations gives way to more decentralized forms of governance, both official and non-governmental, on the local and regional level as well as on the supranational level.

Since the 1960s employment policies and government responses to unemployment have been increasingly shaped by discussions about a policy trade-off between employment and inflation. Early on, the Phillips curve framework suggested that governments and central banks could choose between either lower unemployment and higher inflation or higher unemployment and lower inflation in the short run (Samuelson and Solow 1960). Monetarists like Friedman (1968) argued against the possibility of such a policy trade-off by claiming that there exists a natural rate of employment and that any attempt to push employment below this rate would lead to accelerating inflation. Friedman did not think the natural rate to be unchangeable and believed policy influenced its level, but he argued that monetary policy was impotent to change the unemployment rate as workers bargain for higher nominal wages when they expect inflation. The natural rate later became known as the non-accelerating inflation rate of unemployment (NAIRU), an indicator central to many central banks' decision-making process.

The European Central Bank (ECB) generally follows this orthodox narrative. Targeting an inflation rate of 2 percent, the ECB takes the position that a change in the quantity of money will only affect the price level and “will not induce permanent changes in real variables such as real output or employment” (ECB 2011, 55). High levels of unemployment in the Eurozone are explained by “structural rigidities” in the labor market, which also “limit the pace at which an economy can grow without fueling inflationary pressures” (ECB 2011, 32).

In summary, orthodox approaches in economics suggest that there exists a full employment general equilibrium that is automatically reached if prices and wages are allowed to adjust flexibly and if there are no rigidities in the labor market. Monetary policy is believed to have no impact on unemployment. The government should play a limited role by eliminating rigidities in the labor market and increasing the so-called competitiveness of its labor force. Several heterodox approaches disagree with both the theoretical underpinnings and the implications for public policy of orthodox economics.

2.2.2 The Heterodox Narrative

What if unemployment and the systematic exclusion of parts of the population from the labor force are structural features of capitalism? What if “chronic mass unemployment is a flaw of the

economic order, not a flaw of the unemployed,” as Minsky (1986, 4) put it? Several explanations in the literature support this claim. First, workers are in a structurally inferior position in the capitalist production process. Second, women’s unpaid care work reproduces labor power, subsidizing both the market and the state, while keeping many women unwaged. Third, unemployment is a natural byproduct of capitalist production. Fourth, crises are inherent in the capitalist mode of production, leading to mass unemployment and hysteresis in the labor market.

The first explanation is a tenet of Classical and Marxist economics. The provisioning process of capitalist economies seems like an independent sphere. On the surface, all participants of the market—employees and employers alike—can voluntarily opt out of the exchange of either labor power or the means of production. It appears that they face each other in the market on equal terms. This is what Robert Heilbroner calls the “veil of economics” (1988). Yet behind the veil, they are facing each other from inherently unequal social positions. Structurally, employees (or workers) still belong to one class, and employers (or capitalists) belong to a different class, based on what property they command. While capitalists have claims on the means of production, workers have claims on their laboring capacity. These claims are, however, not identical.

Capitalism is a monetary system of production. Capitalists are constantly compelled to increase money through the $M-C-M'$ circuit. $M-C-M'$, the General Formula of Capital postulated by Marx (1976), describes the continuous process in which capitalists buy capital (means of production and labor capital) with money, put it to use to produce commodities, and sell these commodities for more money than was originally used to buy capital. They are thus able to acquire the produced surplus-value. This process can only be continued, however, if there exists a major labor force that is deprived of the means of production and is compelled to sell its labor power. Marx describes this labor force as consisting of double-free workers: a worker is free of property and free to sell his or her labor power. Workers cannot put their labor power to use by themselves because there is a different part of the population that can withhold the means of production from the production process and thus from society. Capitalists have “the power of refusal” (Heilbroner 1988, 38), invested in them through the institution of private ownership, making it the crucial institution required for the $M-C-M'$ circuit.

Marx's approach lacks an important aspect. It focuses on the “free” wage laborer, which is often envisioned as the *male* wage-laborer. However, for capitalism to work and thrive, the exploitation of women has played a major role. Theoretical approaches at the intersection of Marxism and feminism have tried to fill this theoretical gap.

Historically, women have been forced to become producers and reproducers of labor-power (Federici 2004). Capitalism has brought with it the reorganization of housework, family life, sexuality, and the relation between production and reproduction. Initially, this has led to the development of a division of labor among the sexes, subjugating women’s labor to the reproduction of the workforce and excluding women from wage work and subsequently from the official labor force, while men earned a family wage. Beginning in the 1970s, this social and gender order changed. Women’s labor force participation increased, while the single breadwinner’s family-wage disappeared as real wages stagnated. However, women are still disproportionately in charge of social reproduction, performing most of the unpaid care work for children and the elderly, cooking, cleaning, doing laundry. This can be theorized as a “time-tax” imposed on women (Antonopoulos and Hirway 2010, 7–8): Unpaid care work is a subsidy to the marketized part of the economy. Unpaid care work lowers the cost of labor, and if less unpaid care work were performed a higher real wage would be necessary to maintain the same level of a family’s welfare, putting pressure on profits. States cutting welfare are also subsidized by unpaid care work, as it is mostly women who must take up the slack when childcare or elderly care is cut, or unemployment benefits are reduced. Gendered relationships of production and reproduction and the undervaluation of care work in capitalism, therefore, prevents some women from entering the formal labor market and leads to a double burden for women if they do, leading to involuntary underemployment.

The third explanation, that unemployment is a natural byproduct of capitalist production, partly follows from the first explanation laid out in this section. Marx (1976, 781) was one of the earliest authors arguing that capitalism creates and maintains an “industrial reserve army” of labor. This is because a surplus laboring population is necessary for accumulation. The industrial reserve army provides workers ready for exploitation when capital expands.

Aside from unemployment resulting from crises, Marx divides the reserve army of labor into four categories: floating, latent, stagnant, and pauperized. Surplus population in the floating form exists in all centers of modern industry, where the number of those employed increases in absolute terms, but decreases in proportion to the scale of production, as the organic composition of capital will increase in the long run. The floating reserve is similar to modern-day conceptions of frictional unemployment—workers are being laid off and hope to gain employment elsewhere, but the matching of labor supply and demand is not an instantaneous process.

Surplus population in the latent form describes sources of laborers from non-capitalist sectors. At the time of Marx writing *Capital*, these were agricultural workers engaged in non-capitalist forms of agriculture. Today, this group may include people classified as out of the labor force, such as women engaged in non-commodified reproductive work, or migrants and refugees from the Global South.

The surplus population in the stagnant form includes people that might be employed, but in jobs considered as precarious today. Marx characterizes this form as employment with a “maximum of working-time, and minimum of wages” (1976). He points to domestic workers as an example. Today, we might think of nursing staff in-home care, a service often provided in Austria by migrant workers from Eastern Europe.

The fourth group consists of the pauperized, under which Marx subsumes several groups: the homeless and impoverished that are still fit to work, orphans, and parts of the working population that are incapable to adapt to the changing needs of the labor market. The specter of communism and the success of labor movements have led to better social protection for the unemployed and better educational systems in many countries in the early 20th century. Yet, homelessness and extreme poverty are not eradicated today. People incapable of adapting to the changing needs of the labor market often enter structural unemployment today, as a result of a mismatch of skills and industrial restructuring.

Unemployment is not only a byproduct of capitalism due to its role in capital accumulation. It is also a normal state of capitalism based on the decisions of entrepreneurs. Entrepreneurs have to

increase profits, aiming at maximizing the monetary returns on their capital. Keynes (1997) pointed out that they choose between productive investments that create employment, yielding a rate of return, and financial assets, which are preferred if their rate of return is higher. Entrepreneurs choose to employ people if they believe investments in the production process will yield a higher flow of money in the future than other forms of investing money. Contrary to what the orthodox narrative tells, there are no forces that automatically push the economy to a full-employment equilibrium. Keynes's *General Theory* was thus not only "depression economics" as many critics assumed, but described all possible forms of economics in capitalism (Kregel 2008). Compared to neoclassical economics a full-employment equilibrium was only a special case to Keynes.

A fourth explanation of unemployment as a structural feature of capitalism is that crises are an inherent feature of capitalism, and crises lead to mass unemployment and hysteresis. Marx introduced the concept of the tendency of a falling rate of profit in the long run based on the rising organic composition of labor. When profits fall, capitalists have fewer incentives to produce, generating downturns. These downturns make it difficult to realize profits, which could lead to severe financial crises when capitalists have a problem servicing their debt. There are countertendencies, the most recent of which have been observed since the late 1970s due to the rise of neoliberalism (Shaikh 2016). The falling rate of profit due to the rising organic composition of capital has been neutralized by redistribution in favor of capitalists and the falling power of labor unions, leading to a rise in profit shares. In addition, low interest rates, as well as the liberalization and deregulation of financial markets, facilitated debt-financed expansions. These countertendencies helped expand employment, only to end in a financial crash in 2007-8, resulting in the Great Recession (Hein 2018).

Minsky argued that capitalism is inherently unstable (1993; 1996; 2008). Economic stability breeds financial instability due to the profit-seeking behavior of both firms and banks. Prosperity increases risky behavior, which will lead to a subsequent deterioration of private companies' balance sheets from a position of hedge financing to speculative financing to Ponzi financing. At the same time, the financial sector develops innovations that help evade regulations put in place to prevent financial instability. These mechanisms cause the endogenous instability of capitalism. Crises follow, leading to unemployment and poverty. Governments, on

the other hand, provide floors and ceilings to the booms and bust of the business cycle through automatic stabilizers and regulations.

Minsky believed governments are capable to combat instability, inflation, and unemployment through job guarantee policies. “Big Government,” as he called it, was not a progressive agenda but a reality of capitalism since World War II. However, Big Government comes in different forms. Minsky distinguishes between military states, states that rely upon transfer payments, and states that emphasize resource development including employment, favoring the latter (Minsky 1994b).

The view that governments have the policy space available to implement full employment policies also follows from Abba Lerner’s functional finance theory, which he articulated in opposition to orthodox views of sound finance:

The central idea is that government fiscal policy, its spending and taxing, its borrowing and repayment of loans, its issue of new money and its withdrawal of money, shall all be undertaken with an eye only to the *results* of these actions on the economy and not to any established traditional doctrine about what is sound or unsound. [...] The first financial responsibility of the government (since nobody else can undertake that responsibility) is to keep the total rate of spending in the country on goods and services neither greater nor less than that rate which at the current prices would buy all the goods that it is possible to produce. If total spending is allowed to go above this there will be inflation, and if it is allowed to go below this there will be unemployment. (Lerner 1943, 39)

Lerner argued that money is created by the state, that taxes drive money, and that taxes are not used to finance expenditures but to control the level of consumption in an economy.

Government borrowing should thus be undertaken only if the public should have less money and more government bonds, thereby increasing the rate of interest and countering overinvestment. If there is too much or too little money in the system, money can be destroyed or printed by the state. This process, as Lerner describes, does not affect the amount of money spent if functional finance is followed. Lerner later abandoned his functional finance approach as he became increasingly worried about stagflation. Yet both Lerner’s and, to a larger extent, Minsky’s approach can be viewed as a precursor to Modern Money Theory (Wray 2018), a

cornerstone of most job guarantee proposals, which will be discussed in more detail later in this chapter.

2.3 The Case for a Job Guarantee

Different terms have been used to describe the job guarantee in the economics literature: “employer of last resort” and “tap employer” (Minsky 2013, 39), “guaranteed job program” (Minsky 1987), “infinitely elastic demand for labor [...] created by government” (Minsky 2008, 343), “buffer stock employment model” (Mitchell 1998). In recent years, the terms “job guarantee” and “public service employment” have become more widely used (Kaboub 2007b; Wray et al. 2018; Tcherneva 2020). In this thesis, “job guarantee” is used synonymously with these terms.

Common to all proposals is the idea that the government provides voluntary, paid employment to the unemployed without necessarily discontinuing other welfare programs. It is a permanent program working throughout the business cycle. The provision of employment is accomplished by different combinations of either direct job creation through public work programs, or by providing funds to lower levels of government, communities, nonprofit organizations and/or for-profit firms. The target groups participating in the job guarantee may cover all that are willing and able to work, to only certain groups within the share of unemployed people. Eligibility can be universal or tied to nationality, citizenship, age, or factors such as the previous duration of unemployment.

The job guarantee might be part of larger initiatives, such as a Green New Deal (Ehnts 2020) or a National Care Act (Tcherneva 2020), and it may be used to address other social policy objectives like renewing infrastructure or protecting the environment. Jobs may include supplementary work broken down into simple tasks. Job guarantee wages can be set at a national minimum wage, allowing for flexibility across states, or follow the wage structure of the sectors in which the jobs are created. Proposals for financing the program include paying it out of the current budget and/or increasing deficits—with some proposals pointing out the stimulating effect of a job guarantee on aggregate demand—or introducing new taxes. The goals of a job guarantee aside from reaching full employment include the fight against poverty, pushing for higher labor standards, reducing the social costs of unemployment, offering a useful

and productive work life to those left behind, increasing economic stability, and establishing a price anchor to manage inflation.

This section will continue with a look back at historic job guarantee policies and proposals, followed by an overview of Minsky's economic and moral case for the job guarantee. After analyzing the integral role of the job guarantee in Modern Money Theory, common objections to the job guarantee are discussed. The section concludes with an evaluation of more recent proposals and implementations.

2.3.1 Historic Job Guarantee Policies and Proposals

The New Deal provides the most famous case study of public employment. In 1932, Presidential candidate Franklin D. Roosevelt advocated for federally funded public works programs, calling for “bold, persistent experimentation” (Taylor 2008, 62) to tackle the economic crisis. At the time of his inauguration, the rate of unemployment in the United States reached 24.9 percent. In the following years, President Roosevelt implemented several federal institutions and job programs as part of his New Deal: The Civilian Conservation Corps (CCC), the Tennessee Valley Authority (TVA), the Public Works Administration (PWA), and the Civilian Works Administration (CWA) in 1933; the Works Progress Administration (WPA) and its divisions, the National Youth Administration (NYA), the Division of Women's and Professional Projects, and the Federal Project Number One in 1935. The WPA ran until 1943, employed over 8 million people, and constructed both social and physical infrastructures, leaving behind an impressive legacy:

650,000 miles of roads, 78,000 bridges, 125,000 civilian and military buildings, 800 airports built, improved, or enlarged, 700 miles of airport runways. It served almost 900 million hot lunches to schoolchildren and operated 1,500 nursery schools. It presented 225,000 concerts to audiences totaling 150 million, performed plays, vaudeville acts, puppet shows, and circuses before 30 million people, and produced almost 475,000 works of art and at least 276 full-length books and 701 pamphlets. (Taylor 2008, 523–24)

The New Deal programs were not a full-fledged job guarantee but served a similar purpose. The PWA financed payrolls of additional employees hired by companies, paying the prevailing wage in each sector, supporting the most qualified unemployed. The WPA employed a broader range

of people. Taking all New Deal programs that focused on job creation together they employed on average 34 percent of the unemployed, with peaks varying from 50 to 70 percent of the unemployed enrolled (Tymoigne 2014).

The work programs of the New Deal were conceptualized as programs assisting in the recovery, providing relief by battling poverty, and providing public goods and services in the process. A similar, yet more radical proposal was put forward by writer Upton Sinclair (1933; 1934) under his *End Poverty in California* platform while running for Governor of California in 1934. Sinclair envisioned the creation of public agencies taking over idle land, idle factories, and eventually all means of production to offer the people of California an opportunity to work. His idea was for the unemployed to become self-sustaining, and to operate the farms and factories through worker cooperatives. Sinclair lost the election but received more votes than previous Democratic candidates.

Sinclair was a declared socialist and certainly believed that his public work programs could be a first step in the establishment of socialism. Similar thoughts were shared by Oskar Lange, one of the main proponents of market socialism. He argued that in times of crisis and before a mass movement supports a program of socialization, socialists might need to enter the government to battle unemployment and economic depression to restore the capitalist economy. If successful, Lange believed their position to be strengthened, and a job guarantee might thus prove “an important link in the evolution which finally must issue in the emergence of an anti-capitalist mass movement of irresistible power and impetus enforcing a wholesale reconstruction of the economic and social order” (Lange 1938).

Roosevelt’s idea of a job guarantee as comprehensive social policy complementary to Social Security was embedded in a moral view that every member of society had, among other rights, “[t]he right to a useful and remunerative job in the industries or shops or farms or mines of the Nation”⁵ and “[t]he right to earn enough to provide adequate food and clothing and recreation” (Roosevelt 1944). Roosevelt laid these rights down in his proposal for an Economic Bill of

⁵ Roosevelt was not the first proponent of the progressive right to work in capitalist economies. Institutionalist economist John R. Commons suggested that the government should guarantee this right by unemployment prevention, unemployment compensation and public employment as early as 1893 (Whalen 2020).

Rights in 1944 and called on the United States Congress for their implementation. He failed in this endeavor, and the large New Deal job guarantee programs did not survive the Roosevelt administration.

The 1930s were a time in which people feared the “haunting terror of unemployment” (Orwell 1942). In 1948, the Universal Declaration of Human Rights was drafted under the leadership of Eleanor Roosevelt in response to the atrocities and terrors of the previous years. Article 23 (1) states that “[e]veryone has the right to work, to free choice of employment, to just and favourable conditions of work and to protection against unemployment” (United Nations 1948). The Universal Declaration of Human Rights was not a binding legal document, and the right to work and protection against unemployment was not followed up by drafting new job guarantee programs in the West. Instead, many countries expanded social welfare and relied on economic growth to reduce unemployment numbers to tolerable proportions.

However, this did not mean economists did not recommend full employment policies to prevent future economic depressions and to promote the idea of social justice. William Beveridge, author of the Beveridge report that became highly influential for the introduction of the welfare state in the United Kingdom after World War II, believed full employment policies were necessary to complement the welfare state and put forward a second report titled *Full Employment in a Free Society* in 1944 (1960). He argued for policies that would reduce unemployment to frictional unemployment, with more vacant jobs available than unemployed people. More importantly, he believed that unemployment in the individual case “need not last for a length of time exceeding that which can be covered by unemployment insurance without risk of demoralization” (Beveridge 1960, 20). Beveridge, like Lerner, believed only the state has the power to ensure a level of expenditure to protect its citizens against mass unemployment.

Other proposals for guaranteed full employment at the time include John H. G. Pierson’s full employment through a consumption guarantee policy (1941) and John P. Wernette’s proposal for a “Full Employment Standard” (1945). Pierson later expanded his idea into a proposal for an “Economic Performance Insurance” (1979) which included a government-guaranteed employment level and a guaranteed level of consumer spending. To achieve the guaranteed level of employment the government would need to act as an employer of last resort, keeping “a

permanent ‘reserve shelf’ of public service and public works jobs” (Pierson 1979, 89) in a wide spectrum of industries and occupations, including local, state, and federal projects, operated by both profit-making firms and NGOs.

2.3.2 Minsky’s Economic and Moral Case for the Job Guarantee

Hyman P. Minsky is the writer most often associated with the job guarantee. He envisioned the government as employer of last resort, offering jobs “of the right kind, at the right place, and with sufficiently high incomes so that all who are willing and able to work can earn enough from jobs to maintain themselves and those for whom they are responsible at a level above some poverty line” (Minsky 2013, 3).

Minsky first proposed job guarantee policies when he was working as a labor economist in the 1960s. He was critical of the *War on Poverty* waged by President Kennedy and President Johnson because it did not focus on job creation (Minsky 2013). However, a job guarantee was not only a social policy to Minsky. Based on his analysis of capitalism he viewed the job guarantee as an integral part to reduce instability:

The policy problem is to develop a strategy for full employment that does not lead to instability, inflation, and unemployment. The main instrument of such a policy is the creation of an infinitely elastic demand for labor at a floor or minimum wage that does not depend upon long- and short-run profit expectations of business. Since only government can divorce the offering of employment from the profitability of hiring workers, the infinitely elastic demand for labor must be created by government. (Minsky 2008, 343)

The job guarantee was both a social and economic necessity to Minsky. He believed a job guarantee would provide dignity and self-respect to workers, who are often forced to accept socially demeaning unemployment benefits even though they are willing and able to work. The state, on the other hand, often chooses welfare over job creation because “it is the cheapest way, short of a policy to let them die, of taking care of the population in want” (Minsky 1996).

From an ethical point of view, he believed that if society wanted to get rid of poverty and believed that unemployment benefits were undignified the logical conclusion was to implement New Deal-style public works policies as the foundation of macroeconomic policy (Minsky

1994a). He argued that a system tackling poverty through a job guarantee instead of welfare increased social justice and social cohesion, concluding that “[a] full employment economy is supportive of democracy whereas an economy based on transfer payments supports resentment” (Minsky 1996, 368). In addition, a job guarantee provides societal benefits through the production and provisioning of public goods and services.

The job guarantee serves as an automatic stabilizer, with the enrollment of participants fluctuating. In a boom period, the proportion of participants in the job guarantee will decrease as private employers demand more labor supply, in a recession, the proportion will increase. For his proposal, he estimated that a job guarantee would take up around 1.3 percent of full-employment GNP in the United States in 1983, compared to Social Security’s budget of 4.8 percent and the national defense budget of 5.9 percent (Minsky 2008).

Minsky pointed out that a public job guarantee enables the government to effectively set the minimum wage. This puts pressure on private companies to raise wages, as workers may always leave their private-sector job for the public option. An increase of the minimum wage by the government will increase the share of workers in the job guarantee in the short term. However, Minsky was also aware this might lead to wage-led inflation if the job guarantee decreases the supply of labor to other occupations and employers unduly.

In terms of policy design Minsky favored jobs producing socially useful output. He believed the job guarantee should focus on education, the care sector, and the environment, providing supplementary labor to schools, hospitals, park systems, building recreational facilities, maintaining public buildings, and providing care (Papadimitriou and Minsky 1994; Minsky 1987). The jobs should be publicly guaranteed and offered at different levels of government. National, state, and local government agencies should be able to bid for job guarantee jobs submitting projects, with local evaluation boards determining priorities among projects. Minsky stressed that the jobs should be in places where people in need live, taking the unemployed as they are. Participation in the job guarantee should be voluntary.

Minsky advocated for a job guarantee until his death in 1996. L. Randall Wray, initially a student of Minsky, continued his work at the Levy Economics Institute with colleagues and co-

developed a new theoretical approach in economics that puts the job guarantee central: Modern Money Theory.

2.3.3 The Job Guarantee in Modern Money Theory

According to Modern Money Theory (MMT), a job guarantee can be used as a price anchor to enhance price stability. Presented this way, the job guarantee serves as a macroeconomic policy framework in opposition to the NAIRU framework (Wray 2015; 2020; Mitchell, Wray, and Watts 2019; Tcherneva 2020).

MMT explains how governments and monetary authorities spend money in the real world (Wray 2015). Sovereign governments, issuing a sovereign currency that is not pegged to gold or another currency, cannot become insolvent. They can always meet all payments in their own currency. Following both a Chartalist view and the credit theory of money (Mitchell-Innes 1914), money is conceptually credit—a social relation—and a unit of account. The government spends and lends money into existence when central banks or the treasury credit private bank accounts and demands its own currency to settle taxes. Government bonds are sold to remove excess reserves, while the purchase of bonds by central banks adds reserves to the banking system, preventing the short-term interest rate from rising. Government debt is the private sector's (or foreign sector's) wealth. MMT adheres to functional finance theory in that government spending should be undertaken to serve a public purpose. Government spending is seen as beneficial up to the point of full employment of a nation's resources, including employment, after which inflation will ensue.

To MMT authors, the job guarantee serves as a powerful automatic macroeconomic stabilizer and as a buffer stock of employment. Enrollment in the job guarantee fluctuates, growing in recessions, and shrinking during economic expansion. The job guarantee uses labor as a buffer stock, keeping the surplus labor force employed while also maintaining workers' skills. Workers are still available for private employers, who can offer jobs at a wage slightly above the job guarantee wage, which becomes the effective minimum wage. Because workers in the job guarantee were part of the surplus labor force, government spending on the job guarantee places no direct pressure on wages and prices. The job guarantee is a targeted spending program (Wray 2020).

MMT is highly critical of the theory underlying the non-accelerating inflation rate of unemployment (NAIRU). Inflation targeting has often been combined with a hawkish view on debt, implementing balanced budget proposals and passive fiscal policies. This has led to persistently high rates of unemployment and labor underutilization. Under a job guarantee, if market forces push aggregate demand below a level required to maintain full employment all idle workers enter the job guarantee workforce. The positive impact on real output is greater compared to a system where a natural rate of unemployment is accepted and in which unemployment benefits are paid out.

In the MMT framework, the ratio of job guarantee employment to total employment in the economy is called the buffer employment ratio (BER). When private sector activity and distributional conflicts over national income lead to wage-price pressures the government can reduce the level of private sector demand through both fiscal and monetary policy. Labor is then transferred into the fixed minimum wage job guarantee sector, raising the BER and relieving inflationary pressures. Achieving stable inflation this way a full employment steady-state job guarantee level is reached, called the “non-accelerating inflation buffer employment ratio (NAIBER)” (Mitchell, Wray, and Watts 2019, 305).

Because Austria is part of the Economic and Monetary Union, it does not have a sovereign currency. In addition, all members of the Eurozone must follow the fiscal rules laid out in the Stability and Growth Pact, limiting government deficits to 3 percent of GDP per year and the debt ratio to 60 percent of GDP. If member states do not fulfill these criteria, they have to devise and follow a path of fiscal consolidation. Deviations from the pace of consolidation are only allowed if faced with a “severe economic downturn in the euro area or in the EU as a whole” or in the case of “an unusual event outside the control of the Member State” (European Commission 2019). The economic downturn following the COVID-19 pandemic is an example, however, deviations are only allowed temporarily and should “not endanger fiscal sustainability in the medium term” (European Commission 2019).

MMT authors have criticized the structure of the Eurozone and questioned the feasibility of implementing a job guarantee in the current legal and financial arrangement of the Eurozone

(Wray 2013; Cruz-Hidalgo, Ehnts, and Tcherneva 2019; Ehnts 2020). Countries adopting the Euro lose the ability to devalue their currency and pay different interest rates on the financial markets when they want to take on new debt, depending on the financial market's evaluation of their creditworthiness.

The threat of bankruptcy has declined since the European Union agreed to buy national bonds through institutions such as the European Stability Mechanism (ESM) in the aftermath of the Eurocrisis. However, a bailout through the ESM comes with oversight of the so-called Troika (European Commission, ECB, IMF).

How could a job guarantee be implemented in the Eurozone? Proposed reforms in the literature include the call for a Euro Treasury implementing fiscal policy such as a Green New Deal or a job guarantee by issuing Eurobonds (Cruz-Hidalgo, Ehnts, and Tcherneva 2019; Ehnts 2020), using the existing structure of the European Investment Bank (EIB) to emit Green Bonds (Ehnts 2020), introducing a job guarantee in phases accompanied by a falling debt-to-GDP ratio (Watts, Sharpe, and Juniper 2017), introducing a second currency to pay job guarantee wages, or financing the job guarantee through bonds that are acceptable in tax payments (Wray 2013).

Changing the legal and financial architecture of the Economic and Monetary Union seems a daunting task. Yet while the emission of common debt has been unimaginable in the past years, the European Commission, the European Parliament, and EU leaders have agreed to emit common European bonds as part of the COVID-19 recovery plan for Europe *NextGenerationEU* (European Commission 2021), raising hopes that the reform proposals of MMT authors may not be considered as far-fetched as they had a year earlier.

2.3.4 Potential Obstacles to the Job Guarantee

Apart from the question of financial feasibility in the Eurozone, there are other potential obstacles and objections to a job guarantee. These can be classified as political obstacles, economic obstacles, and obstacles regarding policy implementation.

Politically, capitalists might fiercely oppose permanent full employment policies. This is what Michał Kalecki (1943) argued during a time when full employment policies were still at the

center of economic debates. Capitalists and economists associated with banking and industry oppose full employment policies based on their dislike of government interference in the labor market, their dislike of government spending in the areas of public investment and subsidized consumption, and, most importantly, their “dislike of the social and political changes resulting from the *maintenance* of full employment” (Kalecki 1943). The last point refers to the disciplining role of unemployment in capitalism. Without unemployment, capitalists would not be able to discipline workers as effectively by threatening to fire them. At the same time, class consciousness of workers could rise, leading to demands for higher wages and better labor standards.

Minsky also feared political backlash by more affluent parts of society. His reasoning was based on the equalizing effect of the job guarantee on the income distribution. The more well-off in society might oppose a job guarantee if they believe they will not profit from it. Therefore, Minsky thought a job guarantee program needed to produce socially useful output, as “public goods may provide the vehicle by which self-interest is consistent with income equalization” (Minsky 2013, 77), as all parts of society benefit from the newly produced public goods.

The threat of inflation is the main economic obstacle presented in the literature. In his earlier writings, Minsky argued that a job guarantee policy might induce inflationary pressure if the productivity of low-wage workers did not keep up with wage growth while wages in high-wage industries rose at the same pace as productivity (Minsky 2013, 8–9). Sawyer (2003) argues that inflation might arise because a job guarantee increases deficit spending and that inflation might accelerate if unemployment fell below the NAIRU level, resorting to orthodox concepts the job guarantee tries to overcome. Seccareccia (2004) warns that a low-wage job guarantee could lead to a deflationary process if the low job guarantee wage anchor puts downwards pressure on low-skilled private wages and public wages (if the public sector tries to replace unionized jobs). A high-wage job guarantee, on the other hand, would put destabilizing pressure on the wage structure over time, resulting in creeping inflation.

Levrero (2019) argues that wage-push inflation can be attenuated by growth in labor productivity. However, he claims that a job guarantee increases productivity only indirectly through a higher growth rate since it does not provide direct public investment and focuses on

absorbing the unemployed. This argument reduces productivity growth exclusively to capital investment. Yet a job guarantee might increase labor productivity by helping workers maintain and increase their skills, drawing new workers into the labor force, and providing socially beneficial public goods and services that might also increase labor productivity.

Regarding policy implementation, Sawyer (2003; 2005) doubts enough suitable jobs are available when the criteria laid out by most job guarantee proposals are taken seriously, i.e., that jobs do not require skills, that they are part of projects only undertaken when there is a low level of private aggregate demand, and that they do not require much capital equipment or supervisory labor. Levrero (2019) questions the efficacy of the buffer stock function. The local administration and implementation of projects might be incompatible with a high turnover, and a higher labor standard implemented by a job guarantee might include having to give several weeks' notice before exiting the job guarantee pool, rendering the buffer stock function ineffective.

Proponents of the job guarantee have responded to this last criticism by suggesting splitting job guarantee jobs into two components (Mitchell and Wray 2005): a core that addresses average unemployment due to policy setting, private spending growth trends, and a mismatch of labor force characteristics and employer preferences; and a transitory component that addresses cyclical unemployment.

2.3.5 Recent Implementations and Proposals

Job guarantee policies have been implemented in several countries in recent years, most prominently in India and Argentina. In addition, proposals have been put forward for both countries of the Global South and countries of the Global North, addressing the different obstacles raised in the previous section. In this section, these programs and proposals are evaluated.

Two of the most prominent cases of job guarantee implementations are India's *Mahatma Gandhi National Rural Employment Guarantee Scheme (NREGS)*, introduced in 2006, and Argentina's *Plan Jefes y Jefas de Hogar Desocupados (PJJH)*, introduced in 2002. NREGS guarantees each rural household in India 100 days of unskilled employment per year, provided

within 15 days of application and within 5 km of where the household resides. The program has been successful in reducing poverty: per-capita food and non-food expenditures have increased, food security has improved, the probability of holding savings has increased, and the incidence of depression among rural households has decreased (Ravi and Engler 2015). It has also had positive effects on women's labor force participation and wages in rural labor markets (Chandrasekhar and Ghosh 2011). During the first wave of the COVID-19 pandemic, it has helped push rural joblessness down to 7.3 percent in June 2020, with 33 million households benefitting from the scheme in May 2020 (Times of India 2020). While the program's success in the fight against extreme poverty is impressive, its focus on rural workers and make-shift projects makes it incompatible with the Austrian framework.

Argentina suffered a financial crisis in 2001 that evolved into an economic and social crisis, brought about by flaws of the neoliberal structural adjustment programs of the IMF in the years before the crisis (Kregel 2003). The Argentinian welfare state was unable to provide social policy capable of dealing with the ensuing rising levels of poverty and the lack of paid work. PJJH was used as an emergency measure to contain the collapse of the economy by providing income and, after demands put forward by labor unions, training participants. The PJJH offered a job guarantee to heads of households by using conditional cash transfers to carry out community work or training. PJJH was without means-tests and easily accessible, with broad coverage. At its peak two million unemployed workers—13 percent of the labor force—participated, with female heads of households accounting for almost three-quarters of participants in 2005. Spending peaked at 1 percent of GDP in the early stages of implementation. It was successful in reducing extreme poverty among participating households—even though the low monthly income provided did not reduce overall poverty rates—and helped to redefine the meaning of work by providing paid employment in communities (Tcherneva and Wray 2007).

Tepepa (2013) stresses that PJJH was not a neoliberal workfare program but an employment and poverty reduction scheme that “did not blame the poor for personal misalignments and lack of entrepreneurship,” making the participants feel capable and useful within their family and community (Tepepa 2013, 234, own translation). PJJH was highly popular among participants and facilitated the participation of social groups that were previously marginalized in political

decision-making processes. However, while it provided low, secure income it did not profoundly improve the material living conditions of many families in the long run.

PJJH was introduced as an emergency policy to react to the economic collapse. Kregel (2009) argues that it can serve as an example of how to use job guarantee programs as policies to achieve development goals (as laid out by the SDGs) by mobilizing employment as the basic domestic resource. He particularly stresses the role of education and training in the Argentinian case.

This feature has been taken up by several authors proposing job guarantees for countries of the Global South. Nell and Argyrous (2013) propose to use the job guarantee in capital-constrained developing countries to “retrain and upgrade the existing labor force” and to “increase productivity in both consumer and capital goods sector.” They position their proposal in the theory of Transformational Growth, arguing that economic development may come from an endogenous demand-side process in which household consumption develops as the job guarantee provides the introduction and ripening of mass markets for goods and services.

Gomes and Lourenço (2009) agree with the importance of education and training in their proposal for a job guarantee for Brazil but also argue for a gradual implementation process, combining the job guarantee with wider regional development plans so as not to intensify migration processes to urban areas. They suggest defining a minimum participation age. Different from many other job guarantee proposals they argue that in Brazil the program should be run federally, as a decentralized administration might work non-transparent and hinder societal oversight. In terms of other obstacles, they caution that the implementation of a job guarantee policy could result in inflation dynamics due to a change in the nominal exchange rate, an increase in the debt to GDP ratio, capital flight, and be met with resistance by conservative administrations of the central bank.

Similar to Kregel, Kaboub (2007a) argues that a job guarantee can be a superior development strategy over traditional strategies such as import-substituting industrialization, export-led growth, or FDI-led growth strategies. He suggests gradual implementation should be done by expanding the target groups over time. In his proposal for Tunisia, Kaboub recommends starting

with a heads-of-household program similar to PJJH and expanding it to a full-fledged job guarantee over six years, with annual costs of 2.7 percent of GDP and a multiplier effect reaching 3.7 percent of GDP, offsetting program costs.

A different approach is taken by Antonopoulos (2009) by focusing on the potential of promoting gender equality and economic empowerment through a job guarantee. In her study on South Africa, a country in which women perform 75 percent of total unpaid work, she suggests scaling up the Expanded Public Works Programme (EWP) introduced in 2004 in the areas of social service delivery in health and education. Methodologically, she introduces a gender-disaggregated social accounting matrix (SAM) and time-use satellite accounts to study the macro-micro implications on gender, employment, and poverty. She finds that investing 1.1 percent of GDP results in the creation of 571,505 jobs, 60 percent of which will be filled by women, reducing the depth of poverty of participating ultra-poor households by 60-80 percent and creating pro-poor growth around the magnitude of 1.8 percent of GDP. Her main finding of interest is that targeting the job guarantee policy to the social sector results in the creation of more jobs than in the construction sector, resulting in greater depth-of-poverty reduction.

In the United States, job guarantee proposals have been put forward by economists (Wray et al. 2018; Paul, Darity, and Hamilton 2018; Tcherneva 2020) and politicians, most notably by U.S. Senators Bernie Sanders (D-VT) and Cory Booker (D-NJ), and U.S. Representatives Bonnie Watson Coleman (D-NJ) and Ilhan Omar (D-MN) (Sanders 2021; *Workforce Promotion and Access Act (WPA Act) H.R.7477* 2020).

The proposals of Wray et al. and Tcherneva are rooted in the MMT framework of the job guarantee as a macroeconomic policy. They propose a federally funded program with a decentralized local administration, with a minimum wage of \$15 per hour to double the federal minimum wage in the United States. Non-labor costs are estimated at 25 percent above labor costs, and benefits (healthcare, childcare, paid leave) are calculated at an additional 20 percent of wages. They simulate that a job guarantee would attract 15 million people (pre-COVID-19), increase private sector employment by 4.2 million, with costs at a net impact of about 1.5 percent of GDP in the first years of the program. Inflationary pressure in the simulation peaks at 0.74 percent but is temporary, mainly due to the initial jump in minimum wages.

To prevent competition with private-sector jobs or conventional public sector workers the job guarantee is set up as a *Community Jobs Bank*, with the types of jobs envisioned as a *National Care Act*, including jobs that care for the environment, for communities, and people (Tcherneva 2020, 92–96). Compared to previous job guarantee proposals Tcherneva stresses the democratizing potential of a job guarantee, arguing that it can function “as a conduit for transformative change in the workplace, in people’s everyday lives, and in the economy as a whole” (Tcherneva 2020, 88). She proposes a participatory democracy approach with a bottom-up design, involving citizens, community members, and other public stakeholders in the proposal, management, and execution of projects.

Paul, Darity, and Hamilton (2018) propose the creation of a *National Investment Employment Corps (NIEC)* to eliminate involuntary employment. They also propose jobs that address community needs but put a greater emphasis on the federal level compared to Wray et al. and Tcherneva, arguing that all NIEC employees should be federal employees and calling for an intervention of the Secretary of Labor if projects on the local, county or state level are inadequate to provide full employment. They estimate that 10.7 million workers would join, with gross costs at under 3 percent of GDP and significant offsets through increased tax revenues, decreases in other welfare program costs, and increases in growth rates. While the authors also reference the MMT framework, they suggest financing for the program could come from reduced costs in existing social insurance programs, through the introduction of a financial transaction tax, the modification of estate and gift tax provisions, or the introduction of carbon taxes.

For Europe, the most useful and extensive study informing this thesis has been conducted on Greece (Antonopoulos, Adam, et al. 2014). The authors use a microsimulation to identify the number of participants for different scenarios and to select individuals most likely to apply for work, while a multiplier analysis is applied to estimate changes in total employment, growth, and tax revenue on the macro level. Four scenarios are presented, ranging from 200,000 to 550,000 jobs created. Costs are split, with 60 percent for wages using two different minimum wage rates, and 40 percent for indirect costs including non-labor inputs and administration. The net costs are estimated to range from 0.6 to 2.2 percent of GDP. In terms of financing, the

authors suggest different options: creating a dedicated European Union Employment Fund, issuing tax-backed coupon bonds (similar to Wray's proposal for Ireland, see Wray 2013), a suspension of sovereign debt interest payments, or public borrowing. As for the last option they point out that implementing a job guarantee program will decrease the debt-to-GDP ratio through economic growth caused by the multiplier effect.

In Austria, recent proposals have been put forward by both politicians and economists. Julia Herr (Social Democrats) and the Socialist Youth have called for the introduction of a job guarantee for long-term unemployed people in the short term and a universal job guarantee with a minimum wage of €1,700 in the long run as part of a Green New Deal (Sozialistische Jugend Österreich 2019). Andreas Kollross and Josef Muchitsch (both Members of Parliament for the Social Democrats) have recently initiated a petition for the creation of 40,000 publicly financed jobs in municipalities, NGOs, and social enterprises, calling their proposal "Aktion 40,000" (SPÖ-Parlamentsklub 2021).

Biehl et al. (2020) suggest implementing a job guarantee for long-term unemployed and people caught in "revolving door" unemployment. To guarantee useful employment based on the needs of the unemployed they suggest a gradual implementation. As the main obstacle to a successful implementation, they argue that the minimum wage offered by the program would be higher than the wages of several neighboring European Union countries, which might result in an increase in labor migration to Austria, making the program unsustainable.

Tamesberger and Theurl (2019) suggest a limited job guarantee for 40,000 people age 45 and older that have been unemployed for more than two years. In their proposal they calculate net costs to be €271.4 million per year, although they do not include economic benefits due to growth and multiplier effects in their calculation. Picek (2020) expands the idea to include all people unemployed for more than a year. He estimates that for 150,000 people under different minimum wage scenarios the annual net costs would vary from €0.68 to €1.34 billion, or 0.2 to 0.4 percent of GDP, also not including consumption and growth effects in his estimates. Both papers build on the objective of the *Aktion 20,000* program of targeting specific groups most affected by long-term unemployment. Heinzle (2020) uses input-output analysis to estimate the macroeconomic and environmental effects building on Picek's proposal of a job guarantee

program for 150,000 long-term unemployed, arguing that a job guarantee program results in a higher value-added multiplier than other policy shocks such as increases in government consumption expenditure, household consumption expenditure, investment expenditure, or exports.

Finally, a pilot project by the AMS in Lower Austria is implementing a local job guarantee for an estimated 150 people that have been unemployed in the municipality of Gramatneusiedl for more than a year. The project is being supervised and evaluated by economists of the University of Oxford and the University of Vienna (University of Oxford 2020).

What is missing in the Austrian policy debate is an evaluation of how a broader, universal job guarantee implementation would look like and what its impacts might be on the household and individual level. While Tamesberger, Theurl, and Picek provide estimates on the net fiscal effects and have written about the benefits of a limited job guarantee for long-term unemployed people on the health and well-being of participants there are no estimates of how a job guarantee would impact household poverty and income inequality. This thesis aims to fill this gap by providing a more comprehensive look at how a job guarantee can create full employment and reduce poverty rates and income inequality in Austria.

In the following chapters of this thesis, the impacts of different benchmark scenarios are estimated and examined. The focus of the thesis is to answer three research questions: Who will join a job guarantee in Austria? How will a job guarantee impact poverty and income inequality? How should a job guarantee be implemented in Austria? First, this thesis aims to identify and describe potential program participants eligible for a public job guarantee in Austria. Second, the income effects of the introduction of different job guarantee benchmark scenarios are estimated to analyze the impact of a job guarantee program on poverty and income inequality. Third, the policy implementation process is examined from the perspectives of the different needs of participants, of how a democratic policy implementation process could look like, of the impacts a job guarantee might have on gender relations, and of the challenges the administration might face.

3 METHODOLOGY

Microsimulations offer a tool to simulate the effects of a policy at the household and personal level. To study the impacts of the introduction of a universal job guarantee in Austria the microsimulation approach is used to analyze changes in poverty and income inequality. The method has been commonly used for the analysis of redistribution policies, taking into account the heterogeneity of economic agents (Bourguignon and Spadaro 2006). The goal of this thesis is to simulate the selection of participants into different job guarantee benchmark scenarios and to model the changes in disposable income under the assumption that individual behavior is unchanged. The approach in this paper can thus be categorized as an arithmetical microsimulation. The application of the methodology is not a general equilibrium simulation, instead, the changes that are predicted are based on the share of people that leave poverty at the margin in the simulation.

The implementation of the microsimulation approach is done using STATA and requires several steps which are described in detail in this chapter. First, the data is compiled and analyzed. Different data sources are used: micro data from both the EU-SILC survey and the Austrian labor force survey (Mikrozensus) provided by Statistics Austria; and registry data on unemployment provided by the Public Employment Service (Arbeitsmarktservice, AMS). Second, a dataset is generated, variables are recoded and aged to approximate labor market conditions in 2020. New unemployment numbers are imputed, incomes are adjusted, and information on underemployment and the so-called “silent reserve” is added. Third, different benchmark scenarios are simulated by varying eligibility to enter the job guarantee for different target groups and by imputing new personal and household incomes. Fourth, the effects on poverty and inequality are analyzed. This last step includes re-estimating at-risk-of-poverty thresholds, calculating different poverty indices, implementing a Gini decomposition by sources of income, and comparing raw gender pay gaps.

3.1 Data Sources and Concepts

The main data source for this thesis is the European Union Statistics on Income and Living Conditions survey (EU-SILC). EU-SILC is an instrument anchored in the European Statistical System and provides timely and comparable cross-sectional and longitudinal multidimensional

micro-data on income, poverty, social exclusion, and living conditions collected in yearly household surveys (Eurostat 2020, 14). To compile the data for EU-SILC, Statistics Austria combines interviews with members of selected households through CAPI (Computer Assisted Personal Interviewing) and CATI (Computer Assisted Telephone Interviewing) with matching registry data. 87 percent of household income data is sourced from registry data and matched with the interviewed households, while the other 13 percent is reported through the questionnaire (Statistik Austria 2020d, 6). Interviews were conducted in 2019, while the income data used is from 2018.

Survey participants for EU-SILC are sampled from the National Registry (Zentrales Melderegister, ZMR). The EU-SILC 2019 dataset for Austria consists of 5,983 household entries with 12,357 persons, 10,351 of which were 16 years or older at the time of the survey. The gross sample consisted of 9,273 households, the final dataset thus covers 64.5 percent of the original sample (Statistik Austria 2020d, 15).

One major drawback in using EU-SILC as a data source for poverty analysis is the limited sampling frame. EU-SILC is limited to private households drawn from the ZMR. Excluded are:

- people that live in collective households and institutions, such as homes for elderly or disabled persons, psychiatric wards, or prisons;
- people that are listed in the ZMR but are without a fixed residence, such as homeless people that have registered in municipalities (Meldegesetz - MeldeG §19a);
- people that are not listed in the ZMR, such as undocumented/irregular migrants, or legal migrants who have failed to register.

Several of these uncounted groups are at a higher risk of experiencing poverty. Leaving them out of the analysis may distort results and provide an incomplete picture for the formulation of social policy.⁶ Based on own calculations the number of people excluded from EU-SILC in

⁶ A study for Belgium has shown that these groups may constitute between 2 to 3 percent of the population, increasing the share of people at risk of poverty by 0.6 to 1.7 percent (Nicaise, Schockaert, and Bircan 2019).

Austria could range from at least 220,000 to 380,000 people, or 2.5 to 4.3 percent of the population.⁷

EU-SILC variables on a person's main activity are based on the self-assessment of the interviewed person. Persons may consider themselves "unemployed" without receiving unemployment benefits or without actively looking for work. Marginally employed persons ("geringfügig beschäftigt," people who earn less than a yearly defined threshold who are covered by accident insurance but not by health insurance or retirement insurance, in 2019 the threshold was €446.81) may consider themselves employed or unemployed (Statistik Austria 2020b, 277).

Data from the quarterly labor force survey (Mikrozensus, LFS) is provided by Statistics Austria and is publicly available in the form of contingency tables. Survey participants in the LFS are also sampled from the ZMR, with 22,500 households forming the gross sample each quarter (Statistik Austria 2020e). The LFS uses employment categories based on the definitions of the International Labour Organization (ILO):

Persons in employment are defined as all those of working age who, during a short reference period, were engaged in any activity to produce goods or provide services for pay or profit. They comprise: (a) employed persons "at work," i.e. who worked in a job for at least one hour; (b) employed persons "not at work" due to temporary absence from a job, or to working-time arrangements (such as shift work, flexitime and compensatory leave for overtime). (ICLS 2013, 6)

Persons in time-related underemployment are defined as all persons in employment who, during a short reference period, wanted to work additional hours, whose working time in all jobs was less than a specified hours threshold, and who were available to work additional hours given an opportunity for more work. (ICLS 2013, 9)

Persons in unemployment are defined as all those of working age who were not in employment, carried out activities to seek employment during a specified recent period and were currently available to take up employment given a job opportunity. (ICLS 2013, 10)

⁷ The prison population comprised of 7,699 prison inmates as of January 2021 (Bundesministerium für Justiz 2021). 22,741 people have either registered as homeless or were registered at a homeless shelter at least once in 2018 (Bundesministerium für Arbeit, Soziales 2019). 96,458 people lived in nursing homes in 2019 (Statistik Austria 2020c, 16). Regular or reliable statistics on undocumented migrants are not available. Estimates from 2009 based on a multiplier of crime suspect data range from 18,439 to 54,064 people (Jandl 2009). The Migration Council for Austria (2016) estimates the number of "illegal foreign nationals" to range from 95,000 to 254,000 people, or 1.1 to 2.9 percent of the population.

For persons in time-related underemployment, the hours' threshold used by Statistics Austria is 40 hours a week. The reference periods for the unemployed are defined as having carried out activities to seek employment in the past four weeks and being available to take up employment in the coming two weeks (Statistik Austria 2020e, 16).

The silent reserve is defined as people out of the labor force between the ages of 15 and 64 who have not carried out activities to seek employment in the past four weeks but would like to work and would be available to take up employment in the coming two weeks (Statistik Austria 2020f, 19).

The AMS combines data from their regional offices on the number and details of registered unemployed people with data from the Central Federation of Austrian Public Insurance Companies (Dachverband der Sozialversicherungsträger, SV) on wage earners for their statistics. The national rate of unemployment is defined as the ratio of all unemployed persons that have registered with the AMS to the potential labor supply of all dependent wage-earners that are administered by the SV (Arbeitsmarktservice Österreich 2020a, 66).

In their reports, the AMS uses two different concepts of long-term unemployment. Persons are considered long-term unemployed (“langzeitarbeitslos”) if they have been registered with the AMS for at least 12 months; any training or other discontinuity in their unemployment status for more than 28 days ends the status of long-term unemployment. Persons are considered long-term jobless (“langzeitbeschäftigungslos”) for as long as they do not find a job which they stay in for at least 62 days or if they are not registered with the AMS for other reasons for more than 62 days. Compared to the first measure of long-term unemployment this status is maintained if the person enters labor market training or coaching by the AMS. This allows the AMS to track people even if they find short-term temporary employment or participate in labor market training.

3.2 Generating and Aging the Dataset

While EU-SILC 2019 provides extensive information on income and living conditions, the data is 1-2 years old at the time of publication. To provide a more up-to-date analysis the EU-SILC

dataset is “aged” to 2020 and supplemented with additional information. Through this aging process, the levels of unemployment are increased, reflecting the changing labor market situation because of COVID-19. Incomes from wages and benefits are adjusted by inflation, and information on underemployment and the silent reserve is added from the LFS.

Other household characteristics, such as household composition, are assumed to have remained unchanged. This might be a strong assumption, as the evolving socioeconomic crisis might have led to household consolidation and internal migration. The change in income from short-time work schemes is also not represented, as the indices used for adjusting wages to inflation reflect only changes in collective bargaining agreements, not changes in how these wages are paid out when persons enter a short-time work scheme.

In a first step different variables are recoded to make different data sources more comparable and to allow for more reliable statistical analysis when cell sizes are small due to the small sample size of EU-SILC:

- Age is recoded to 7 different categories: “<16,” “16-24,” “25-34,” “35-44,” “45-54,” “55-64,” “65+,”
- Region is recoded from NUTS level 2 (states) to NUTS level 1 (groups of states): “Eastern Austria (Bgl., NÖ., Wien),” “Southern Austria (Ktn., Stmk.),” “Western Austria (OÖ., Sbg., Tirol, Vbg.),”⁸
- Home ownership is recoded from 10 to 5 categories: “Owner of home,” “Rent in Public Housing,” “Rent in Cooperative or Non-Profit Housing,” “Other Rent,” “Rent-free,”
- Marital status is condensed to a dummy variable if the person is married or not.
- Nationality is condensed into four categories: “Austria,” “EU 15 other than Austria,” “New EU member states,” “Other,”⁹

⁸ NUTS (“nomenclature des unités territoriales statistiques”) is the statistical classification system for geographic regions in the European Union.

⁹ EU15 refers to member countries prior to the accession of new members in 2004: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, United Kingdom. New EU member states refers to member countries that joined the EU afterwards: Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, Slovenia in 2004, Bulgaria and Romania in 2007, Croatia in 2013. The United Kingdom left the EU on 31 January 2020.

- Household income variables are combined into five categories: “Household Earned Income,” “Household Income from Retirement and Survivor’ Benefits,” “Household Transfer Income,” “Household Income from Wealth,” “Other Household Income.”
- For labor force status, unemployment status, and unemployment length survey data on persons’ activities in each month in 2018 is used. For more details on the different concepts of unemployment used in EU-SILC, see Appendix A.
- Industry is reclassified from NACE level 1 to groupings of level 2: “A - Agriculture, Forestry and Fishing,” “B, C, D, E - Mining and Quarrying; Manufacturing; Electricity, Gas, Steam and Air Conditioning Supply; Water Supply, Sewerage, Waste Management, and Remediation Activities,” “F – Construction,” “G - Wholesale and Retail Trade, Repair of Motor Vehicles and Motorcycles,” “H - Transportation and Storage,” “I - Accommodation and Food Service Activities,” “K, O, Q - Financial and Insurance Activities; Public Administration and Defence, Compulsory Social Security; Human Health and Social Work Activities,” “J, L, M, N, P, R, S, T, U - All Other Services,” “Other.”¹⁰

In the next step, the levels of unemployment are increased to simulate the increase of unemployment rates in 2020. This is achieved by first estimating the impacts of different determinants on the employment status of observations in the survey using the probit model shown in equation 1.

Equation 1 Probit Model for Employment Status

$$\begin{aligned}
 P(emp = 1|x) = & G(\beta_0 + \beta_1sex + \beta_2marital\ status + \beta_3age + \beta_4education + \beta_5work\ experience \\
 & + \beta_6currently\ in\ education + \beta_7nationality + \beta_8number\ of\ children + \beta_9region \\
 & + \beta_{10}size\ of\ municipality + \beta_{11}homeownership + \beta_{12}spouse's\ age \\
 & + \beta_{13}spouse's\ education + \beta_{14}spouse's\ employment\ status)
 \end{aligned}$$

The results of the estimation and goodness-of-fit indicators can be found in Appendix B. The probit model is used to predict probability scores for each observation in the labor force.

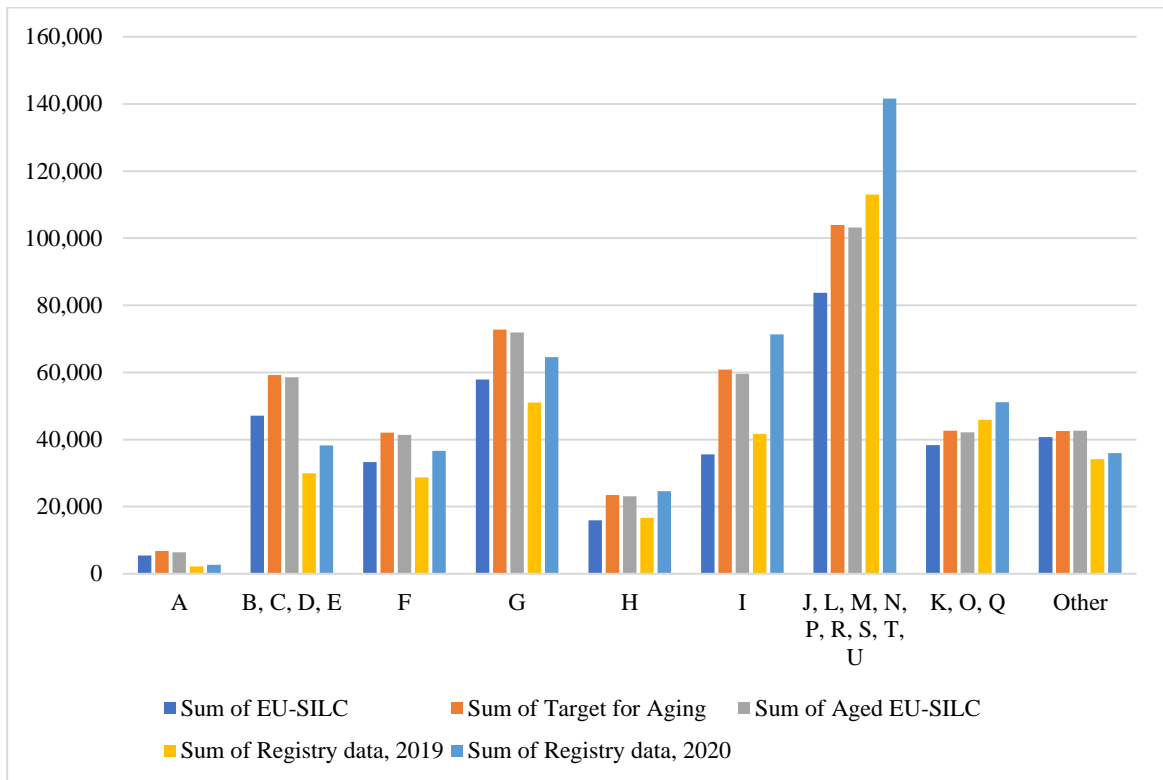
¹⁰ NACE (“nomenclature statistique des activités économiques dans la Communauté européenne”), the statistical classification of economic activities in the European Community, is the industry standard classification system used in the European Union. Level 1 divides economic activities in 21 sections and level 2 further divides the sections into 88 divisions. (Eurostat 2008)

Excluding the self-employed, all observations are ranked by sex, region, industry, and lowest likelihood of being employed.

Unemployment in EU-SILC is measured by self-assessment and therefore not directly comparable to either the ILO definition of unemployment or the national definition. To simulate an appropriate increase the assumption is that unemployment increased proportionately to the increase observable in registry data. For each combination of sex, region, and industry the relative increase of the annual average of people in unemployment and labor market training registered with the AMS from 2019 to 2020 is calculated. The resulting percentage rates are then used to scale the unemployment numbers in EU-SILC by sex, region, and industry. In the last step, the scaled-up unemployment numbers are imported into STATA as a matrix. Comparing the survey data with the imported matrix individual observations with the lowest predicted probability of being employed are shifted from being employed to being unemployed up to the quantity in each cell of the matrix.

Figure 1 summarizes the result of the aging process of unemployment numbers by industry, comparing not the percentage increase but the total numbers of unemployed persons in the original dataset, the target number for the aging process, the reached numbers in the aged dataset, and the number of registered unemployed persons in 2019 and 2020 for comparison. While the numbers converge in some industries there are larger discrepancies in others, for example in the categories “J, L, M, N, P, R, S, T, U - All Other Services,” where registry unemployment data was higher in 2019 than in December 2018 in the survey, and the proportional increase in 2020, therefore, falls short of the real-world data.

Figure 1 Aging of Unemployment Numbers by Industry



Source: EU-SILC, AMS, own calculations.

Small discrepancies between the sums of target quantities and the result of the aging process arise from the limitations of working with weighted survey data. When comparing the survey data with the imported matrix there are some combinations of variables that do not have a corresponding observation in the survey (women in Southern Austria unemployed in industry ‘H – Transportation and Storage’, women in Western Austria unemployed in ‘A – Agriculture’ and ‘F – Construction’) and cannot be scaled. Other times ‘rare’ observations in some industries have a high survey weight attached to them, limiting the possibilities to increase simulated unemployment without exceeding the quantity of the respective cell of the matrix the numbers are compared to.

For all respondents of the survey that declared a stint of unemployment at any time in 2018 (599,975 weighed observations) the median length of unemployment is 6 months, with a median of 6.69 months. Considering the lasting effects of the pandemic on the labor market all newly simulated unemployed persons are assumed to be unemployed for 6 months as well.

To adjust the incomes of the simulated unemployed, a two-fold approach is applied. First, annual net wage earnings are changed to the mean earnings of similar observed unemployed persons. To execute this the mean annual net employee cash or near cash incomes of all observed unemployed persons broken down by sex, region, and industry are calculated. The mean wage of each of those combinations is then assigned to the newly simulated unemployed persons according to their combination of sex, region, and industry.

Second, unemployment benefits are increased by first dividing the original annual net employee cash or near cash income of each simulated unemployed person by 12 months and then multiplying it by 0.55 (the unemployment benefits net replacement rate in Austria). If this amount is above the threshold of €1,000.48 (“Ausgleichszulagen-Richtsatz”), it is multiplied by six to account for six months of unemployment benefits. If it is below €1,000.48 then the unemployment benefits are calculated by multiplying the monthly net wage by 0.6 for those recipients without children in the household and by 0.8 for those recipients with children in the household according to the upper limits of unemployment benefits (AIVG § 21). In addition, the Austrian government paid out a single unemployment benefit payment of €450 in September 2020 to all persons who were unemployed between May and August 2020 for at least 60 days as part of a COVID-19 relief package (AIVG § 66). We assume that all currently unemployed persons (both surveyed and newly simulated) receive this payment. The second, staggered single benefit payment paid out in December 2020 and January 2021 by the Austrian government is not included in the simulation.

The next step in aging the dataset is to adjust wage incomes, old-age benefits, survivor’ benefits, and unemployment benefits to inflation. To adjust wage incomes all wages are increased based on the changes of the Index of Agreed Minimum Wages (“Tariflohnindex”) for each of the 21 industries at NACE level 2 from 2018 to 2020. A measure collected by Statistics Austria, the index measures changes in the minimum wages in collective bargaining agreements based on a representative sample of collective agreements. It is used by the social partners to observe wage growth and is a key evaluation criterion for wage and salary negotiations (Statistik Austria 2021c). The used index can be found in Appendix E.

To age old-age retirement benefits and survivor' benefits, the change in average monthly benefits for both men and women from 2018 to 2020 is calculated. Average monthly old-age retirement benefits for men increased from €1,678 in 2018 to €1,799 in 2020, a 7.2 percent increase. Average monthly old-age retirement benefits for women increased from €1,028 in 2018 to €1,110 in 2020, an 8.0 percent increase. Average monthly survivor' benefits for men increased from €352 in 2018 to €373 in 2020, a 6.0 percent increase. Average monthly survivor' benefits for women increased from €787 in 2018 to €834 in 2020, a 6.0 percent increase (Dachverband der Sozialversicherungsträger 2019; 2021).

These percentage changes are used to scale up benefits in the dataset. As a result, average monthly old-age retirement benefits in the aged dataset rise to €1,941.57 on average for men with a median of €1,860.58, and €1,190.97 on average for women, with a median of €1,068.32. Average monthly old-age survivor' benefits in the aged dataset rise to €505.41 on average for men with a median of €333.49, and €743.2 on average for women, with a median of €742.06. Once again, discrepancies between registry data and survey data could be a result of too few observations, which increases confidence intervals. For example, there are only 85 observations for widowers that receive survivor' benefits in the dataset, weighed to 50,885 persons—representing the actual 45,086 widowers who received survivor' benefits in 2020 according to registry data.

The adjustment of unemployment benefits follows the same principle by calculating the relative change in average daily unemployment benefits for both men and women from 2018 to 2020. Daily unemployment benefits for men increased from €30.82 in 2018 to €33.23 in 2020, a 7.8 percent change. Daily unemployment benefits for women increased from €26.39 in 2018 to €28.55 in 2020, an 8.2 percent change (Arbeitsmarktservice Österreich 2021). These percentage changes are then used to scale up unemployment benefits in the dataset. As a result, daily unemployment benefits in the aged dataset amount to €40.08 on average for men with a median of €35.35, and €34.05 on average for women, with a median of €30.05. While these numbers appear to be too high it is important to note that EU-SILC does not provide an independent item on the duration of unemployment in days, and the unemployment measure does not necessarily overlap with the AMS measure. The comparison of numbers between registry data and EU-SILC is therefore only an approximation.

The last step in the aging process is to supplement the dataset with information on time-related underemployment and on people out of the labor force but wanting to work (the silent reserve). The process is similar to the imputation of higher unemployment numbers. However, EU-SILC does not provide a single variable concerning underemployment or the silent reserve. Table 1 shows responses to target variable “P031000” in the EU-SILC, providing information on the reasons for working less than 30 hours a week:

Table 1 Results from Target Variable P031000 (EU-SILC 2019)

Reason for Working Less Than 30 Hours (in Main and Other Jobs)	
1 Undergoing education or training	114,396
2 Personal illness or disability	50,009
3 Wants to work more hours but cannot find a job(s) or work(s) of more hours	63,742
4 Do not want to work more hours	86,486
5 Number of hours in all job(s) are considered as a full-time job	16,608
6 Housework, looking after children or other persons	365,149
7 Other reasons	97,984

Source: EU-SILC.

This information is used in a first step to assign all people that responded “3” the status of being underemployed. To approximate the rest of the underemployed in EU-SILC a probit model analogous to the one in equation 1 is used, with the binary variable “Working full-time” as the dependent variable. The estimation results of the model and goodness-of-fit indicators can be found in Appendix C. The probit model is then used to predict probability scores for being employed full-time for each observation working part-time. All people that responded “2 Personal illness or disability,” “4 Do not want to work more hours,” and “5 Number of hours in all job(s) are considered as a full-time job” to item “P031000” in the survey are excluded for the subsequent process. The remaining observations are ranked by sex, age, marital status, and highest likelihood of being employed full-time. The observations are then compared with annual data from the labor force survey in 2020 on underemployment by sex, age, and marital status. Individual observations with the highest predicted probability of being employed full-time are

assigned the status underemployed up to the quantity in each cell of the corresponding matrix from the labor force survey. As a result, underemployment numbers are increased from 47,710 to 168,772 people, close to the target quantity given by the annual average of 177,000 underemployed people in the target age group in 2020 according to the labor force survey (Statistik Austria 2021b).

For imputing numbers on the silent reserve, a probit model with the binary variable “Labor Force Participation” as the dependent variable is estimated. The estimation results of the model and goodness-of-fit indicators can be found in Appendix D. The probit model is used to predict probability scores for being in the labor force for each individual observation in prime working-age outside the labor force. Excluding people in compulsory military or civil service, observations are ranked by sex, age, marital status, and highest likelihood of being in the labor force. The observations are then compared with annual data from the labor force survey in 2020 on the silent reserve by sex, age, and marital status collected by Statistics Austria. Individual observations with the highest predicted probability of being in the labor force are assigned the status silent reserve up to the quantity in each cell of the corresponding matrix from the labor force survey. 153,087 people are imputed to be in the silent reserve, close to the target given by the annual average of 154,500 people in the silent reserve in 2020 according to the labor force survey (Statistik Austria 2021b).

After the aging process is completed, the dataset can be used to simulate different benchmark scenarios and to subsequently analyze the impacts of the introduction of different job guarantee scenarios on poverty and inequality.

3.3 Simulating Benchmark Scenarios

Based on the literature review and an analysis of potential target groups that are available to be analyzed in the aged dataset three different benchmark scenarios are created. Unemployed persons are the most obvious target group as a job guarantee is a policy proposal developed to eliminate involuntary unemployment. In addition, time-related underemployed persons and persons in the silent reserve are considered potential participants. The three benchmark scenarios are:

- Scenario 1: Job guarantee for long-term unemployed persons (>1 year of unemployment).
- Scenario 2: Job guarantee for unemployed persons.
- Scenario 3: Job guarantee for unemployed persons, underemployed persons, and persons in the silent reserve.

In each scenario, every observation that fits the criteria is made eligible to enter the job guarantee. To simulate participation in the job guarantee a behavioral assumption is applied. Equation 2 shows that a person enters the job guarantee if their annual employee cash or near cash net income plus their net unemployment benefits times a multiplier of 1.2 is lower than the annual net wage income a job guarantee provides. The multiplier is chosen to reflect the fact that leaving an existing job comes with risks and is not without costs, and that if unemployment benefits are close to a job guarantee wage a person might choose to stay in unemployment until they find a new job, at least for a short period.

Equation 2 Behavioral Assumption for Job Guarantee Participation

$$JG_{sim} = \begin{cases} 1 & \text{if } wage_{JG} > 1.2 * (wage_{emp} + benefits_{unemp}) \\ 0 & \text{otherwise} \end{cases}$$

In addition, two different variations are calculated. Variation 1 assumes that every person that enters the job guarantee will stay in for twelve months. In the microsimulation, this is implemented by replacing employment status and incomes for a whole year. Each person receives the job guarantee wage for 12 months, replacing 100 percent of both previous annual employee cash or near cash income and 100 percent of previous annual unemployment benefits.

Variation 2 assumes that for all unemployed persons the duration of the job guarantee is derived from the length of consecutive months in unemployment. Each previously unemployed person receives the job guarantee wage for the months in the job guarantee on top of previously earned employee cash or near cash income. Unemployment benefits are replaced only for the time of consecutive unemployment, if the person had a previous stint of unemployment the benefits associated with that previous period remain as part of their annual income. For all underemployed persons and people in the silent reserve, the assumption is that they enter the job

guarantee for twelve months. Their job guarantee wage is for 12 months, replacing 100 percent of both the annual employee cash or near cash income and 100 percent of annual unemployment benefits.

3.4 Analyzing the Impacts on Poverty

3.4.1 Re-estimating the At-risk-of-poverty Threshold

Austria measures poverty rates based on the EU-SILC at-risk-poverty threshold, which is a relative poverty line. The at-risk-of-poverty headcount ratio is the share of the population with an equivalized disposable income (after social transfer) below the at-risk-of-poverty threshold, which is set at 60 percent of the national median equivalized disposable household income after social transfers (Statistik Austria 2020d, 23).

The equivalence scale (an adaption of the OECD-scale) weighs the members of the households to compare different sizes and compositions of households. To arrive at an equivalized household size, a weight of 1.0 is given to the first adult, 0.5 to the second and every subsequent person aged 14 and older, and 0.3 to each child under the age of 14 (Statistik Austria 2020d, 22).

It is important to note that a relative poverty line measures changes in the distribution of income over time, not changes in absolute poverty. The name “at-risk-of-poverty threshold” is therefore somewhat misleading. As Eurostat notes, “This indicator does not measure wealth or poverty, but low income in comparison to other residents in that country, which does not necessarily imply a low standard of living” (Eurostat 2021).

To measure the impact of a job guarantee on the at-risk-of-poverty rates, two strategies can be applied. One strategy uses the at-risk-of-poverty threshold presented in EU-SILC 2019 (€1,286 of equivalized disposable household income per month) and calculates how many households see their incomes rise above this line after the introduction of the program. The second strategy recalculates the threshold after imputing new household incomes. Since household sizes and weights are assumed to remain the same, this operation is straightforward. To provide a good comparison, both strategies are applied in this thesis. The summary statistics on poverty are presented with the original at-risk-of-poverty threshold and using a recalculated at-risk-of-

poverty threshold at 60 percent of the median equivalized disposable household income in each scenario.

3.4.2 Poverty Indices

Given a poverty line (in this case the at-risk-of-poverty threshold), there are different ways of counting the poor. Based on Foster, Greer, and Thorbecke (1984) three poverty indices will be considered in this thesis: the headcount ratio P_0 , the poverty gap P_1 , and the poverty intensity P_2 . These different poverty indices are used to assess how well a job guarantee policy is capable of not only reducing the headcount ratio but also more extreme forms of poverty present in Austria. The general formula for all three poverty indices using survey weights is presented in equation 3,

Equation 3 Formula for FGT Poverty Indices

$$P_\alpha = \frac{1}{\sum_{i=1}^n w_i} \sum_{i=1}^q w_i \left(1 - \frac{y_i}{z}\right)^\alpha$$

where α represents the aversion to poverty, n is the population, q is the number of the poor, w_i is the survey weight of household i , y_i is the income of household i , and z is the poverty line.

The headcount ratio P_0 uses $\alpha = 0$ and calculates the at-risk-of-poverty rate. Poverty gap P_1 uses $\alpha = 1$ and calculates a renormalized at-risk-of-poverty income gap, measuring how far away poor households' incomes are from the at-risk-of-poverty threshold. This poverty index addresses the monotonicity axiom, which states that “[g]iven other things, a reduction in income of a person below the poverty line must increase the poverty measure” (Sen 1976, 219). Poverty intensity P_2 uses $\alpha = 2$ and weighs the poverty gap by itself. This measure addresses both the monotonicity axiom and the transfer axiom, which state that “[g]iven other things, a pure transfer of income from a person below the poverty line to anyone who is richer must increase the poverty measure” (Sen 1976, 219). In addition, it is a measure of inequality, weighing those further below the poverty line more heavily.

3.5 Analyzing the Impacts on Income Inequality

3.5.1 Gini Decomposition by Sources of Income

The Gini Methodology has been used for a variety of inequality statistics. The most famous inequality measure coming out of the Gini Methodology is the Gini coefficient, which is usually represented as twice the area between the 45° and the Lorenz curve. The coefficient ranges from 0, representing perfect equality, to 1, representing that one observation is positive and all other observations are zero. However, the Gini coefficient can also be defined as Gini's mean difference (GMD) divided by twice the mean (Yitzhaki and Schechtman 2013, 26). Different types of formulas can be applied to calculate the GMD. The most useful for the statistical analysis of the decomposition by sources of income is a formulation that relies on covariances, as shown in equation 4.

Equation 4 Formula for Gini Coefficient, Covariance Method

$$Gini = \frac{2cov(y, F(y))}{\mu_y}$$

y represents income, $F(y)$ is the cumulative distribution of income, and μ_y is the mean income.

If y_1, \dots, y_k represents different sources of a household's income, and $y = \sum_{k=1}^K y_k$, then the decomposition by source can be written as presented in equation 5.

Equation 5 Formula for Gini Decomposition

$$Gini = \sum_{k=1}^K R_k G_k S_k$$

R_k is the Gini correlation between income component k and total income, G_k is the relative Gini of component k , and S_k is component k 's share of total income (Lerman and Yitzhaki 1985).

This formula can be used to analyze income inequality effects by income source, an approach useful to analyze the strengths and weaknesses of social policy. In this thesis, the approach is used to analyze the shares and contributions to inequality of different household income sources

before and after the introduction of a job guarantee. This is done to show the immediate impacts of the introduction of the job guarantee on income inequality. No assessment is made whether the level of the Gini—a normalized variable—is good or bad. The analysis is also not meant to judge overall inequality, which would need to include at least also an assessment of wealth.¹¹

3.5.2 Gender Pay Gap

Introducing a job guarantee not only changes the overall distribution of income in society. It also changes the differences in income between men and women. Analyzing the determinants of the gender pay gap in Austria and decomposing the differences in wages into a fraction that is explained by differences in returns to characteristics and differences in the distribution of the characteristics is beyond the scope of this thesis and has been done previously by other authors (Geisberger and Glaser 2017). To approximate the changes in the gender pay gap, the self-reported monthly gross and net wage in 2019 are divided by the product of self-reported average hours worked in a week and a multiplier of 4.33 to scale weekly hours to a monthly figure. The raw gender gap is then investigated by comparing the changes in hourly gross wages and hourly net wages after the introduction of a job guarantee.

This chapter has provided an overview of the methodology applied in this thesis. The microsimulation approach requires the combination and aging of data from different sources to compile a dataset that reflects both changes in the labor market and the changes in incomes to provide an up-to-date basis for analysis. Using this dataset three different benchmark scenarios for the introduction of a job guarantee in Austria with two different variations are simulated. Different methods are then applied to analyze both changes in poverty and income inequality. The following chapter provides more insight into the demographic groups targeted by the different job guarantee scenarios. Results of the microsimulation can be found in Chapter 5.

¹¹ While the Gini coefficient for the distribution of income might be low in Austria compared to other OECD countries (OECD 2021b), the Gini coefficient for the distribution of net wealth is relatively high at 0.73 in 2017 (Fessler, Lindner, and Schürz 2019, 18).

4 A JOB GUARANTEE PROPOSAL FOR AUSTRIA

In this thesis, three different benchmark scenarios of a public job guarantee are proposed that offer a job to different groups willing to work. As described in section 3.3, eligibility criteria for the different benchmark scenarios are tied to labor market status: long-term unemployment, unemployment, underemployment, and out of the labor force but wanting and able to work (silent reserve). Benchmark scenario 1 includes all long-term unemployed people and models a proposal similar to the one put forward by Picek (2020). Benchmark scenario 2 offers a job guarantee to all unemployed persons. Benchmark scenario 3 expands eligibility, coming close to a universal job guarantee.

The behavioral assumption that people enter the job guarantee only if the prospective income from the job guarantee wage is 1.2 times higher than previous income assumes that not everybody will enter the job guarantee if it is available. In addition, many short-term unemployed (the floating part of the reserve army of the unemployed, people in frictional unemployment) might be unlikely to enter the job guarantee if they have sufficient savings. However, the introduction of a job guarantee might also alter the labor force structure in unforeseen ways, as additional people might be drawn into the labor force that are currently not part of the silent reserve. Benchmark scenario 3 might thus provide an upper bound scenario.

In this chapter, the different target groups encompassed by the different benchmark scenarios are described in more detail. Additional target groups that are of special interest to the formulation of social policy are also discussed. The chapter closes with a proposal for the program wage and a standard for weekly hours worked.

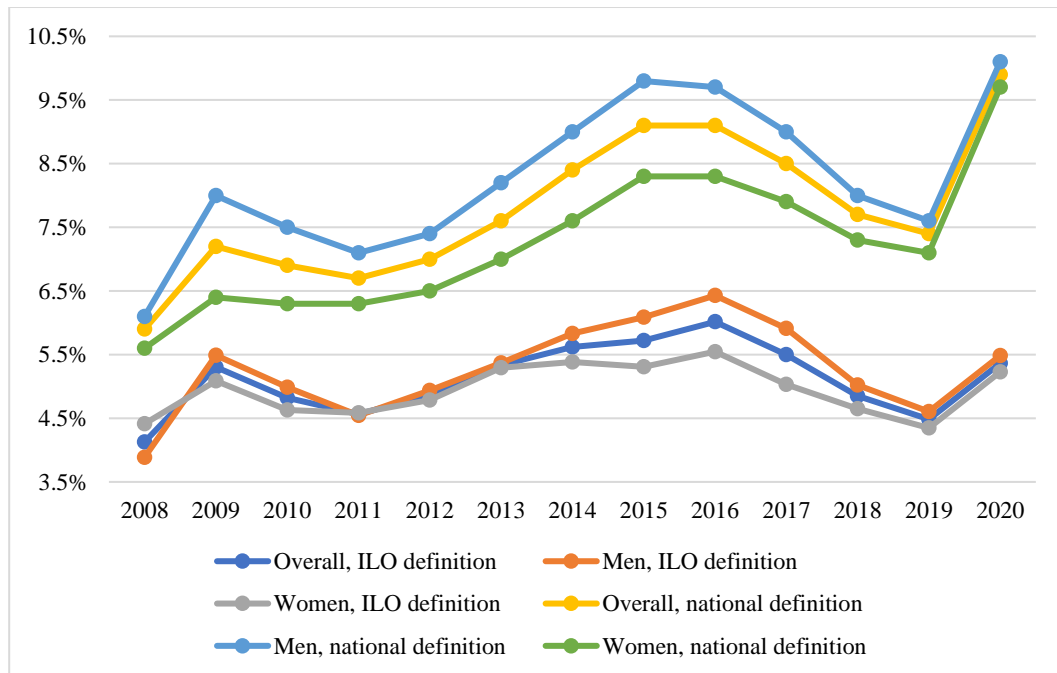
4.1 Stylized Facts About Target Groups

Who are the people in need of a job guarantee, and how many are they? This section presents both the development of target groups over time and a breakdown by demographic characteristics. While Chapter 3 provided insights on the quality of matches between the aged dataset and real-world data from 2020 this section draws on data from current data sources, i.e., either from current registry data or labor force surveys.

4.1.1 Unemployment and Labor Force Participation

The unemployment rates reported for Austria differ according to the definition used. For international comparison, the ILO definition is usually used, while in domestic policy discussions the national definition is more popular. In figure 2 the development of unemployment rates according to both definitions is tracked over time. The Great Recession after the global financial crisis in 2007-08 led to a sharper increase in unemployment rates for men than for women. Women experienced a higher-than-average unemployment rate only in 2008 and only according to the ILO definition. Unemployment rates decreased until 2011, after which they started to rise again until reaching a peak in 2015-16, with men experiencing an unemployment rate of 9.8 percent and women experiencing an unemployment rate of 8.3 percent by national definition in 2015. According to the ILO definition, the peak was reached in 2016, with rates of 6.4 percent for men and 5.5 percent for women.

Figure 2 Unemployment Rate, Annual Averages



Source: Statistik Austria (2021b), Arbeitsmarktservice Österreich (2021).

The main reasons for the increase and consolidation of unemployment in the aftermath of the Great Recession can be found in slow economic growth and an increase in labor supply (Eppel et al. 2018, 85). Older employees had stayed longer in the labor force due to reforms of

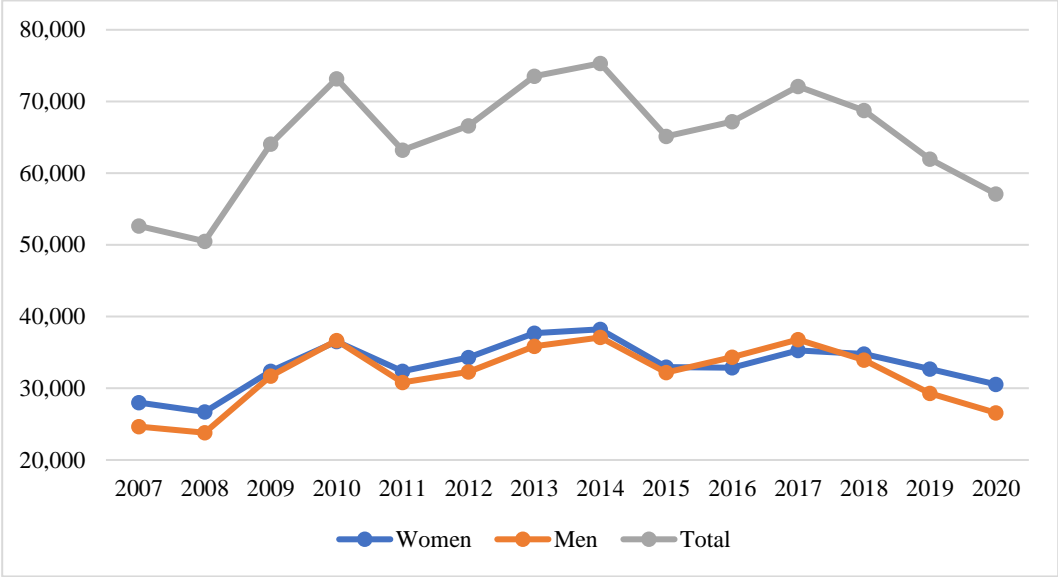
retirement policies, more women had joined the labor force, and there had been a large influx of migrant workers. The latter is mainly due to the opening of the Austrian labor market to citizens of new member states of the European Union.¹²

Unemployment rates dropped significantly between 2016 and 2019. In 2020, the COVID-19 pandemic led to an unprecedented increase in unemployment rates even when short-time work schemes were in place. Compared to previous recessions the impact of the pandemic on unemployment rates was distributed more equally. While the Great Recession led to a gender gap in unemployment rates of 1.6 percent by national definition in 2009 the gap was only 0.4 percent on average in 2020. Unemployment stood at 10.1 percent for men and 9.7 percent for women by national definition and 5.5 percent for men and 5.2 percent for women by ILO definition.

A substantial proportion of unemployed persons registered with the AMS undergoes labor market training and is excluded from official unemployment numbers during this period. In figure 3, the annual averages of persons in training are tracked. Increases after 2008 lag the increase in unemployment numbers as especially people in longer unemployment stints undergo training. The extraordinary circumstances of the pandemic 2020 led to a drop in people in training even when unemployment numbers increased. With a likely increase in long-term unemployed persons in 2021 and 2022, the number of people in training will most likely rise again as well.

¹² Workers from European Union countries that joined in 2004 (Hungary, Poland, Slovakia, Slovenia, Czech Republic, Estonia, Latvia, Lithuania, Malta, Cyprus) gained access to the Austrian labor market in 2011. Workers from European Union countries that joined in 2007 (Romania, Bulgaria) gained access in 2014.

Figure 3 Unemployed Persons in Labor Market Training, Absolute, Annual Averages

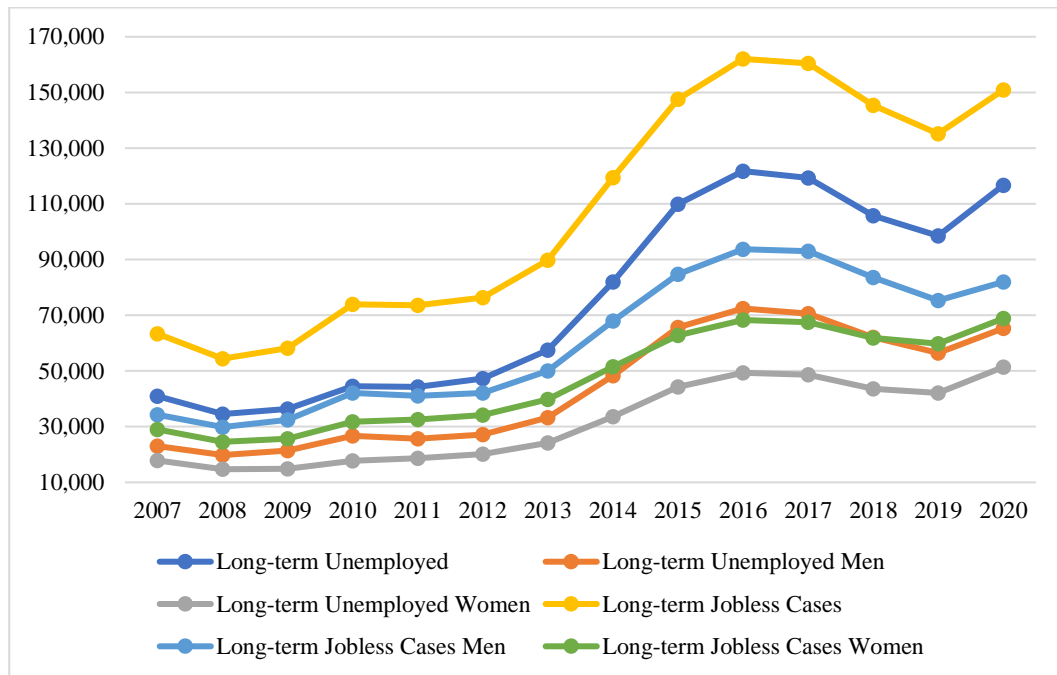


Source: Arbeitsmarktservice Österreich (2021).

Figure 4 shows the development of long-term unemployment in Austria over time in absolute numbers. Long-term joblessness is an expanded concept of long-term unemployment used by the AMS¹³. The figure indicates a slow increase in both concepts in the years after the Great Recession which turns into a substantial increase after the Austrian labor market is opened to new EU member states, at which point certain groups of unemployed persons (unemployed persons with low qualifications, unemployed persons from traditional migrant worker countries, i.e. Turkey and former Yugoslavia) experienced more difficulties in finding employment as employers shifted their hiring practice starting in 2011 (Eppel et al. 2018, 69). After a decrease in recent years, all indicators rose again due to the pandemic. Men have a substantially higher risk of both long-term unemployment and long-term joblessness than women.

¹³ For more information on the difference between the two concepts refer to section 3.1.

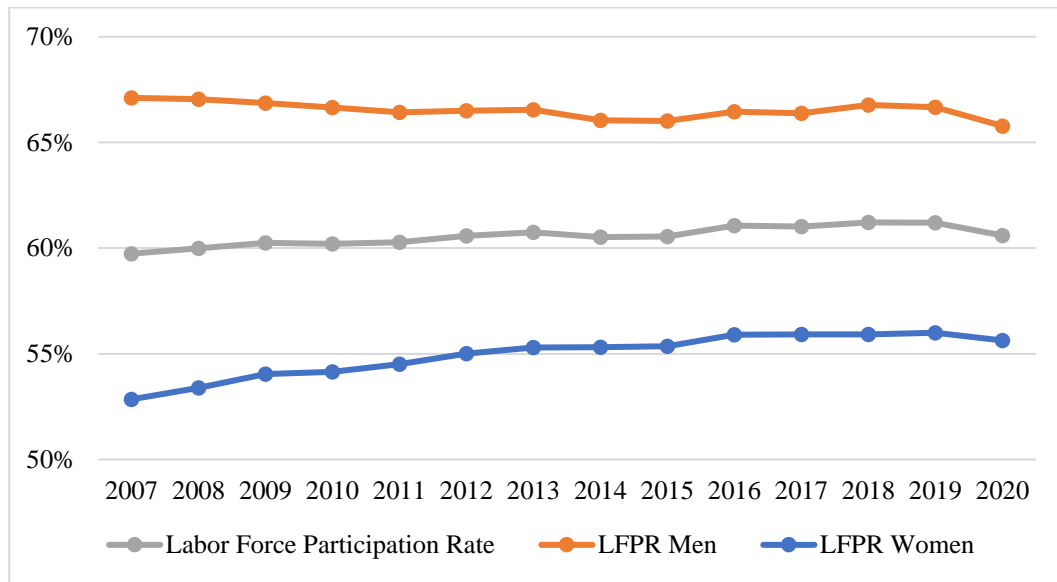
Figure 4 Long-term Unemployment, Absolute, Annual Averages



Source: Arbeitsmarktservice Österreich (2021).

Austria has a gender gap in the labor force participation rate (LFPR). Figure 5 illustrates the labor force participation rate for persons 15 years and older over time, both for the total population and broken down by sex. The long-term trend shows an increase in the LFPR for women from 52.8 percent in 2007 to 56 percent in 2019 and a decrease in the LFPR for men from 67.1 percent in 2007 to 66.7 percent in 2019. The overall LFPR increased from 59.7 in 2007 percent to 61.2 percent in 2019. The COVID-19 pandemic brought a decrease in the LFPR for both genders, dropping the overall LFPR by 0.6 percent to 60.6 percent.

Figure 5 Labor Force Participation Rate, Annual Averages

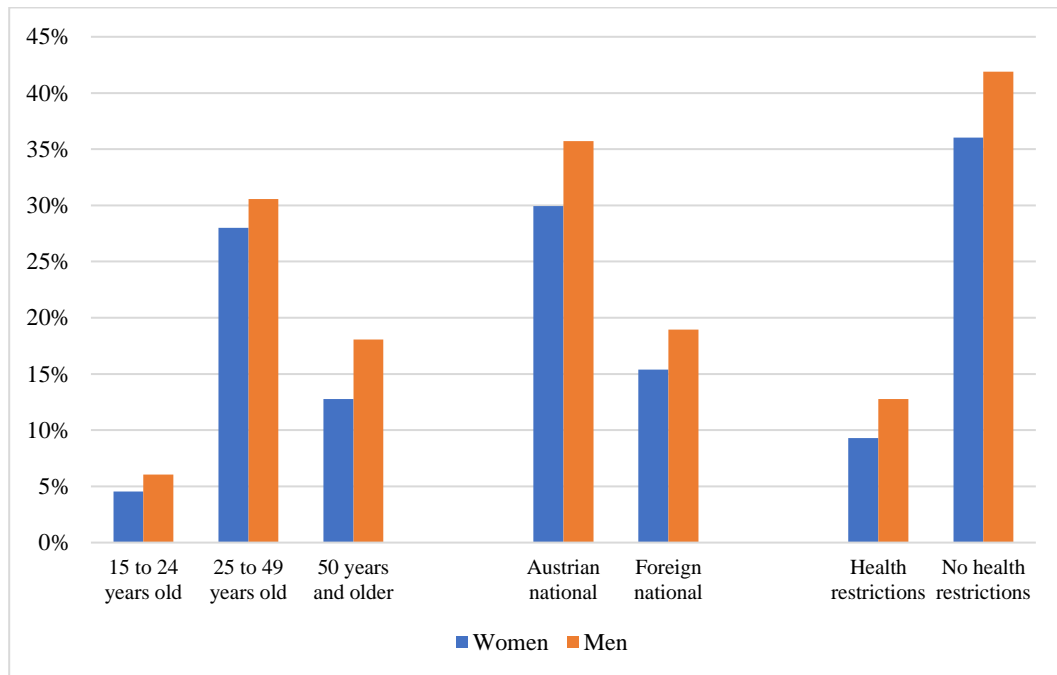


Source: Arbeitsmarktservice Österreich (2021).

The annual average of unemployed persons by national definition (excluding people in labor market training) in 2020 amounted to 409,639 persons. Figure 6 present a breakdown of the unemployed by demographic characteristics in 2020. The bars for each characteristic sum up to 100 percent. A decomposition by age shows that 10.6 percent of the unemployed are 15 to 24 years old, 58.6 percent are 25 to 49 years old, and 30.8 percent are 50 years and older. The latter age cohort has the largest gender gap— men aged 50 years older make up 18.1 percent of the unemployed while women aged 50 years and older make up only 12.8 percent of the unemployed. 65.7 percent of the unemployed are Austrian nationals while 34.4 percent are foreign nationals. 22.0 percent of all unemployed persons have a health restriction that impedes their job search¹⁴.

¹⁴ The AMS concept of health restrictions (“Personen mit gesundheitlichen Vermittlungseinschränkungen”) is based on a variety of factors and is not restricted to an official status of disability. Physical, psychological, or mental impediments can be cited if the affected person provides a medical certificate (Arbeitsmarktservice Österreich 2020a, 67).

Figure 6 Unemployment by Demographic Characteristics in 2020, Average Shares

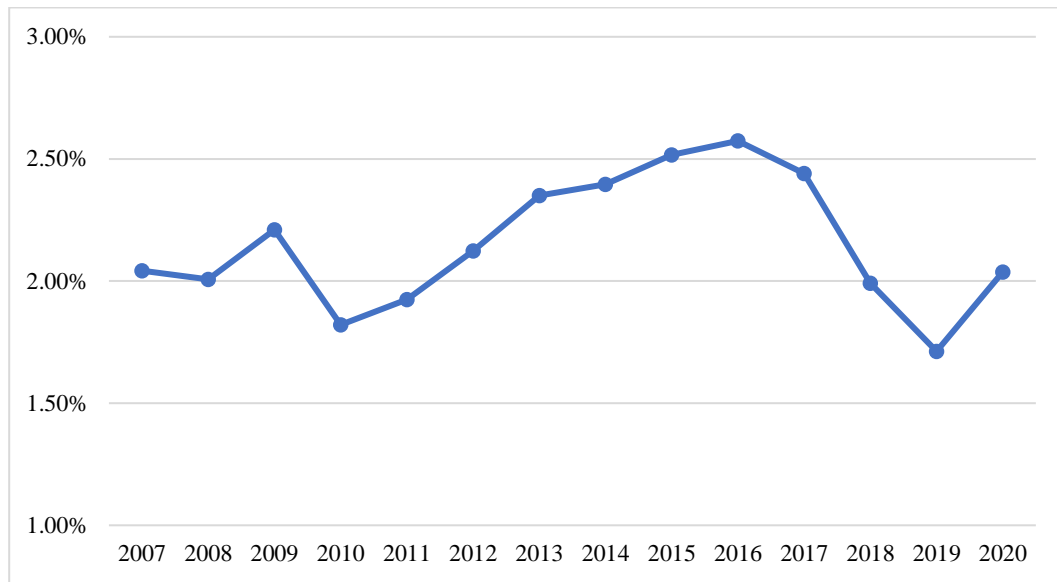


Source: Arbeitsmarktservice Österreich (2021).

4.1.2 Underemployment

Time-related underemployment is defined as all persons in employment who, during a short reference period, want to work additional hours, whose working time in all jobs is less than a specified hours threshold, and who are available to work additional hours given an opportunity for more work. Figure 7 illustrates the development of the share of the total population in time-related underemployment between 2007 and 2020. Underemployment changes in a pattern similar to unemployment—the Great Recession led to an increase in 2009, followed by a drop and a slow but steady increase that peaked in 2016 at 2.6 percent of the population, or around 221,000, according to the labor force survey. After a sharp decline between 2016 and 2019 underemployment increased again due to the COVID-19 pandemic, reaching an average of 2.0 percent in 2020, or around 179,000 persons.

Figure 7 Underemployment, Share of Population, Annual Averages

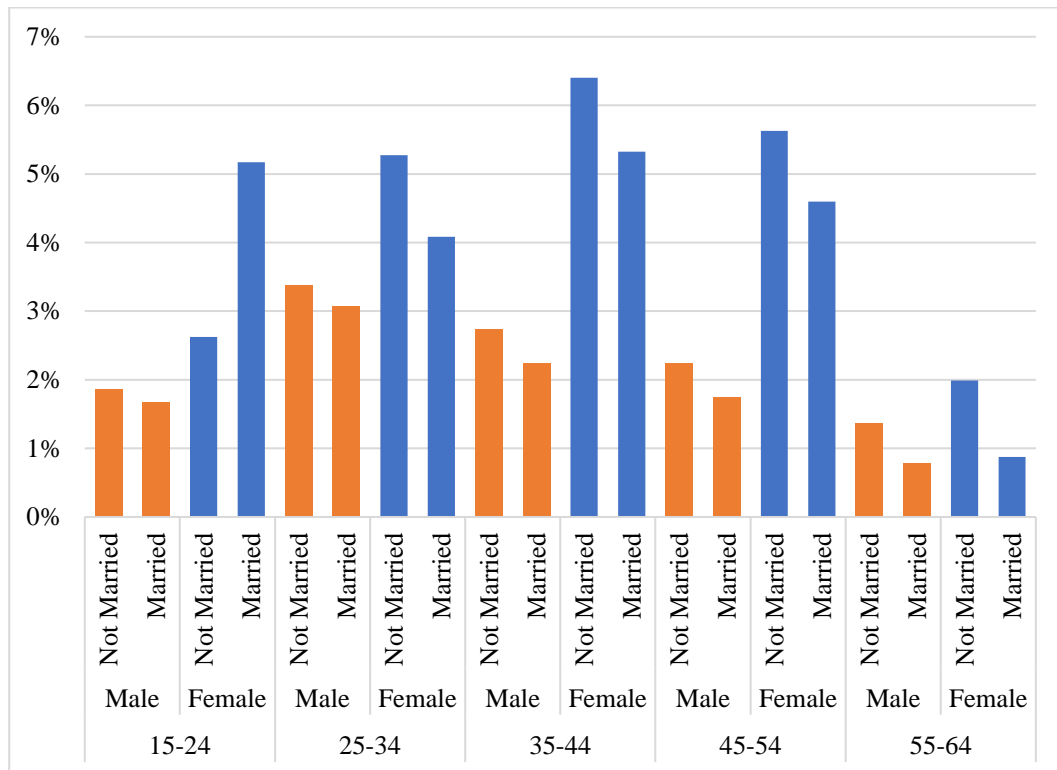


Source: Arbeitsmarktservice Österreich (2021).

Figure 8 presents a breakdown of underemployment shares by age, sex, and marital status in 2020. The shares are comparing the number of persons in underemployment in each group with the total number of people in each group.¹⁵ Underemployment is a female phenomenon in Austria across all age groups. For example, 6.4 percent of unmarried women aged 35-44 are in time-related underemployment, while the share for unmarried men in underemployment in the same age cohort is only 2.7 percent.

¹⁵ Numbers for married men and women 15-24 years old and unmarried men 55-64 years old cannot be interpreted, as the labor force survey contains too few observations in these categories to make statistical inferences possible.

Figure 8 Underemployment Shares by Age, Sex, and Marital Status in 2020



Source: Arbeitsmarktservice Österreich (2021).

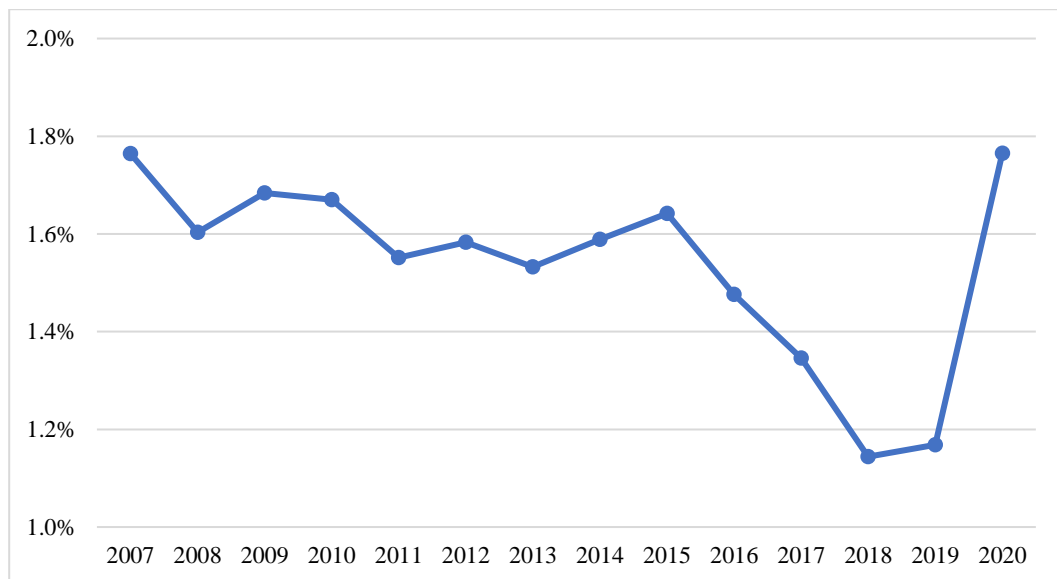
The gender gap in underemployment is a direct result of the large gender gap in part-time work in Austria. The part-time employment rate for women in Austria was 47.3 percent in 2020, much higher than the EU average of 30.4 percent (Statistik Austria 2021f). In comparison, the part-time employment rate for men in Austria was only 10.7 percent in 2020. Roughly 80 percent of all part-time employees in Austria are women. Care duties for children or adults in need of care are the main reason for part-time work for 38.5 percent of women, but only for 5.8 percent of men working part-time. In the age cohort of 30-44 years, care duties are the main reason for part-time for 67.6 percent of all women. Only a small fraction of part-time workers declare themselves to be in time-related underemployment. A job guarantee policy that invests in care and offers more childcare and eldercare in rural communities will most likely increase the number of people wanting to work more hours.

4.1.3 *Silent Reserve*

People in the silent reserve are out of the labor force and have not carried out activities to seek employment in the past four weeks but would like to work and would be available to take up

employment in the coming two weeks. Figure 9 shows the development of the share of the total population in the silent reserve between 2007 and 2020. While there had been fluctuations between 2007 and 2015 there was a slight downward trend, followed by a drop between 2015 and 2018 from 1.6 percent of the population to a low of 1.1 percent, or around 99,000 people. Unsurprisingly, the COVID-19 pandemic resulted in a spike in the numbers to 1.8 percent or around 155,000 people in 2020. Many people were under lockdown, restricted in their mobility, or had to provide care services to children whose schools were shut down, forcing them to exit the labor force.

Figure 9 Silent Reserve, Share of Population, Annual Averages

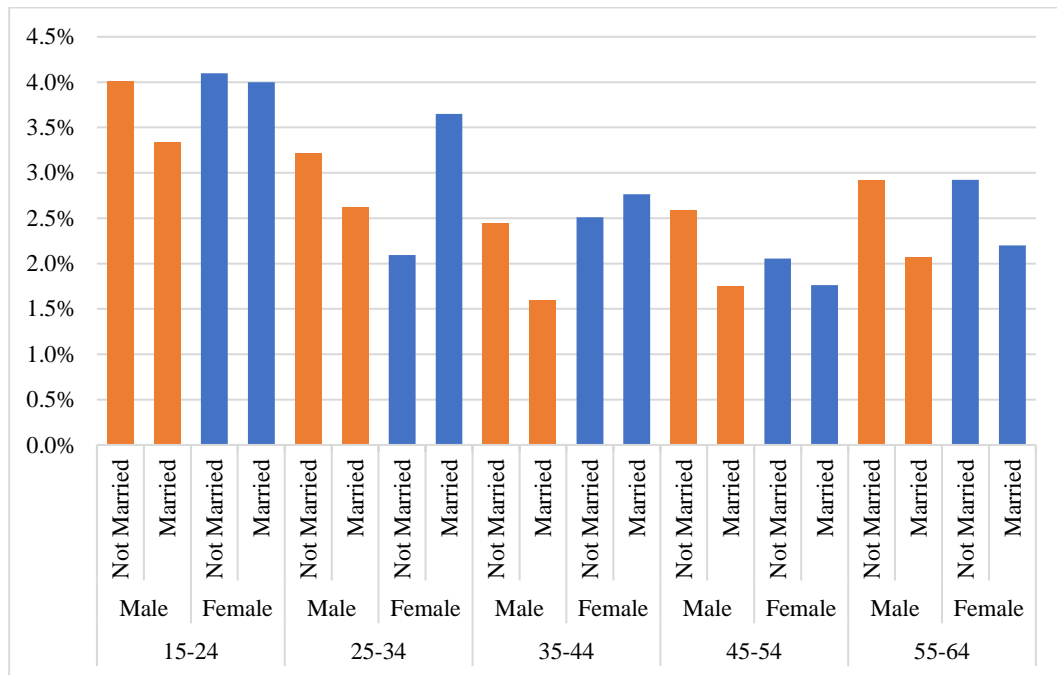


Source: Statistik Austria (2021b).

Figure 10 presents a breakdown of the share of people in the silent reserve by age, sex, and marital status in 2020. The shares are comparing the number of persons in the silent reserve in each group with the total number of people in each group.¹⁶ Compared to trends in underemployment, there is no clear gender gap in the silent reserve—the average numbers for 2020 were 77,500 women and 77,000 men according to the labor force survey.

¹⁶ Numbers for married men and women 15-24 years old cannot be interpreted, as the labor force survey contains too few observations in these categories to make statistical inferences possible.

Figure 10 Silent Reserve, Shares by Age, Sex, and Marital Status in 2020



Source: Statistik Austria (2021b)

4.2 Other Potential Target Groups

The job guarantee proposal presented in this thesis focuses on broad labor market categories for eligibility criteria. However, other potential target groups of interest cannot be included in the microsimulation for lack of data in EU-SILC. This section offers an overview of some of these groups. A job guarantee is a suitable policy to guarantee the right to work for vulnerable groups that have difficulties or face legal barriers in the regular labor market. Four groups are of particular significance that should be addressed by public policy planners: asylum seekers, former prison inmates, disabled persons, and homeless persons.

Around 2015, there was an increase in applications for asylum in Austria, mainly driven by refugees from Syria and Afghanistan. Applications peaked in 2015 at 88,340. New applications have since declined substantially to 14,775 applications in 2020. Many asylum seekers are forced to wait several years until a final decision is reached on their application. The number of undecided open proceedings (both by the administration and by courts reviewing previous decisions) decreased only gradually after 2015. In December 2020, 20,739 applications were

undecided, mostly on asylum seekers from Afghanistan (6,473 persons), Iraq (3,467 persons), and Syria (2,820 persons) (Bundesministerium für Inneres 2021, 50).

Yet even if asylum seekers wait months or years for a final decision on their asylum applications, they have little chance of gaining meaningful employment. They are prohibited from working in the first three months of their proceedings, after which they are only allowed to gain seasonal employment for up to six months at a time in food service activities or in agriculture (Arbeitsmarktservice Österreich 2020b), conditional on no Austrians seeking the same employment. Access to a job guarantee after a defined period (i.e., three or six months) from the beginning of their proceedings would grant numerous benefits to both society and asylum seekers. Asylum seekers would be able to earn their own wage income without displacing other workers in the regular labor market, making them less dependent on welfare benefits. Meaningful job guarantee employment reduces the feelings of futility and hopelessness many asylum seekers experience when forced to do nothing. In addition, working in and with local communities increases the chances of successful local integration. This would mark a departure from policies focusing on deterrence and exclusion that result in the restriction of asylum seekers' rights.

Focusing on former prison inmates gaining meaningful and qualitative employment might decrease recidivism. The latest crime statistics show that of 27,694 people convicted for a crime in 2015, 32.7 percent lapsed back into crime and were convicted again in the following years (Statistik Austria 2020f). Recidivism was highest at 43.6 percent for those who were released from prison after a conviction of imprisonment without parole. Studies on job opportunities and recidivism suggest that high-quality post-prison employment is associated with a lower likelihood of returning to prison, compared to low-quality employment and unemployment (LaBriola 2020). Job guarantee jobs might have positive effects on the process of re-integrating into local communities, enabling former prison inmates to network, and offering a feeling of belonging.

The Austrian labor market is not inclusive. People who are diagnosed with a disability that reduces their performance capacity by 50 percent or more are excluded from assistance by the AMS. Instead, roughly 20,000 people with disabilities work in “protected workshops” that are

recognized as providing occupational therapy. In these workshops people with disabilities are not included in social security, have no right to sick leave, and cannot earn future retirement benefits, increasing the risk of poverty in retirement. They rely on social transfers which prohibit building up wealth. Often, they only receive pocket money of €5 to €200 a month. Interest groups have criticized that employment in protected workshops prevents leading an independent life and that firms are encouraged to outsource tasks to protected workshops, benefitting from the low costs (BIZEPS 2020).

The Convention on the Rights of Persons with Disabilities (CRPD) recognizes “the right of persons with disabilities to work, on an equal basis with others; this includes the right to the opportunity to gain a living by work freely chosen or accepted in a labour market and work environment that is open, inclusive and accessible to persons with disabilities” (United Nations General Assembly 2006, Article 27). Austria has ratified the CRPD, yet it does not grant people with disabilities the right to work and to gain a living by work freely chosen. Both the UN and the Austrian Ombudsman Board have scrutinized the situation of disabled persons in Austria and have found the situation to be “unsatisfactory and impermissible” (Volksanwaltschaft 2019, 5). Employment in protected workshops could be brought under the umbrella of a job guarantee. This would allow people with disabilities to earn their own income, become more independent, and benefit from all aspects of social security in Austria.

Finally, housing insecurity is aggravated by low unemployment benefits and income insecurity, which leads to missed rent payments and threats of homelessness. The “Housing First” approach has gained significant support as an effective strategy to eliminate already existing homelessness (BMSGK 2020). This strategy could be combined with a job guarantee, offering homeless people secure housing and access to jobs if they are willing and able to work.

A job guarantee is a suitable policy to guarantee the right to work for vulnerable groups that have difficulties or face legal barriers in the regular labor market. Asylum seekers, former prison inmates, disabled persons, and homeless persons are potential target groups of a job guarantee that should receive special attention.

4.3 Defining a Program Wage and Hours Worked

Austria does not have a legally defined minimum wage. Instead, minimum wages are defined in collective bargaining agreements, which are negotiated each year between the members of the Social Partnership. 98 percent of all wage-earning employees in Austria fall under collective bargain coverage, which represents the highest coverage rate among OECD countries (OECD 2021a). All collective bargain agreements also include the entitlement to a 13th and 14th monthly wage.

The Austrian Trade Union Federation is skeptical of introducing a legal minimum wage by law. However, they propose raising all collective bargaining minimum wages to a €1,700 gross monthly wage, making it the effective minimum wage (ÖGB 2018). With the 13. and 14. monthly wage, this amounts to an annual gross income of €23,800 and an annual net income of approximately €19,261. Compared to the distribution of gross income of yearlong full-time employees this places recipients of such a minimum wage below the cutoff for the first decile, which was at €26,466 in 2019 (Statistik Austria 2020a). Defining the gross monthly wage at €1,700 as the job guarantee wage, therefore, does not unduly increase wages and makes job opportunities in the private or public sector attractive, as more than 90 percent of year-long full-time employees earn higher salaries and wages.

An alternative approach would be to use the collective bargaining wages of each sector as the job guarantee wage. This approach was taken during *Aktion 20,000* program. The planners estimated the average gross monthly wage to be at €1,928, placing the participants slightly above the first decile in the income distribution (Picek 2020). However, using this approach would be too complex for this thesis, as there are 859 different collective bargaining agreements in Austria (ÖGB 2021).

Several authors have pointed out that a job guarantee effectively sets higher labor standards. For example, Tcherneva (2020, 60) argues that a job guarantee could help reduce standard weekly hours to 35 hours in the US. The Austrian Trade Union Federation has called for a reduction of working hours, without specifying a specific number of hours (ÖGB 2018, 15).

In this thesis, a full-time job guarantee job is defined at 32 hours. A reduction of the standard weekly hours to 32 hours allows for flexible time models, taking the needs of program participants into account. While some might prefer to work a 4-day work week with 8 hours each day, others might choose a 5-day work week with 6-7 hours a day.

In summary, this chapter has provided insights into the size and composition of the main target groups of a job guarantee in Austria. Other potential target groups that are of interest to public policy planners were discussed, and the program wage and weekly hours worked for the job guarantee proposal presented in this thesis were defined. In the next chapter, the results of the microsimulation are presented in detail.

5 RESULTS OF MICROSIMULATION

This chapter provides an analysis of the results of the microsimulation. After a brief description of the number of participants in each benchmark scenario, the impacts of a job guarantee policy on poverty are analyzed. The chapter then continues with a breakdown of the impacts of a job guarantee on income inequality. The closing section explores the changes in gender pay gaps.

5.1 Number and Breakdown of Participants in Benchmark Scenarios

Who will join a job guarantee in Austria according to the microsimulation? Table 2 presents an overview of eligible persons, participants, and share of participants compared to eligible persons for each of the three scenarios. Scenario 1 comprises 91.4 percent of all long-term unemployed persons. Scenario 2 includes 81.7 percent of all unemployed persons. Scenario 3 expands eligibility to also include underemployed persons and persons in the silent reserve. 80.0 percent of eligible persons enter the job guarantee in this scenario. The share of participants drops with each scenario as long-term unemployed persons have the lowest annual net income compared to other unemployed persons, underemployed persons, or persons in the silent reserve.

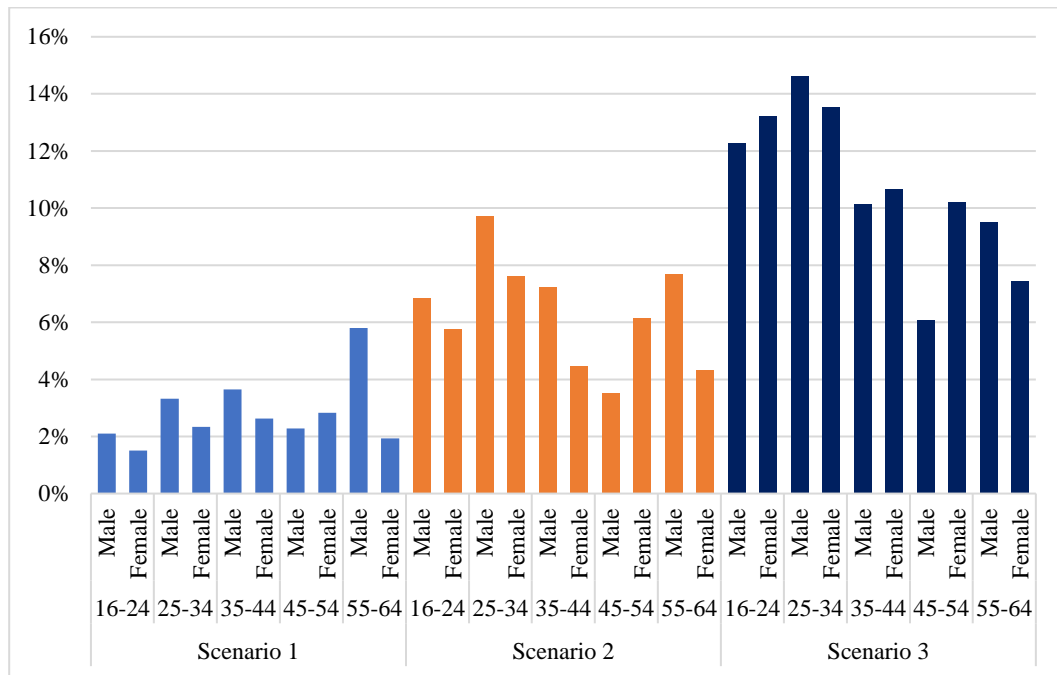
Table 2 Job Guarantee Participation by Scenario

	<i>Eligible Persons</i>	<i>Participants</i>	<i>Share in %</i>
<i>Scenario 1</i>	185,445	169,460	91.4
<i>Scenario 2</i>	448,838	366,566	81.7
<i>Scenario 3</i>	766,754	613,483	80.0

Source: Own calculations.

Figure 11 breaks down each benchmark scenario by age and sex, illustrating the share of each groups' population in the job guarantee. The main beneficiaries of benchmark scenario 1 are men aged 55-64, 5.8 percent of whom enter the job guarantee. In scenario 2, the group benefitting most from the job guarantee are males aged 25-34 with 9.7 percent of their cohort entering a job guarantee. This group makes up 15.9 percent of job guarantee participants in scenario 2 with 58,427 persons. The same group is also the main beneficiary in scenario 3 with 14.6 percent of the cohort entering the job guarantee, making up 14.3 percent of the total participants with 87,977 persons.

Figure 11 Share of Population in Job Guarantee Scenarios by Age and Sex

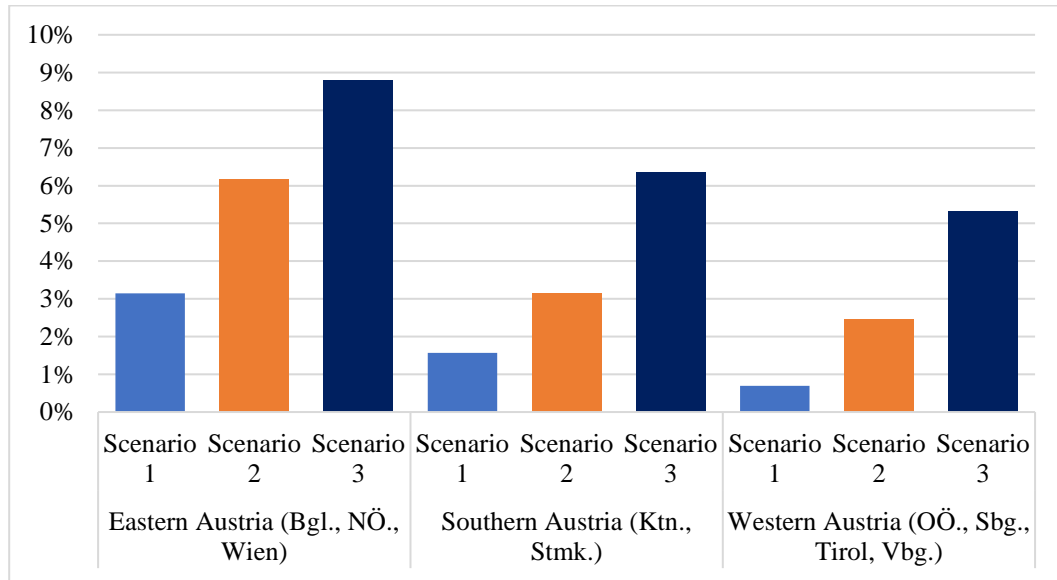


Source: Own calculations.

In general, younger people profit more from the introduction of a more universal job guarantee as simulated in benchmark scenario 3. 16–34-year-old participants make up 44.6 percent of the total number of participants in scenario 3. Of the 273,678 job guarantee participants in these age cohorts, only 19,042 were currently in education according to their responses in the EU-SILC survey, although the majority did not report education as their main activity.

Figure 12 breaks down the share of the population entering the job guarantee scenarios by region. Most job guarantee jobs—both in relative and absolute terms—are created in Eastern Austria. Participation peaks at 8.8 percent of the population of those three states (Burgenland, Lower Austria, Vienna) entering benchmark scenario 3, or 334,532 persons in absolute terms, making up 54.5 percent of all job guarantee jobs created in this scenario. Western Austria is on the lower end of participation, peaking at 5.3 percent of the population entering scenario 3, creating 166,589 jobs and making up 27.1 percent of all jobs created in this scenario. Southern Austria is in the middle, peaking at 6.3 percent of the population entering scenario 3, creating 112,362 jobs, which makes up 18.3 percent of all jobs created in scenario 3.

Figure 12 Share of Population in Job Guarantee Scenarios by Region

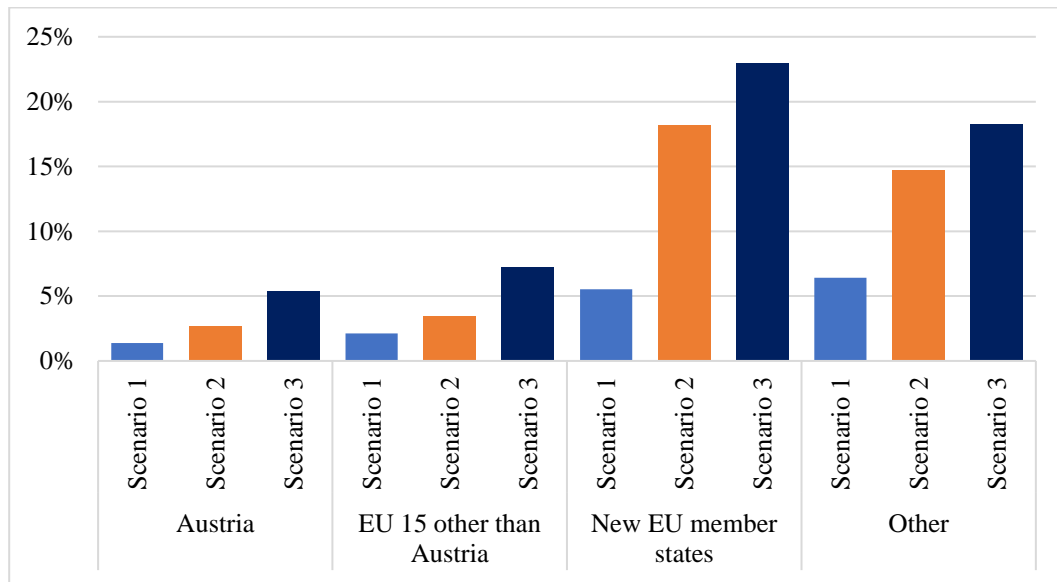


Source: Own calculations.

Austrian nationals make up the largest share of overall job guarantee participants in relative and absolute numbers in each scenario. In scenario 1, 100,400 participants are Austrian nationals, which makes up 59.3 percent. In scenario 2, 197,129 participants are Austrian nationals, which makes up 53.8 percent. In scenario 3, 390,992 participants are Austrian nationals, which makes up 63.7 percent. Figure 13 illustrates the share of the population participating in each scenario by nationality, explaining how many percent of each groups' population in Austria enter the job guarantee. Other nationals¹⁷ benefit the most in scenario 1, with 6.4 percent of the group entering. This reflects the fact that long-term unemployment increased in this group after the Austrian labor market was opened to new EU member states. In scenarios 2 and 3, people with new EU member states nationality benefit the most, as 18.2 percent and 22.9 percent enter the two scenarios, respectively. This might be because residents from other EU member states are, on average, younger and therefore more likely to be in prime working-age than Austrian nationals.

¹⁷ The largest groups of other nationals in Austria as of 1/1/2021 are: People with Serbian nationality (122,116), people with Turkish nationality (117,551) and people with Bosnian and Herzegovinian nationality (97,015) (Statistik Austria 2021d).

Figure 13 Share of Population in Job Guarantee Scenarios by Nationality



Source: Own calculations.

Another reason why such a high share of nationals from new EU member states and other nations enters the job guarantee might be because many members of these groups were previously or are currently employed in low-wage industries and therefore receive comparatively low unemployment benefits or low wages in the case of underemployment. Unemployment of foreigners is also oversampled in EU-SILC, with 37.7 percent of unemployed people having a different nationality than Austrian. The aging process aggravates this, as the probit model disproportionately selects people with different nationalities into unemployment, raising the share to 42.8 percent. In comparison, registry unemployment data for 2020 shows that only 34.4 percent of the unemployed have a foreign nationality.

5.2 Impacts on Poverty

How does a job guarantee impact poverty in Austria? Table 3 presents the results of the microsimulation using the baseline at-risk-poverty threshold for all scenarios, i.e., the poverty line is static at €16,119.52 of equivalized disposable income after social transfers. In each benchmark scenario in both variations, the headcount ratio of people at risk of poverty decreases significantly. Granting all long-term unemployed persons access to a job guarantee decreases

the headcount ratio from 14.4 to 12.8 percent, a reduction of 10.8 percent.¹⁸ In scenarios 2 and 3, the decrease in the headcount ratio is more pronounced in variation 1, in which all unemployed persons enter the job guarantee for twelve months, while in variation 2 they join the program for the length of their previous consecutive length of unemployment. The headcount ratio of people at risk of poverty decreases most in scenario 3, variation 1, from 14.4 to 10.2 percent, a reduction of 29.0 percent.

Table 3 Poverty Analysis with Baseline At-risk-of-poverty Threshold

	<i>Headcount ratio in %</i>	<i>95% CI, +/-</i>	<i>Poverty gap index in %</i>	<i>95% CI, +/-</i>	<i>Poverty intensity in %</i>	<i>95% CI, +/-</i>
<i>Baseline</i>	14.4	0.8	4.4	0.3	2.3	0.2
<i>Scenario 1.1</i>	12.8	0.8	3.9	0.3	2.0	0.2
<i>Scenario 1.2</i>	12.8	0.8	3.9	0.3	2.0	0.2
<i>Scenario 2.1</i>	11.2	0.7	3.3	0.3	1.8	0.2
<i>Scenario 2.2</i>	12.3	0.7	3.6	0.3	1.9	0.2
<i>Scenario 3.1</i>	10.2	0.7	3.0	0.3	1.6	0.2
<i>Scenario 3.2</i>	11.2	0.7	3.2	0.3	1.7	0.2

Source: Own calculations.

Both the poverty gap indices and poverty intensity also decrease, with the impact of the job guarantee more pronounced in variation 1. The poverty gap index is the product of the average income gap of those underneath the at-risk-of-poverty threshold and the headcount ratio. The poverty gap index decreases from 4.4 to 3.9 in scenario 1, while the largest reduction is achieved in scenario 3, variation 1, from 4.4 to 3.0. The measure for poverty intensity places a higher emphasis on inequality among the poor, as the index weighs observations more that fall further below the at-risk-of-poverty threshold than others. Poverty intensity decreases from 2.3 in the baseline scenario to as low as 1.6 in scenario 3, variation 1.

Table 4 presents the results of the microsimulation using re-estimated at-risk-poverty thresholds for all scenarios, changing the poverty line for each one. The impact of a job guarantee is now

¹⁸ The differences between variations 1 and 2 for scenario 1 stem from a difference in calculating new incomes in the microsimulation: While in variation 1 all wage income and unemployment benefits are replaced by the job guarantee wage, in variation 2 the job guarantee wage is added to previously earned wage income. Long-term unemployed people might have earned some wage income in marginal employment (“geringfügige Beschäftigung”), hence the small differences.

more subtle and not as statistically significant, as the confidence intervals overlap more than in the previous analysis. The headcount ratio reduces from 14.4 percent to as low as 11.9 percent in scenario 3, variation 1. The poverty gap indices and poverty severity also do not decrease as much as before, dropping from 4.4 to a low of 3.3. for the poverty gap index, and from 2.3 to a low of 1.7 for poverty intensity.

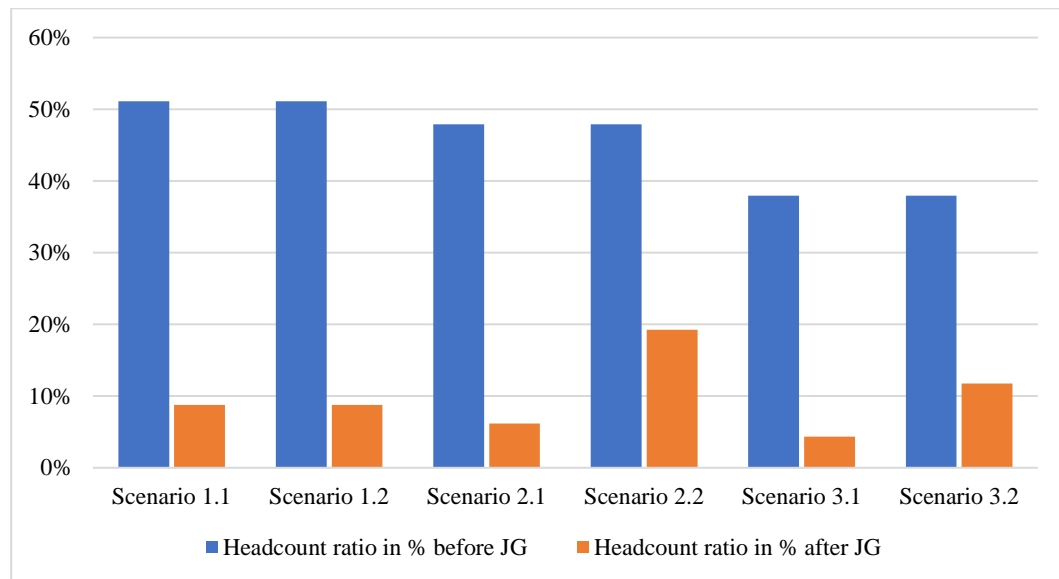
Table 4 Poverty Analysis with Re-estimated At-risk-of-poverty Thresholds

	<i>Headcount ratio in %</i>	<i>95% CI, +/-</i>	<i>Poverty gap index %</i>	<i>95% CI, +/-</i>	<i>Poverty intensity in %</i>	<i>95% CI, +/-</i>	<i>At-risk-of-poverty threshold</i>
<i>Baseline</i>	14.4	0.8	4.4	0.3	2.3	0.2	€ 16,119.52
<i>Scenario 1.1</i>	13.2	0.8	3.9	0.3	2.0	0.2	€ 16,283.08
<i>Scenario 1.2</i>	13.2	0.8	4.0	0.3	2.1	0.2	€ 16,329.43
<i>Scenario 2.1</i>	12.1	0.7	3.5	0.3	1.8	0.2	€ 16,512.21
<i>Scenario 2.2</i>	12.7	0.7	3.7	0.3	2.0	0.2	€ 16,398.85
<i>Scenario 3.1</i>	11.9	0.7	3.3	0.3	1.7	0.2	€ 16,894.34
<i>Scenario 3.2</i>	12.5	0.7	3.5	0.3	1.8	0.2	€ 16,783.87

Source: Own calculations.

Figure 14 illustrates the change in the headcount ratio of people at risk of poverty for job guarantee participants, comparing their risks before entering the job guarantee and after entering the job guarantee for each scenario. For simplicity, only the analysis using the same baseline at-risk-of-poverty threshold for all scenarios is shown. Long-term unemployed persons profit the most from an introduction of a job guarantee in terms of poverty risk reduction. Their headcount ratio drops dramatically from 51.1 percent to 8.8 percent in scenario 1. In scenario 2, the share of people at risk of poverty for unemployed persons that want to join the job guarantee is 47.9 percent and drops to 6.2 percent in variation 1. The drop is less sizeable in variation 2, where the headcount ratio for poverty risk remains above the population average with 19.3 percent. In scenario 3, the headcount ratio for unemployed persons, underemployed persons, and persons in the silent reserve that want to join the job guarantee is 37.9 percent before the introduction of the program. The headcount ratio drops to only 4.3 percent in variation 1 and 11.7 percent in variation 2.

Figure 14 Change in At-risk-of-poverty Headcount Ratio for Job Guarantee Participants, Baseline At-risk-of-poverty Threshold



Source: Own calculations.

Why do not all job guarantee participants leave the risk of poverty? The annual job guarantee net wage is €19,261, which is above the at-risk-of-poverty threshold of €16,119.52. However, poverty indices compare equivalized household incomes. For example, if a single mother with one child under the age of 14 enters the job guarantee the income she earns has to provide for both her and her child. Using the equivalence scale of EU-SILC, the equivalized household income is €19,261 divided by 1.3, or €14,816.15, placing both the mother and the child below the at-risk-of-poverty threshold. Alimony payments and family allowances might place this household above the threshold again, but this is not the case for all households with job guarantee participants.

5.3 Impacts on Income Inequality

How does a job guarantee impact income inequality in Austria on the household level? Income inequality decreases in all scenarios of the microsimulation. Table 5 provides an overview of the relative reduction of the Gini index in each benchmark scenario compared to the baseline scenario, ranging from a reduction of 1.5 percent to 3.5 percent.

Table 5 Reduction in Income Inequality, Overall Gini

	<i>Overall Gini</i>	<i>Reduction compared to Baseline Scenario, in %</i>
<i>Baseline Scenario</i>	0.346	
<i>Benchmark Scenario 1, Variation 1</i>	0.341	1.5
<i>Benchmark Scenario 1, Variation 2</i>	0.341	1.5
<i>Benchmark Scenario 2, Variation 1</i>	0.337	2.8
<i>Benchmark Scenario 2, Variation 2</i>	0.339	2.1
<i>Benchmark Scenario 3, Variation 1</i>	0.335	3.5
<i>Benchmark Scenario 3, Variation 2</i>	0.337	2.7

Source: Own calculations.

Table 6 compares the Gini decomposition for different household income sources of the original EU-SILC dataset and the baseline scenario. The share of earned income and income from other social transfer income in total income decreases, while the share of old age and survivor' benefits and income from wealth decreases.¹⁹ While earned income becomes more unequally distributed, its impact on the overall Gini decreases slightly. The Gini coefficient for other income cannot be interpreted because other household income is, on average, negative.²⁰

¹⁹ Income from wealth, social transfer income that is not unemployment benefits, and other income are not aged in the microsimulation.

²⁰ Other income encompasses regular inter-household cash transfers received (€409.05 on average), income received by people aged under 16 (€33.37 on average), and regular inter-household cash transfer paid (€578.86).

Table 6 Gini Decomposition, Original EU-SILC 2019 and Baseline Scenario

	Original EU-SILC 2019			Baseline Scenario		
	<i>Income share, in %</i>	<i>Gini coefficients</i>	<i>Relative contribution, in %</i>	<i>Income share, in %</i>	<i>Gini coefficients</i>	<i>Relative contribution, in %</i>
<i>Earned income</i>	65.2	0.565	85.8	64.5	0.571	85.4
<i>Old age and survivor' benefits</i>	22.7	0.751	7.1	23.4	0.751	8.6
<i>Other social transfer income</i>	9.1	0.740	2.1	9.3	0.736	1.4
<i>Income from wealth</i>	3.3	0.922	5.6	3.1	0.922	5.3
<i>Other income</i>	-0.3	-6.616	-0.6	-0.3	-6.616	-0.7
<i>Total</i>	100	0.347	100	100	0.346	100

Source: Own calculations.

Tables 7 to 9 present the Gini decomposition for all three benchmark scenarios. The more people enter the job guarantee, the lower the Gini coefficients for earned income becomes, and the higher the share of earned income becomes. The shares of all other income sources fall. This is because households with job guarantee participants that were previously unemployed have portions of their other social transfer income (in the form of unemployment benefits) replaced with earned income. Households with previously underemployed persons or persons in the silent reserve that join the job guarantee see their earned income increase as well, moving up along the distribution of earned income. The relative contribution of each share of income to the overall Gini changes as well, yet the direction is not uniform. For example, the relative contribution of earned income to the overall Gini decreases from 85.4 percent in the baseline scenario to 84.9 percent in benchmark scenario 1, 85 and 84.6 percent in scenario 2, yet it increases to 85.5 in scenario 3, variation 1.

Table 7 Gini Decomposition, Benchmark Scenario 1

	Variation 1			Variation 2		
	<i>Income share, in %</i>	<i>Gini coefficients</i>	<i>Relative contribution, in %</i>	<i>Income share, in %</i>	<i>Gini coefficients</i>	<i>Relative contribution, in %</i>
<i>Earned income</i>	65.5	0.554	84.9	65.6	0.553	84.9
<i>Old age and survivor' benefits</i>	23.1	0.751	7.9	23.1	0.751	7.9
<i>Other social transfer income</i>	8.5	0.738	2.6	8.5	0.738	2.6
<i>Income from wealth</i>	3.1	0.922	5.3	3.1	0.922	5.3
<i>Other income</i>	-0.3	-6.616	-0.6	-0.3	-6.616	-0.6
<i>Total</i>	100	0.341	100	100	0.341	100

Source: Own calculations.

Table 8 Gini Decomposition, Benchmark Scenario 2

	Variation 1			Variation 2		
	<i>Income share, in %</i>	<i>Gini coefficients</i>	<i>Relative contribution, in %</i>	<i>Income share, in %</i>	<i>Gini coefficients</i>	<i>Relative contribution, in %</i>
<i>Earned income</i>	66.4	0.541	85.0	66.2	0.546	84.6
<i>Old age and survivor' benefits</i>	22.9	0.751	7.2	23.0	0.751	7.6
<i>Other social transfer income</i>	7.9	0.747	3.2	8.0	0.751	3.1
<i>Income from wealth</i>	3.1	0.922	5.3	3.1	0.922	5.3
<i>Other income</i>	-0.3	-6.616	-0.6	-0.3	-6.616	-0.6
<i>Total</i>	100	0.337	100	100	0.339	100

Source: Own calculations.

Table 9 Gini Decomposition, Benchmark Scenario 3

	Variation 1			Variation 2		
	<i>Income share, in %</i>	<i>Gini coefficients</i>	<i>Relative contribution, in %</i>	<i>Income share, in %</i>	<i>Gini coefficients</i>	<i>Relative contribution, in %</i>
<i>Earned income</i>	67.1	0.533	85.5	66.9	0.537	85.2
<i>Old age and survivor' benefits</i>	22.4	0.751	6.3	22.6	0.751	6.7
<i>Other social transfer income</i>	7.7	0.748	3.6	7.8	0.752	3.5
<i>Income from wealth</i>	3.0	0.922	5.2	3.0	0.922	5.2
<i>Other income</i>	-0.3	-6.616	-0.5	-0.3	-6.616	-0.6
<i>Total</i>	100	0.335	100	100	0.337	100

Source: Own calculations.

5.4 Impacts on Gender Pay Gap

How does the introduction of a job guarantee impact hourly gender pay gaps? Table 10 shows the changes in mean hourly gross wages for both men and women, and the gender gap, indicating how much less money women earn compared to men. The mean hourly gross gender wage gap becomes smaller from 16.0 percent in the baseline to as low as 14.4 percent in scenario 3. However, this is because the mean hourly gross wages for men fall by a larger magnitude than for women. Job guarantee wages are at the lower end of the income distribution. Even with 32 hours a week the hourly gross wage for a job guarantee job is only €12.27. Adding more job guarantee wage earner, therefore, drags hourly wages down.

Table 10 Raw Mean Hourly Gross Gender Wage Gaps

	<i>Mean hourly gross wage, men</i>	<i>Mean hourly gross wage, women</i>	<i>Mean gross wage gap, in %</i>
<i>Baseline</i>	€ 19.57	€ 16.43	16.0
<i>Scenario 1</i>	€ 19.07	€ 16.22	14.9
<i>Scenario 2</i>	€ 18.64	€ 15.94	14.5
<i>Scenario 3</i>	€ 18.31	€ 15.67	14.4

Source: Own calculations.

One caveat of the previous table is that there is a missing data bias in EU-SILC. Monthly wages are self-reported, and a significant share of respondents could not provide an estimate for gross monthly wages. Using net wages instead, the number of weighed observations rises from 2.6 million to 3.1 million in the baseline scenario. Table 11 presents changes in hourly net wages for men and women. The mean net wage gap is much smaller than the mean gross wage gap but follows the same pattern. The gap decreases from 8.0 percent in the baseline scenario to 7.2 percent in scenario 3, with the decrease again driven by a larger decrease in mean hourly net wages for men than for women, as the hourly net wage for the job guarantee is €9.91 and thus lower than the mean hourly net wage for both genders.

Table 11 Raw Mean Hourly Net Gender Wage Gaps

	<i>Mean hourly net wage, men</i>	<i>Mean hourly net wage, women</i>	<i>Mean net wage gap, in %</i>
<i>Baseline</i>	€ 12.97	€ 11.93	8.0
<i>Scenario 1</i>	€ 12.79	€ 11.84	7.4
<i>Scenario 2</i>	€ 12.63	€ 11.72	7.2
<i>Scenario 3</i>	€ 12.51	€ 11.61	7.2

Source: Own calculations.

In high-income countries, the gender pay gap tends to widen at the upper end of the distribution (ILO 2018, 91). Tables 12 and 13 illustrate this fact. Comparing the hourly net wage at the 10th percentile of the distribution of hourly net wages for each gender shows that the gap is relatively small. As job guarantee participants enter or improve their position in the distribution of income at €9.91 per hour the hourly net wage at the 10th percentile improves as well. In scenarios 1 and 2 more men than women enter the job guarantee, hence the net wage gap increases, while

scenario 3 benefits both genders more evenly, reducing the gender pay gap to 1.4 percent. At the 90th percentile on the other hand the net wage gap is relatively large at 11.6 percent in the baseline scenario, increasing in scenarios 1 and 2, and decreasing in scenario 3.

Table 12 Raw Hourly Net Gender Wage Gaps at P10

	<i>P10 hourly net wage, men</i>	<i>P10 hourly net wage, women</i>	<i>P10 net wage gap, in %</i>
<i>Baseline</i>	€ 7.94	€ 7.80	1.7
<i>Scenario 1</i>	€ 8.13	€ 7.88	3.1
<i>Scenario 2</i>	€ 8.18	€ 7.94	3.0
<i>Scenario 3</i>	€ 8.26	€ 8.14	1.4

Source: Own calculations.

Table 13 Raw Hourly Net Gender Wage Gaps at P90

	<i>P90 hourly net wage, men</i>	<i>P90 hourly net wage, women</i>	<i>P90 net wage gap, in %</i>
<i>Baseline</i>	€ 19.19	€ 16.98	11.6
<i>Scenario 1</i>	€ 18.93	€ 16.64	12.1
<i>Scenario 2</i>	€ 18.82	€ 16.40	12.9
<i>Scenario 3</i>	€ 18.35	€ 16.28	11.3

Source: Own calculations.

A job guarantee program is not the right tool to address hourly gender pay gaps. It might be the right tool to decrease the overall gender pay gap, as more women enter full-time employment through a job guarantee job. A job guarantee might also address what has been coined the “motherhood pay gap” (ILO 2018, 97) if jobs are mainly created in the social care sector, improving the access to adequate childcare and elder-care services. This could also lead to women making different occupational choices, decreasing the gender pay gap in the long run. To address hourly gender pay gaps, the collective bargaining process is suited better. Collective agreements can focus on the reconciliation of work and family needs, the transparency of company pay differentials, pay rises for female-dominated job classes, the right to re-entry after maternity leave, and gender-neutral job evaluations to avoid gender biases in job classification and pay systems (ILO 2018, 92).

This chapter has given an overview of the results of the microsimulation. Three different benchmark scenarios were simulated, with two different variations concerning the length of the job guarantee for unemployed persons. The analysis of the impact of a job guarantee program on poverty, income inequality, and the gender pay gap is based on the number of people that enter the job guarantee at the margin in each scenario, and how their personal and household incomes change. The next chapter discusses the different aspects of policy design and the implementation process in Austria.

6 NOTES ON POLICY DESIGN AND IMPLEMENTATION

How should a job guarantee be implemented in Austria? Grounding social policy on the right theoretical framework and getting the details right are equally important for achieving policy goals. In this chapter, different aspects of job guarantee policy design and implementation are discussed. First, an overview of the kinds of jobs a job guarantee may offer is provided. Second, suggestions for a democratic policy implementation process are outlined. Third, the impact of a job guarantee on gender relations is discussed. Finally, some thoughts on the administration of the program and the potential size of the budgetary impact based on the different benchmark scenarios are provided.

6.1 What Jobs Should a Job Guarantee Provide, and Where?

Creating hundreds of thousands of jobs that the regular labor market was unable to generate seems like a daunting task. However, the public sector has a major advantage—it can create jobs for a public job guarantee program without a profit constraint, focusing instead on social and environmental objectives. Job guarantee jobs should increase socially useful output that provides all of society with better public services and goods, while also providing jobs to people with low skills or little education and job training. For example, Minsky argued that the job guarantee needs to “hold out a promise of a useful and productive life for our high school dropouts” (Minsky 2013, 20). He also advocated for projects targeted at youth unemployment and older adults.

However, the job guarantee should not replace existing public sector jobs or hire low-skilled job guarantee participants for jobs in which more qualified personnel are needed. Job guarantee employees should therefore not build public infrastructure or bear the main responsibility in childcare and eldercare facilities if they lack the education needed. Instead, the job guarantee should focus on auxiliary services and employment in services that are often provided by volunteers. The *Aktion 20,000* policy followed similar principles. Of 405 surveyed participants, 37.8 percent worked in “social services,” 24.4 percent worked in “education/public administration,” 15.1 percent worked in “maintenance of public spaces/environmental care/traffic,” and 8.9 percent worked in “culture and arts/research/development” (Hausegger and Krüse 2019, 85).

Contemporary writers have put forward proposals for a wide range of possible jobs addressing the needs of people, communities, and the environment (Wray 2020, 118; Tcherneva 2020, 92–96). For Austria, the list of jobs might include but is not limited to:

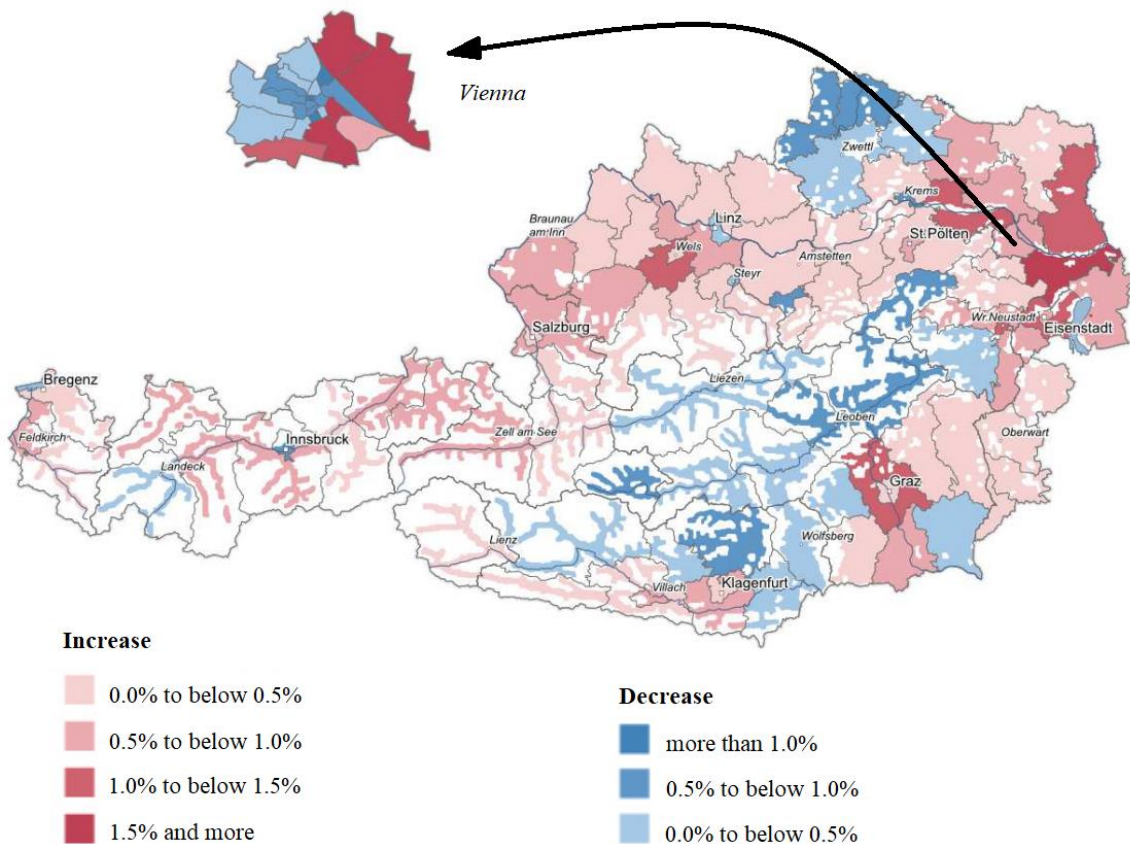
- Augmenting the staff of public education facilities and providing afterschool programs, increasing the number of custodial workers, tutors, classroom assistants
- Strengthening public libraries and recreational programs to expand availability, opening hours, and the provisioning of lifelong learning and enrichment opportunities for people of all ages
- Supporting local sports associations, supporting training staff
- Expanding and supporting community youth work and social work
- Care for the environment, support for sustainability efforts, flood control, planting trees, environmental surveys, species monitoring, national park maintenance, neighborhood clean-up, maintenance of hiking trails and mountain shelters
- Providing public art and music, supporting community theaters, choirs, brass instrument orchestras
- Strengthening voluntary firefighter brigades and voluntary EMS services
- Supporting eldercare, meals on wheels, companionship for the elderly²¹
- Supporting childcare, day care assistants for children of job guarantee participants and others
- Supporting local archives and historical associations, providing community history, oral history programs
- Strengthening communities in public housing, custodial workers in public housing, provisioning of co-working spaces, provisioning of community kitchens

Jobs should be in places where people in need live. The job guarantee would thus have a large impact on poorer rural areas by slowing down migration to urban areas. A job guarantee could offer much-needed employment opportunities to structurally lagging regions in Austria that have experienced a loss in population. Figure 15 illustrates the change in population from 1

²¹ The State of Styria and the AMS are currently planning on temporarily employing 400 long-term unemployed in care facilities to support care workers (ORF.at 2020). This pilot project could be made permanent and expanded to other states.

January 2020 to 1 January 2021—areas shaded in red experienced population increases, areas in blue experienced population decreases. The darkest shade of blue signifies decreases of more than 1 percent, the darkest shade of red signifies increases of more than 1.5 percent, with changes in Vienna shown separately. 24 of 94 districts have experienced a decrease in population, mostly affecting the Waldviertel in Lower Austria, Upper Styria, Lungau in Salzburg, and most parts of Carinthia. The jobs offered through a job guarantee might help address issues caused by the rural flight of younger people—offering improved community care and networks to aging populations and assisting in the revitalizations of village squares.

Figure 15 Population Change by Political District, 1.1.2020 to 1.1.2021



Source: Statistik Austria (2021e).

6.2 A Participatory Democracy Approach

The key to successful policy implementation is the willingness of both local communities and participants to support and accept it. Tcherneva (2020, 88) proposes a participatory democracy approach with a bottom-up design,

[...] encouraging direct input from citizens, community members, and other stakeholders representing the public interest in the proposal, management, and execution of the project. [...] Because the job guarantee program encourages citizen input, puts pressure on punitive private sector labor practices, and invests in the public good, it can be an institution with profound democratizing tendencies, functioning as a conduit for transformative change in the workplace, in people's everyday lives, and in the economy as a whole.

During the implementation process for the *Aktion 20,000* program, local AMS offices facilitated workshops with mayors and local associations and reached out to municipal networks and associations to create job opportunities (Hausegger and Krüse 2019, 46). While this might have increased the support of mayors for the program a more promising and democratic tool could be the use of local citizens' councils.

Citizens' councils have been widely used in the State of Vorarlberg and follow a defined 5-step process (Büro für Zukunftsfragen 2014, 6). First, citizens from a municipality are randomly selected and invited to participate. From the respondents, 12 to 16 people are sampled based on age and sex to assemble a more representative group. The selected participants voluntarily meet for a weekend-long citizens' council meeting, collecting and discussing ideas addressing a certain policy issue. The council closes with an articulation of a consensus statement. Second, the results of the council are publicly presented in a citizens' café, collecting feedback from the community and stakeholders. Third, a strategy group made up of elected officials and administrators meets to work out policy details based on the proposals. Fourth, the results of the process are forwarded to the responsible political bodies to be voted on or to be included in policy agendas. Fifth, the participants of the citizens' council are officially informed how their proposals will be implemented and used, guaranteeing transparency and accountability.

Citizens' councils could be used to collect ideas on projects and prioritize them in each municipality in Austria. Their use increases participation in and excitement about the creation of

a job guarantee policy. However, the expectations of participants, the administration, and political bodies need to be aligned to create transparency on what is decided at what stage of the process. In addition, municipalities should put in additional efforts to include the perspectives of marginalized groups in both the councils and the citizens' café. Members of low-income households, migrant workers, and single parents with children are often hard to reach and to be included in democratic processes because of time constraints and language barriers. However, their views are particularly important, as many members of these marginalized groups are potential job guarantee participants. Services like childcare at the councils or translators could be used to increase the chances of participation.

Additional actions and tools are required to gain support and acceptance from the potential job guarantee participants. A job guarantee breaks with the neoliberal logic of disciplining the unemployed. Many unemployed persons might be distrustful based on their previous interactions with the AMS. A job guarantee policy allows the AMS to focus on the dignity and agency of those previously left behind. The evaluation of the *Aktion 20,000* program provides useful insights to support this hypothesis (Hausegger and Krüse 2019): 52 percent of surveyed participants of the *Aktion 20,000* program responded that they had come to terms with not finding a job anymore, and 93 percent were very or somewhat excited to finally be able to work again. Respondents were also asked what their two main reasons for participating in the program were. 55.9 percent said they did not want to be unemployed anymore, 41.0 percent liked the kind of employment the program offered. 31.1 percent said they wanted to improve their financial situation, and only 11.2 percent responded with the desire to have their own wage income as one of the most important reasons. This is an indication of how important working in a meaningful job is for many unemployed people. The AMS could run a broad marketing campaign, reaching out to all unemployed persons promoting the chance to gain meaningful employment and a living wage through a job guarantee.

Community job banks and intensive support from the AMS both help to match prospective participants and job guarantee jobs. People who underwent preparation and training for their *Aktion 20,000* employment were on average more satisfied with the work climate and their tasks at the job. The top five reasons why participants ended their *Aktion 20,000* program job prematurely (several reasons possible) were “health reasons” (47 percent), “troubles with

coworkers or superiors” (41 percent), “bad work environment” (39 percent), “tasks are below the participant’s professional skill set” (38 percent), “work does not spark joy” (34 percent). These results demonstrate the relevance of creating safe and supportive work environments as well as the importance of matching program participants with jobs at their skill level.

Considering the composition of prospective participants as described in Chapter 4 it is important to offer job opportunities to all age groups, taking into account their health status, socioeconomic background, and potential language barriers. Opening the Austrian labor market has led to labor migration which has put marginalized groups at increased risks of unemployment. It might therefore be necessary to tie job guarantee eligibility to residency requirements, i.e., providing a job guarantee job only locally to people who have resided in the municipality for at least one year. Exceptions could be made for certain vulnerable groups like asylum seekers, or people who have ties to the community they want to work in even if they do not permanently live there.

A job guarantee can serve as a vehicle to establish higher labor standards and more inclusive workspaces. It can also serve to democratize the workplace. Traditionally, democracy at the workplace has been the domain of labor unions. To bring them aboard to support the job guarantee its main features should be emphasized: the job guarantee is a purely voluntary program for those who want to work. It pays a uniform minimum wage to not disincentivize highly paid workers elsewhere and to ensure that all participants in the program are treated equally in the sense that their remuneration is the same (although a collective bargaining agreement approach could also be implemented). The job guarantee should not be used to replace highly paid public sector jobs with minimum wage jobs. A job guarantee can help labor unions in their fight for demands such as a standard 32 hours work week.

A job guarantee policy can change the way public policy is implemented, grounding the implementation process in participatory democratic approaches. Nevertheless, it cannot replace the importance of unionization in low-wage sectors to raise labor standards in the private sector as well.

6.3 Gender-sensitive Policy Design

How does a job guarantee policy impact gender relations? A job guarantee can be connected to different demands of feminist movements, but some impacts are also ambivalent. This section explores the process of job creation and occupational segregation, wages for housework, the potential of the re-conceptualization of care and husbandry, changes in time and income poverty, and the impact of community building.

In the first section of this chapter, the argument was put forward that care for people, communities, and the environment should be the areas to focus on when introducing a job guarantee. This approach promises more equitable and efficient job creation. Antonopoulos et al. (2014) found that “social care spending generates twice as many jobs as infrastructure spending, and 50 percent more jobs than green energy development,” while also yielding more equitable outcomes by creating twice as many jobs for low-income households than infrastructure does. In their simulation for the recovery period after the Great Recession in the US, a \$50 billion stimulus would have created 1.2 million jobs, 90.1 percent of which would have been filled by women. 42.6 percent of those jobs would have gone to people with less than a high school diploma. In comparison, the same stimulus for the infrastructure sector would have generated only 0.6 million jobs, 88.6 percent would have been filled by men, and only 14 percent of jobs created would have been filled with people with less than a high school diploma. The authors acknowledge that low wage rates and high labor intensity in the social care sector partly account for the superior results in the simulation.

Investing in the care sector most likely increases the labor force participation rate of women. In addition, if the job guarantee is combined with childcare guarantees at the workplace a reduction in part-time work contracts is to be expected. This approach honors the idea of taking people as they are, where they are. However, it also comes with the caveat of compounding the effects of occupational and industrial segregation. 52.2 percent of surveyed women who participated in the *Aktion 20,000* worked in “social services,” compared to 34.2 percent of men. On the other hand, 20.7 percent of men worked in the field of “maintenance of public spaces/environmental care/traffic,” compared to only 5.6 percent of women (Hausegger and Krüse 2019, 85). If the job guarantee is successful in re-qualifying participants and people can eventually switch into

the private sector, then more women may be concentrated in industries with lower wages than men, exacerbating gender wage gaps.

Taking a more expanded view on care and social reproduction, the job guarantee can be used to remunerate unpaid housework. Wages for Housework has been a demand of parts of the feminist movements since the 1970s (Cox and Federici 1975). Paying women for unpaid reproductive work means recognizing the importance of their work, making visible unpaid work, and introducing wages for a service that has been unwaged, yet not been outside of the wage relation. Yet Cox and Federici also offer a revolutionary political perspective with Wages for Housework, envisioning housework as a ground of struggle for the entire working class. This is why, they argue, it is so important to define housework as productive work, as “[n]ot production per se but the struggle against it and the power to withhold it have always been the decisive factors in the distribution of social wealth” (1975, 6).

The goal of the original Wages for Housework movement was to overcome capitalism and to organize both social and work relations communally without reference to productivity. However, in the context of a job guarantee, it is doubtful if wages for housework introduced by policy without a political movement behind it will lead to a re-organization and re-distribution of social reproduction. In rural areas, using the job guarantee to introduce wages for housework might resolve the double-burden problem, as women would be remunerated for work they are already performing without adding additional work burdens. Nonetheless, without any common organizing efforts, this might lead to the unintended result of isolating women in their private household setting, further cementing traditional gender roles.

Focusing on the social care sector and wages for housework both come with the risk of implicitly reinforcing the association of care with only women. A more promising gender-sensitive approach to policy design could be to redefine the concepts of care and husbandry. This strategy follows two objectives: First, to “evoke and popularise a rich prototype of care that masculine-gendered people may find to be particularly consistent with their self-image,” and second, to “bolster the recognition of care as an indispensable element of economic activity” (Nelson 2015, 2). A re-claimed concept of *husbandry* can be conjured for both environmental stewardship and care work. Of course, this should not lead to a marginalization of women’s

contributions. Rather, the idea that men help with care is transformed into an understanding that men are co-responsible for care, breaking up rigid gender categories. A job guarantee could place care central to both the economy and society, defining it as central human responsibility, and creating excitement for men and women alike to take up this responsibility in the form of paid work for the community.

The results of the microsimulation of this thesis show that a job guarantee is an effective tool to alleviate income poverty. However, a more holistic view on poverty is needed to assess the gender impacts of social policy, addressing changes in both time and income poverty.

Unfortunately, time and income measurements in connections with care work are underdeveloped. Unpaid care work is not considered productive within the System of National Accounts (SNA) and therefore does not count as an economic activity that is measured with GDP (European Commission et al. 2009, 542). Feminist economists have criticized this distinction and have called for the expansion of GDP to include the value of economic unpaid work, as well as for links of unpaid work to the marketized part of the economy and state provisioning of public goods and service delivery within the SNA (Antonopoulos and Hirway 2010, 5–6).

How much time is devoted to such activities can be measured through time surveys, an important instrument to collect data on economic activity. Time use surveys can be used to value unpaid domestic services, which helps make visible unpaid women's contribution to economic well-being.²² More importantly, time-use data allows the analysis of the intrahousehold distribution of work. This would be an important data source to assess if a job guarantee that invests in the social care sector and re-defines concepts of care and environmental stewardship reduces the burden of unpaid care work and changes the distribution of reproductive work within the household.

²² The last time use survey in Austria was conducted in 2008-09. Results from the survey show large gender gaps in how unpaid housework is distributed (Statistik Austria 2009, 15–16): For persons over the age of 10 women in Austria perform on average 3 hours 42 minutes of unpaid housework (cooking, cleaning, doing laundry) daily and 22 minutes more on social contacts, childcare, and voluntary work, whereas men only spend about 2 hours daily on housework. This gap is larger in rural areas than in urban areas. However, the share of men participating in housework has increased from less than a quarter in 1981 to 74 percent in 2008-09, while the share of women participating in housework is still high at 92 percent in 2008-09. The next time use survey is expected to begin in 2021 with the results being published in early 2023 (ORF.at 2021).

Time allocated to unpaid care work depends on different factors, such as age, social class, the presence of children and the type of household structure, the ability of the household to purchase substitutes in the market (such as 24-hour care workers for the care of elderly relatives), and how well public sector infrastructure and state provisioning regimes can deliver services (Antonopoulos and Hirway 2010, 2). A job guarantee can improve the delivery of services and provide households with children and elderly people better financial capabilities to purchase substitutes for unpaid care work in the market if needed. In addition, a job guarantee that provides high-quality jobs in the municipalities where people need them also comes with the benefit of reduced commuting times, saving participants time, and further contributing to the reduction of time poverty.

On a final note, a job guarantee as envisioned in this chapter strengthens local communities and networks. A job guarantee could thus not only transform unpaid housework and care work, but also unpaid collective work in the community. The importance of communities has long been neglected by mainstream economists. Feminist economists such as Nina Banks (2020) have challenged the reductionist view of the economy divided into the market, the state, and a private household sector, arguing instead that the community should be conceptualized as a site of production on par with the household. A job guarantee that is implemented in a participatory democratic way and that provides essential care services to local communities makes collective work in the community more visible and provides monetary remuneration for vital activities performed locally.

6.4 Costs and Administration

Substantial changes in social policy are always publicly scrutinized from the perspective of affordability. One of the first questions directed at any job guarantee proposal is, therefore: How much will it cost? This section will first present numbers on the budgetary impacts of the different scenarios presented in this thesis. Second, a few suggestions for the administration and implementation process are given.

Wage costs in Austria include a portion paid by the employer for the employee that is included in gross wages, and an additional portion paid by the employer not included in gross wages.²³ In the microsimulation, an average monthly net wage of €1,605.06 is assigned to each person entering the job guarantee for each month in the job guarantee. This net wage is derived from a gross monthly wage of €1,700.00 paid out 14 times. Aggregate net wage costs are then scaled back to gross wages. To approximate a number for employer's additional wage costs gross wages are multiplied by 0.3.²⁴ Non-labor costs include materials and tools purchased from the private sector for the different job guarantee programs and are estimated at 25 percent of gross wage costs following Tcherneva (2020, 77). Gross costs for the introduction of a job guarantee policy in Austria thus consist of gross wage costs, employer's additional wage costs, and non-labor costs.

To arrive at an estimate for the net budgetary impact both the increase in tax receipts and social insurance contributions, as well as reductions in unemployment benefits, are considered. For the increase in tax receipts and social insurance contributions, only the federal level is taken into account. This includes 100 percent of the difference between net and gross wages and 85 percent of the employers' additional wage costs. The latter is an approximation that excludes any municipal taxes and contributions to severance payments. This assumes that the program is financed out of the federal budget. The reduction in unemployment benefits is based on the results of the microsimulation, in which participants of the job guarantee have their unemployment benefits reduced by the proportional time they spend in the job guarantee program. Not included in this calculation are savings from social insurance payments forwarded by the AMS on behalf of unemployed persons.²⁵

²³ Gross wages include social insurance contributions of the employee and the wage tax. Employer's contributions include additional social insurance contributions, municipal tax, and additional payroll taxes (Dienstgeberbeitrag zum Familienlastenausgleichsfonds, Dienstgeberzuschlag, Beiträge zur Betrieblichen Mitarbeitervorsorgekasse).

²⁴ Using the tool "Brutto-Netto-Rechner" recommended by the Federal Ministry of Finance (CPU Informatik GmbH 2021) a gross wage of €1,700.00 results in an annual gross wage of €23,800.00 and an annual net wage of €19,260.68. To provide consistent numbers in the calculation this number was rounded up to €19,260.72. Annual net wages can be higher if the employee has children and/or must commute long distances regularly. Employer's additional wage costs from payroll taxes vary slightly across states, the multiplier 0.3 is only an approximation for the job guarantee wage based on the tool "Brutto-Netto-Rechner".

²⁵ In 2019, the AMS paid out €4.02 billion in total benefits, €1.75 billion of which were unemployment benefits and €1.46 billion of which were social benefits paid out after unemployment benefits end ("Notstandshilfe") which are part of the unemployment benefits variable in EU-SILC. In addition, €1.69 billion in social insurance contributions were paid by the AMS to Austrian Public Insurance Companies (Arbeitsmarktservice Österreich 2020a, 72).

Table 14 summarizes the costs of the different job guarantee scenarios put forward in this thesis. Net costs as % of GDP are based on GDP for 2020, which fell by 6.6 percent in real terms from 2019 to €375.6 billion (Statistik Austria 2021a). Scenario 1 comes at a cost of €3.3 billion or 0.9 percent of GDP. The scenario which resulted in the greatest decreases in poverty and inequality is scenario 3, variation 1, which comes at a cost of approximately €13.87 billion, or 3.7 percent of GDP.

Table 14 Costs of Job Guarantee Scenarios for Federal Government, in billion €

	<i>Scenario 1.1 & 1.2</i>	<i>Scenario 2.1</i>	<i>Scenario 2.2</i>	<i>Scenario 3.1</i>	<i>Scenario 3.2</i>
<i>Gross wage costs</i>	€ 4.03	€ 8.72	€ 6.18	€ 14.60	€ 12.05
<i>Employer's wage costs</i>	€ 1.21	€ 2.62	€ 1.85	€ 4.38	€ 3.62
<i>Non-labor costs</i>	€ 1.01	€ 2.18	€ 1.54	€ 3.65	€ 3.01
<i>Gross costs</i>	€ 6.25	€ 13.52	€ 9.58	€ 22.63	€ 18.68
<i>Reflux taxes/social security</i>	-€ 1.80	-€ 3.89	-€ 2.75	-€ 6.51	-€ 5.37
<i>Reduction in benefits</i>	-€ 1.15	-€ 2.13	-€ 1.63	-€ 2.25	-€ 1.75
<i>Net costs</i>	€ 3.30	€ 7.51	€ 5.19	€ 13.87	€ 11.56
<i>Net costs as % of GDP</i>	0.9	2.0	1.4	3.7	3.1

Source: Own calculations.

However, a job guarantee program results in additional direct costs and benefits that are not included in the table above. Tamesberger and Theurl (2019) for example include administrative costs and coaching by the AMS as part of the costs and the receipt of municipal taxes and sales taxes (based on a marginal propensity to consume of 98 percent for long-term unemployed and a mixed sales tax rate of 17 percent) as part of the benefits. Using a gross monthly wage of €1,928.00 they arrive at gross annual costs of €36,588.33 and tax receipts of €19,233.60 per long-term unemployed person entering the job guarantee. They then compare the net costs with the costs of a typical long-term unemployed person, arguing that the additional net costs of a job guarantee program only amount to €6,784.63 per long-term unemployed person per year. Applying this approach to the 169,460 long-term unemployed in scenario 1 would result in additional net costs of only €1.15 billion or about half the amount presented in table 14.

Other effects of a job guarantee that impact both the budget and the economy include (partly based on Picek 2020, 115):

- GDP growth due to multiplier effects,
- reductions in other transfer payments such as housing allowances,
- reductions in health costs caused by long-term unemployment,
- increased labor productivity of people that were previously unable to find a job in the regular labor market, increasing their chances of finding a job in the private sector,
- and higher retirement costs in the long run.

Additional costs may also stem from scaling up the overhead administration. In 2019, the AMS employed roughly 5,540 full-time employees in 104 regional offices which handled 1,080,324 applications for different benefits. Labor and material costs for the AMS administration including investments into fixed assets such as buildings amounted to €539.4 million in 2019. In addition, the federal government spent €965.87 million on active employment policies (Arbeitsmarktservice Österreich 2020a).

The shocks in the labor market due to COVID-19 led to an increase in demand for services of the AMS. During the crisis, the AMS's workers' council criticized that AMS employees were overwhelmed and understaffed, asking for 650 additional full-term employees (Die Presse 2020). Administering a job guarantee program requires the AMS to shift its focus and to add and retrain its employees. As mentioned in previous sections of this chapter the satisfaction of job guarantee participants might correlate with how well their skills and interests are matched with available local job opportunities. Before introducing a larger job guarantee policy the local resources of the AMS must first be expanded. Only then can a job guarantee policy take people as they are, where they are. Providing a broad support network and offering intensive counseling helps participants to thrive in their job environments and their respective local communities.

A universal public job guarantee can be implemented and administered as follows. The AMS trains its staff to hold local citizens' councils as described in section 6.2. Citizens' councils are then held in each municipality in Austria to collect ideas for local projects. Based on the participatory democratic process, each municipality submits projects to the AMS. At the same

time, states, social businesses, and NGOs are also invited to submit ideas for projects. The AMS oversees quality management and the matching between participants and projects/jobs. Funding is provided by the federal government to the AMS, which reimburses municipalities and partners for job guarantee labor and non-labor costs. This combines a decentralized approach in creating jobs with a centralized administration, avoiding local patronage in which specific jobs are created for specific persons, or in which political power is derived from allocating jobs locally.

The retention period in the job guarantee will vary. People with disabilities and formerly long-term unemployed people might stay in the job guarantee for longer periods while those more successful in the regular labor market might only spend a few months in the program. To guarantee the successful implementation of projects even if retention periods are short a tiered wage structure could be implemented to offer certain program participants an incentive to stay on board to oversee and manage project implementations.

Depending on the eligibility criteria, the size of a job guarantee program might be too extensive to be implemented at once. A gradual implementation process could be the alternative. Gradual regional implementation might lead to unintended inter-state migration movements, while a heads-of-household program like PJJH in Argentina might disproportionately bar women from entering a job guarantee. Instead, a gradual implementation process can address, and rank needs based on a scoring system. Appendix F offers a proposal for a scoring system and shows how score distributions might look based on the dataset used in the microsimulation.

In summary, a job guarantee policy should be implemented to serve specific policy goals—for example, to eliminate involuntary unemployment, increase local community resilience, reduce poverty, reduce gender inequality, and offer a meaningful and socially useful job to anyone willing to work. In this chapter, different aspects of policy design and policy implementation were discussed. Jobs should be provided locally in places where people need them, taking program participants as they are. A supportive work environment and a focus on socially useful employment in the areas of care for the people, care for communities and care for the environment provide meaningful work. Democratic policy implementation increases local support for the policy and strengthens community networks while also respecting participant's

dignity. A job guarantee impacts gender relations in different and ambivalent ways; however, it can be used to assist in achieving feminist policy goals. Different scenarios come with different price tags ranging from 0.9 percent of GDP to 3.7 percent of GDP. However, the net costs might be lower than the calculations shown in this thesis.

Multiplier effects of job guarantee spending might lead to falling debt-to-GDP ratios, making even a large job guarantee policy compatible with the current European Union legal framework. The additional net financial costs could easily be financed through public debt in the form of government bonds. Negative interest rates have led to negative yields for government bonds for the first time in history, which means that the Austrian government currently profits from emitting government bonds (Tölgyes and Picek 2021). To ensure a successful implementation, the AMS should be reformed and expanded, leaving behind neoliberal workfare policies and focusing on offering both a job guarantee to those able and willing to work, and support to those who choose voluntary unemployment.

7 CONCLUSION

In this thesis, a job guarantee proposal for Austria was presented, arguing that the job guarantee is an effective public policy for reaching full employment and for reducing poverty and income inequality. In this concluding chapter, the limitations of the results of the microsimulation are first reviewed and ideas for further research are presented. In the concluding section, the job guarantee is discussed as a policy tool to address a multitude of crises, summarizing the main benefits according to the results of the microsimulation and ideas discussed in the previous chapter.

7.1 Limitations of Results and Suggestions for Further Research

The main advantage of applying an arithmetical microsimulation for the research on job guarantee proposals is to gain insights on which households might join a job guarantee and how much these households benefit individually. After simulating the share of people most likely to participate in the program, new incomes can be imputed to compare the levels of poverty and income inequality before and after the introduction of the policy.

However, since not enough reliable real-world data is available on the participation in job guarantee program in Austria several parameters are unknown. How many unemployed people, underemployed people, and people out of the labor force are expected to join a job guarantee? How likely are other people—part-time workers that are currently not in time-related underemployment, people out of the labor force that are not part of the silent reserve—to join the program? Will job guarantee participation of a spouse change the employment or labor force status of a person? There are two alternative ways to answer these questions in further research. One is to closely study the participants of model regions or pilot projects, like the *Aktion 20,000* program or the job guarantee project run by the AMS Lower Austria in Gramatneusiedl. The second option is to either add a module to the labor force survey, the EU-SILC survey, or to conduct a stand-alone survey to identify potential job guarantee participants through questionnaires.

The results of this thesis are based on an analysis at a single point in time, using an aged version of the EU-SILC 2019 dataset. To have more insight into the potential size and fluctuations of a

job guarantee program the analysis could be expanded to encompass several EU-SILC datasets over a time window of several years. One caveat when using EU-SILC data is, however, the definition of unemployment used in the survey, making comparisons with registry data and the labor force survey difficult and imprecise.²⁶ Additionally, the aging process can be refined in future projects if the projected numbers are to reflect current labor market data. For example, while changes in unemployment numbers and wages are imputed in the microsimulation for this thesis, the effects of short-time work schemes are not included.

The application of the methodology is not a general equilibrium simulation, instead, the changes that are predicted are based on the share of people that leave poverty at the margin in the simulation. To further analyze the macroeconomic impact of a job guarantee an input-output analysis similar to Heinzle (2020) that encompasses the different scenarios laid out in this thesis can be conducted. This would produce a combined analysis comparable to Antonopoulos et al. (2014). Another approach would be to develop a fuller dynamic microsimulation model that produces estimates of multiplier effects from one year to the next.

A major challenge when analyzing poverty in the EU is the application of the relative poverty line. The at-risk-of-poverty threshold at 60 percent of median incomes does not necessarily measure poverty, but the how low incomes are in comparison to the other residents. A headcount ratio based on an at-risk-of-poverty threshold that is changing each year when the distribution of income changes does not offer a good indicator of low or changing standards of living.

However, even if the threshold would not change—as simulated in variants 1 of the benchmark scenarios—one major caveat remains: poverty measures often rely on the comparison of monetary household income. Yet the major advantage of a job guarantee policy over other social policies is the provisioning of public goods and services produced by the job guarantee for everyone in the community, which increases all households' welfare. Another positive effect of a job guarantee is the potential to decrease the time poverty of all household members of a participant's household. Participants have more time available if jobs are offered locally,

²⁶ See Appendix A.

reducing commuting times. If the job guarantee is used to invest in the social care sector, then unpaid care duties will be reduced. In addition, job guarantee jobs might come with guaranteed nursery placements or other public childcare initiatives. To fully take into account the various positive effects of a job guarantee different measures of economic well-being are necessary. Further research could focus on either building new measures or applying existing ones to Austria.²⁷

Finally, further research could compare the costs and benefits of a job guarantee program versus a universal basic income. This analysis should go beyond pure financial comparisons. A research question of particular interest could be how the meaning of work and work relations change in each approach, and what impacts both policies have on the development of local communities.

7.2 Public Policy in Times of Crises

The COVID-19 pandemic is an unprecedented health care crisis that has caused major disruptions to society, the economy, and the labor market. The pandemic has disproportionately affected socially vulnerable groups (Nassif Pires et al. 2020; Wahrendorf et al. 2021). Yet it is not the only crisis we face. The Intergovernmental Panel on Climate Change has made it clear that the global emissions mitigation ambitions submitted under the Paris Agreement are not enough to limit global warming to 1.5°C (IPCC 2018). CO₂ emissions would need to decline well before 2030 to meet the Paris target, which requires ambitious actions and fundamental societal and systems transitions. Global inequalities continue to exist because of imperialist and colonial legacies and uneven development. In Europe, the European Commission, the European Central Bank, and the IMF have resorted to forced austerity when addressing socioeconomic crisis of countries of the European South. Austria's economic success is built partly on its ability to achieve trade surpluses at the expense of other countries. Within Austria, inequalities in income, wealth, access to higher education, and health outcomes are as prevalent as ever.

²⁷ Examples for broader measures of economic well-being include the LIMEW and the LIMTIP. The Levy Institute Measure of Economic Well-Being (LIMEW) uses an extended income concept that includes imputations of public consumption (Wolff and Zacharias 2003). The Levy Institute Measure of Time and Income Poverty (LIMTIP) addresses the unequal distribution of necessary unpaid household production activities (Zacharias 2011).

The ongoing prevalence of unemployment and the inability of high-income countries to create jobs for everyone willing to work is a crisis both for society and for everyone going through a stint of involuntary unemployment. Unemployment is harmful, as pointedly summarized by Amartya Sen:

There is plenty of evidence that unemployment has many far-reaching effects other than loss of income, including psychological harm, loss of work motivation, skill and self-confidence, increase in ailments and morbidity (and even mortality rates), disruption of family relations and social life, hardening of social exclusion, and accentuation of racial tensions and gender asymmetries. (Sen 1999, 94)

A public and universal job guarantee offers anyone willing to work a job at a minimum wage, no strings attached. The program is voluntary. Potential target groups in Austria are long-term unemployed people, unemployed people in general, people in time-related underemployment, people outside of the labor force but willing to work, asylum seekers and refugees, former prison inmates, disabled persons, and homeless persons. A job guarantee policy can effectively set labor standards, putting pressure on the collective bargaining process to increase minimum wages to €1,700 a month, and lowering standard weekly full-time hours to 32 hours.

In the microsimulation, three different benchmark scenarios in two variations were simulated. Between 169,460 and 613,483 people join the program, depending on eligibility criteria. A job guarantee program has a large and significant impact on the share of people at risk of poverty in Austria. Poverty risk is measured in Austria based on a relative measure, counting the share of people with an equivalized disposable income (after social transfer) below the at-risk-of-poverty threshold, which is set at 60 percent of the national median equivalized disposable household income. Using a static at-risk-of-poverty-threshold as reference the headcount ratio decreases from 14.4 percent in the baseline scenario to between 10.2 and 12.8 percent, depending on the size of the program. This signifies a reduction of the share of people at risk of poverty by 10.8 to 29.0 percent.

When the at-risk-of-poverty threshold is re-calculated in each benchmark scenario after the reassignment of incomes the share of people at risk of poverty decreases from 14.4 percent to between 11.9 and 13.2 percent, a reduction by 8.2 to 17.3 percent. Poverty gap indices and

poverty severity decrease in all benchmark scenarios, indicating that a job guarantee is a potent policy to not only reduce the overall risk of poverty but also the depth of poverty.

Long-term unemployed persons profit the most from the introduction of a job guarantee in terms of reduced poverty risks. Using an unchanged at-risk-of-poverty line, their share of people at risk of poverty drops dramatically from 51.1 percent to 8.8 percent in benchmark scenario 1. In scenario 2, the share of all unemployed persons at risk of poverty that wants to join the job guarantee drops from 47.9 percent to 6.2 percent in variation 1. The drop is less sizeable in variation 2, where the headcount ratio remains above the population average with 19.3 percent. In scenario 3, the at-risk-of-poverty headcount ratio for unemployed persons, underemployed persons, and persons in the silent reserve that want to join the job guarantee is 37.9 percent before the introduction of the program. The headcount ratio drops to only 4.3 percent in variation 1 and 11.7 percent in variation 2. These results are in line with the assumption that jobs, not welfare, are the best policy solution to reduce poverty.

The introduction of a job guarantee has positive effects on income inequality as well. The Gini coefficient for disposable household income is reduced from 0.346 to between 0.335 and 0.341 in the different scenarios. This represents a reduction of 1.5 percent to 3.5 percent. The impact of a job guarantee on income inequality is less pronounced than the impact on poverty in Austria. This is because income inequality is relatively low compared to other countries because of the high coverage of collective bargaining agreements and an extensive welfare state. Households that can increase their disposable income with job guarantee wages do not move up on the income distribution by much, as job guarantee wages are comparatively low.

The impact of a job guarantee policy on the gender wage gap is more ambivalent. The raw mean hourly net gender wage gap decreases from 8.0 percent in the baseline scenario to 7.2 percent in benchmark scenario 3. However, the smaller gender gap is mainly driven by a larger decrease in mean hourly net wages for men than for women, as the hourly net wage for the job guarantee is lower than the mean hourly net wage for both genders. The gender pay gap widens at the upper end of the distribution in high-income countries like Austria. A job guarantee with minimum wages is thus not the most suitable policy to address hourly gender wage gaps. It can, however,

contribute to the closing of the overall gender pay gap as more women might enter the labor force or enter full-time employment through a job guarantee job.

A job guarantee can be implemented to help address the multitude of crises listed at the beginning of this section. The key is to design and implement the policy in a participatory democratic way, creating the right types of jobs in the right places, pay attention to gender-sensitive policy design, and scale up and prepare the administration of the program in time. A job guarantee produces socially useful output that all members of society benefit from. It has enormous potential to radically change the meaning of care. After years of neoliberal unemployment policies, a job guarantee can pave the way for society to create and fairly distribute meaningful employment to everyone willing to contribute. Designed and implemented in such a way a job guarantee not only offers full employment and substantial reductions in poverty and income inequality but becomes an integral part of the social, democratic, gender-equitable, and sustainable transformation of Austrian society.

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APPENDIX A: UNEMPLOYMENT IN EU-SILC

EU-SILC variables on a person's main activity are based on the self-assessment of the interviewed person. Persons are asked to report their main activity at the time of the survey in 2019 and for each month of 2018. Table 15 shows additional items in EU-SILC related to job searches and the availability to work. Persons who have worked at least one hour (i.e., in marginal employment) are not considered unemployed by ILO standards, even if they have reported their status as being unemployed. The items on active search for work, already found work, will begin work, and able to start work are asked to people who have and have not worked at least 1 hour in the previous week. Only respondents who have not worked for at least one hour in the previous week, who have not found work that begins within three months, and who can start working within two weeks can be considered unemployed by ILO standards.

Table 15 Items Related to Unemployment in EU-SILC

	<i>Yes</i>	<i>No</i>	<i>Sum</i>
<i>Worked at least 1h in previous week if unemployed</i>	22,972	362,790	385,762
<i>Active search for work in past 4 weeks if unemployed</i>	228,065	137,401	365,466
<i>Active search for work in past 4 weeks if unemployed and did not work for at least 1 hour in the previous week</i>	213,036	130,888	343,924
<i>Already found work if unemployed</i>	27,343	200,722	228,065
<i>Already found work if unemployed and did not work for at least 1 hour in the previous week</i>	25,573	187,463	213,036
<i>Will begin found work within 3 months if unemployed</i>	25,883	1,460	27,343
<i>Will begin found work within 3 months if unemployed and did not work for at least 1 hour in the previous week</i>	24,113	1,460	25,573
<i>Able to start working within 2 weeks if unemployed</i>	156,080	46,102	202,182
<i>Able to start working within 2 weeks if unemployed and did not work for at least 1 hour in the previous week</i>	142,821	46,102	188,923
<i>Self-reported unemployed</i>	n.a.	n.a.	385,762
<i>Unemployed, ILO definition (own calculation)</i>	n.a.	n.a.	142,821

Source: EU-SILC 2019, own calculations.

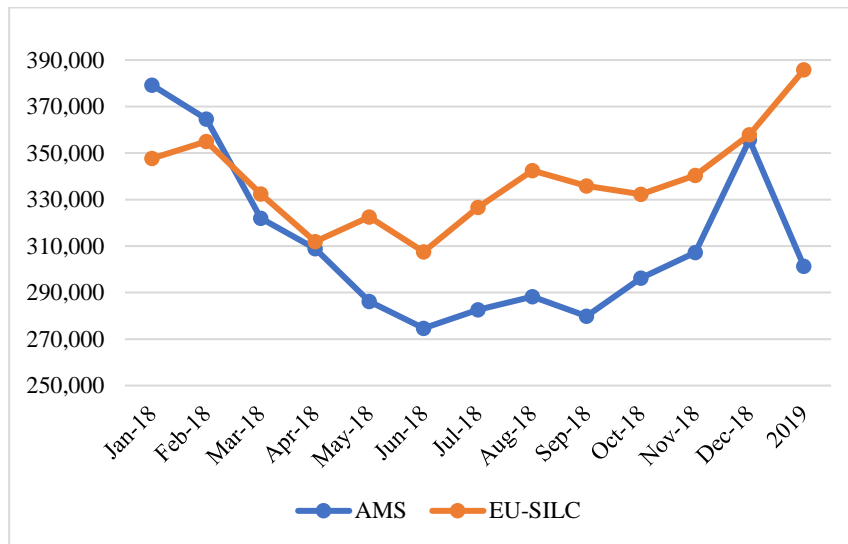
Unemployment numbers for 2019, therefore, vary: Self-reported unemployment in EU-SILC stands at 385,762 persons, unemployment by the ILO definition amounts to 142,821 persons. The average annual number of unemployed people in 2019 according to the labor force

survey—which also uses the ILO framework—is 204,500 (Statistik Austria 2021b). Registry data by the AMS using the national definition of unemployment shows that unemployment stood at 301,328 persons on average in 2019, which excludes an additional average of 61,959 people who were registered with the AMS and were engaged in labor market training (Arbeitsmarktservice Österreich 2021).

All respondents participating in the EU-SILC survey are asked about their main activity for each month of the previous year. To simulate the benchmark scenarios the length of unemployment was an important indicator. EU-SILC does not provide an item for the length of unemployment in the year of the survey. To remedy this fact the items on main activities in 2018 were used as the primary source of information on unemployment. This means that instead of using unemployment and labor force participation data from 2019 the responses from the item “Main activity in December 2018” were used, enriched by information on the length of unemployment and total months in unemployment in 2018.

One caveat of this approach could be that unemployment numbers for December 2018 exhibit strong seasonal trends. Figure 16 illustrates the development of absolute unemployment numbers for each month in 2018 in the survey and AMS registry data as well as survey responses for 2019 and the annual average of 2019 by the AMS. While the registry data shows a strong seasonal pattern the responses in EU-SILC vary much less. In addition, the survey response for 2019 and the average annual registry data differ quite significantly, indicating that the responses in EU-SILC collected during 2019 do not capture a good average in unemployment.

Figure 16 Unemployment, Seasonality Trends in 2018



Source: EU-SILC 2019, Arbeitsmarktservice Österreich (2021).

Using the items on main activities for each month in 2018 a measure for consecutive, uninterrupted unemployment length was created for each respondent. Additionally, total months in unemployment were calculated. Table 16 shows that 51.8 percent of 357,915 unemployed persons in December 2018 had been unemployed for the whole year.

Table 16 Number of Consecutive Months in Unemployment by December 2018 in EU-SILC

<i>Months</i>	<i>Observations</i>	<i>Share in %</i>
<i>1</i>	38,405	10.7
<i>2</i>	21,070	5.9
<i>3</i>	21,545	6.0
<i>4</i>	20,210	5.7
<i>5</i>	17,670	4.9
<i>6</i>	15,900	4.4
<i>7</i>	7,440	2.1
<i>8</i>	5,340	1.5
<i>9</i>	9,640	2.7
<i>10</i>	6,150	1.7
<i>11</i>	9,100	2.5
<i>12</i>	185,445	51.8
<i>Total</i>	357,915	100

Source: EU-SILC, own calculations.

Table 17 shows that 599,975 persons had reported at least one month of unemployment sometime in 2018.

Table 17 Total Number of Months in Unemployment in 2018 in EU-SILC

<i>Months</i>	<i>Observations</i>	<i>Share in %</i>
<i>1</i>	61,620	10.3
<i>2</i>	83,705	14.0
<i>3</i>	65,305	10.9
<i>4</i>	46,500	7.8
<i>5</i>	33,100	5.5
<i>6</i>	23,835	4.0
<i>7</i>	30,875	5.2
<i>8</i>	18,800	3.1
<i>9</i>	19,980	3.3
<i>10</i>	17,260	2.9
<i>11</i>	13,550	2.3
<i>12</i>	185,445	30.9
<i>Total</i>	599,975	100

Source: EU-SILC, own calculations.

APPENDIX B: PROBIT MODEL FOR EMPLOYMENT STATUS

	(1)	
	Employment	
Male	0	(.)
Female	0.0668	(0.0729)
Marital Status	0.0888	(0.0941)
16-24	0	(.)
25-34	-0.167	(0.147)
35-44	-0.311	(0.164)
45-54	-0.761***	(0.179)
55-64	-1.373***	(0.209)
Compulsory schooling (Pflichtschule)	0	(.)
Apprenticeship with vocational school (Lehre mit Berufsschule)	0.219*	(0.106)
Trade or commercial school (Fach- oder Handelsschule)	0.532***	(0.140)
Secondary school with matriculation (Matura)	0.486***	(0.123)
Degree from University or University of Applied Sciences (Abschluss an einer Universitaet, (Fach-)Hochschule)	0.796***	(0.135)
Other degree after matriculation (Anderer Abschluss nach der Matura)	0.330	(0.202)
Years of work experience	0.0329***	(0.00470)
Currently in education	0.717**	(0.227)
Austria	0	(.)
EU 15 other than Austria	-0.152	(0.173)
New EU member states	-0.506***	(0.130)
Other	-0.214	(0.118)
Number of persons under 16 years in household	-0.0811	(0.0450)
Eastern Austria (Bgl., NÖ, Wien)	0	(.)
Southern Austria (Ktn., Stmk.)	0.0576	(0.109)
Western Austria (OÖ, Sbg., Tirol, Vbg.)	0.344**	(0.105)
Vienna	0	(.)
Other municipalities with >100,000 residents	0.0273	(0.152)
Municipalities with >10,000 and <=100,000	0.114	(0.123)

residents		
Municipalities with <=10,000 residents	0.222	(0.114)
Owner of home	0	(.)
Rent in Public Housing	-0.656***	(0.129)
Rent in Cooperative or Non-Profit Housing	-0.242*	(0.107)
Other Rent	-0.269**	(0.101)
Rent-free	-0.189	(0.171)
No spouse	0	(.)
16-24	0.148	(0.383)
25-34	0.418	(0.292)
35-44	0.374	(0.291)
45-54	0.507	(0.280)
55-64	0.524	(0.288)
65+	0.990**	(0.382)
No spouse	0	(.)
Compulsory schooling (Pflichtschule)	-0.203	(0.286)
Apprenticeship with vocational school (Lehre mit Berufsschule)	0.0252	(0.269)
Trade or commercial school (Fach- oder Handelsschule)	0.173	(0.311)
Secondary school with matriculation (Matura)	-0.106	(0.274)
Degree from University or University of Applied Sciences (Abschluss an einer Universitaet, (Fach-)Hochschule)	0.00760	(0.280)
Other degree after matriculation (Anderer Abschluss nach der Matura)	0	(.)
No Spouse	0	(.)
Unemployed	-0.461***	(0.101)
Employed	0	(.)
Constant	0.774***	(0.162)
Observations	29635	
chi ²	349.8	
Pseudo R ²	0.207	
Standard errors corrected for N clusters:	5927	

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Source: Own calculations.

A commonly used goodness-of-fit measure for probit models is the percent correctly predicted (Wooldridge 2016, 530), shown in equation 6.

Equation 6 Percent Correctly Predicted Goodness-of-fit Measure

$$\tilde{y}_i = \begin{cases} 1 & \text{if } G(x_i\hat{\beta}) > \tau \\ 0 & \text{otherwise} \end{cases}$$

τ is a threshold such that the proportion of $\tilde{y}_i = 1$ in the sample is equal or very close to \bar{y} . The threshold is found by trial and error. In the case of predicted employment, the model predicts 362,080 unemployed persons with a threshold of $\tau = 0.75$, close to the 357,915 unemployed persons in the survey. Table 18 presents a breakdown by category; a red font color indicates wrongly predicted outcomes. While 94.6 percent of all employed persons are correctly predicted, and 90.2 percent of all observations overall are correctly predicted, only 40.3 percent of the unemployed are correctly predicted, leaving room for improvement of the model for future research.

Table 18 Predicted Employment, Goodness-of-fit

Actual Employment	Predicted Employment				<i>Total</i>	<i>Predicted in %</i>
	<i>Unemployed (absolute)</i>	<i>Predicted in %</i>	<i>Employed (absolute)</i>	<i>Predicted in %</i>		
<i>Unemployed</i>	144,210	40.3	213,705	59.7	357,915	
<i>Employed</i>	217,870	5.4	3,819,365	94.6	4,037,235	
<i>Total</i>	362,080		4,033,070		4,395,150	90.2

Source: Own calculations.

APPENDIX C: PROBIT MODEL FOR FULL-TIME EMPLOYMENT STATUS

	(1) Full-time in December 2018	
Male	0	(.)
Female	-1.214***	(0.0574)
Marital Status	-0.0968	(0.0716)
16-24	0	(.)
25-34	-0.755***	(0.139)
35-44	-0.949***	(0.150)
45-54	-1.041***	(0.166)
55-64	-1.344***	(0.190)
Compulsory schooling (Pflichtschule)	0	(.)
Apprenticeship with vocational school (Lehre mit Berufsschule)	-0.0399	(0.107)
Trade or commercial school (Fach- oder Handelsschule)	-0.140	(0.117)
Secondary school with matriculation (Matura)	-0.0485	(0.114)
Degree from University or University of Applied Sciences (Abschluss an einer Universitaet, (Fach-)Hochschule)	0.195	(0.123)
Other degree after matriculation (Anderer Abschluss nach der Matura)	0.253	(0.172)
Years of work experience	0.0194***	(0.00410)
Currently in education	-0.735***	(0.126)
Austria	0	(.)
EU 15 other than Austria	0.0315	(0.144)
New EU member states	0.122	(0.128)
Other	0.108	(0.128)
Number of persons under 16 years in household	-0.194***	(0.0308)
Eastern Austria (Bgl., NÖ, Wien)	0	(.)
Southern Austria (Ktn., Stmk.)	0.0834	(0.0735)
Western Austria (OÖ, Sbg., Tirol, Vbg.)	-0.0506	(0.0630)
Vienna	0	(.)
Other municipalities with >100,000 residents	0.0183	(0.124)

Municipalities with >10,000 and <=100,000 residents	0.188*	(0.0947)
Municipalities with <=10,000 residents	0.0879	(0.0856)
Owner of home	0	(.)
Rent in Public Housing	-0.129	(0.131)
Rent in Cooperative or Non-Profit Housing	0.0471	(0.0749)
Other Rent	-0.0698	(0.0761)
Rent-free	-0.243	(0.128)
No spouse	0	(.)
16-24	-0.0588	(0.361)
25-34	0.127	(0.217)
35-44	-0.0412	(0.214)
45-54	-0.0989	(0.212)
55-64	-0.280	(0.218)
65+	-0.0663	(0.295)
No spouse	0	(.)
Compulsory schooling (Pflichtschule)	0.324	(0.230)
Apprenticeship with vocational school (Lehre mit Berufsschule)	0.0184	(0.200)
Trade or commercial school (Fach- oder Handelsschule)	0.204	(0.209)
Secondary school with matriculation (Matura)	0.169	(0.203)
Degree from University or University of Applied Sciences (Abschluss an einer Universitaet, (Fach-)Hochschule)	-0.0582	(0.200)
Other degree after matriculation (Anderer Abschluss nach der Matura)	0	(.)
No Spouse	0	(.)
Unemployed	0.175*	(0.0825)
Employed	0	(.)
Constant	2.037***	(0.178)
Observations	27715	
chi ²	761.9	
Pseudo R ²	0.213	
Standard errors corrected for N clusters:	5543	

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Source: Own calculations.

Using a threshold of $\tau = 0.58$ the model predicts 969,345 part-time workers, close to the 973,585 part-time workers in the survey. Table 19 presents a breakdown by category; a red font color indicates wrongly predicted outcomes. The model predicts 56.2 percent of part-time workers and 86.2 percent of full-time workers correctly, with an overall 79.0 percent of observations correctly predicted.

Table 19 Predicted Full-Time Employment, Goodness-of-fit

Full-time in December 2018	Predicted Full-Time Employment				<i>Total</i>	<i>Predicted in %</i>
	<i>Part-time (absolute)</i>	<i>Predicted in %</i>	<i>Full-time (absolute)</i>	<i>Predicted in %</i>		
<i>Part-time</i>	547,360	56.2	426,225	43.8	973,585	
<i>Full-time</i>	421,985	13.8	2,641,665	86.2	3,063,650	
<i>Total</i>	969,345		3,067,890		4,037,235	79.0

Source: Own calculations.

APPENDIX D: PROBIT MODEL FOR LABOR FORCE PARTICIPATION

	(1)	
	LF Participation	
Male	0	(.)
Female	-0.480***	(0.0461)
Marital Status	0.0884	(0.0773)
16-24	0	(.)
25-34	0.0103	(0.0898)
35-44	-0.0407	(0.105)
45-54	-0.498***	(0.116)
55-64	-1.969***	(0.127)
Compulsory schooling (Pflichtschule)	0	(.)
Apprenticeship with vocational school (Lehre mit Berufsschule)	0.150*	(0.0701)
Trade or commercial school (Fach- oder Handelsschule)	0.225**	(0.0859)
Secondary school with matriculation (Matura)	0.0526	(0.0727)
Degree from University or University of Applied Sciences (Abschluss an einer Universitaet, (Fach-)Hochschule)	0.460***	(0.0868)
Other degree after matriculation (Anderer Abschluss nach der Matura)	0.275	(0.163)
Years of work experience	0.0369***	(0.00303)
Currently in education	-1.286***	(0.0778)
Austria	0	(.)
EU 15 other than Austria	-0.110	(0.110)
New EU member states	0.199	(0.126)
Other	-0.0981	(0.0965)
Number of persons under 16 years in household	-0.164***	(0.0318)
Eastern Austria (Bgl., NÖ, Wien)	0	(.)
Southern Austria (Ktn., Stmk.)	0.0892	(0.0666)
Western Austria (OÖ, Sbg., Tirol, Vbg.)	0.129*	(0.0600)
Vienna	0	(.)
Other municipalities with >100,000 residents	-0.00319	(0.104)
Municipalities with >10,000 and <=100,000	-0.175*	(0.0892)

residents		
Municipalities with <=10,000 residents	-0.0494	(0.0792)
Owner of home	0	(.)
Rent in Public Housing	0.00728	(0.101)
Rent in Cooperative or Non-Profit Housing	0.0448	(0.0683)
Other Rent	0.0662	(0.0709)
Rent-free	-0.182	(0.0927)
No spouse	0	(.)
16-24	0.337	(0.259)
25-34	0.272	(0.210)
35-44	0.205	(0.211)
45-54	0.416*	(0.210)
55-64	0.184	(0.207)
65+	-0.267	(0.241)
No spouse	0	(.)
Compulsory schooling (Pflichtschule)	-0.127	(0.212)
Apprenticeship with vocational school (Lehre mit Berufsschule)	-0.119	(0.197)
Trade or commercial school (Fach- oder Handelsschule)	-0.130	(0.205)
Secondary school with matriculation (Matura)	0.121	(0.200)
Degree from University or University of Applied Sciences (Abschluss an einer Universitaet, (Fach-)Hochschule)	-0.0130	(0.200)
Other degree after matriculation (Anderer Abschluss nach der Matura)	0	(.)
No Spouse	0	(.)
Not in LF	-0.400***	(0.0691)
In LF	0	(.)
Constant	0.913***	(0.110)
Observations	38815	
chi ²	1576.2	
Pseudo R ²	0.292	
Standard errors corrected for N clusters:	7763	

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Source: Own calculations.

Using a threshold of $\tau = 0.61$ the model predicts a labor force of 4,409,600 people, close to the labor force of 4,395,150 people in the survey. Table 20 presents a breakdown by category; a red font color indicates wrongly predicted outcomes. The model predicts labor force participation

correctly for 87.1 percent of observations, 86.5 percent of those not in the labor force are predicted correctly, with an overall 86.8 percent of observations correctly predicted.

Table 20 Predicted Labor Force Participation, Goodness-of-fit

Actual LF Participation	Predicted Labor Force Participation				<i>Total</i>	<i>Predicted in %</i>
	<i>Not in LF (absolute)</i>	<i>Predicted in %</i>	<i>In LF (absolute)</i>	<i>Predicted in %</i>		
<i>Not in LF</i>	3,729,740	86.5	581,710	13.5	4,311,450	
<i>In LF</i>	567,260	12.9	3,827,890	87.1	4,395,150	
<i>Total</i>	4,297,000		4,409,600		8,706,600	86.8

Source: Own calculations.

APPENDIX E: INDICES OF AGREED MINIMUM WAGES, 2018-2020

Table 21 Increases of Indices of Agreed Minimum Wages, 2018-2020

<i>Industry</i>	<i>Increase in %</i>
A - Agriculture, Forestry and Fishing	8.7
B - Mining and Quarrying	5.8
C - Manufacturing	5.7
D - Electricity, Gas, Steam and Air Conditioning Supply	5.9
E -Water Supply; Sewerage, Waste Management and Remediation Activities	6.0
F - Construction	5.9
G - Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	5.0
H - Transportation and Storage	5.6
I - Accommodation and Food Service Activities	3.5
J - Information and Communication	5.1
K - Financial and Insurance Activities	5.2
L - Real Estate Activities	5.6
M -Professional, Scientific and Technical Activities	5.5
N - Administrative and Support Service Activities	5.7
O - Public Administration and Defence; Compulsory Social Security	5.6
P - Education	5.2
Q - Human Health and Social Work Activities	5.9
R - Arts, Entertainment and Recreation	3.6
S - Other Service Activities	5.5
T - Activities of Households as Employers; Undifferentiated Goods and Services Producing Activities of Households for Own Use*	5.4
U - Activities of Extraterritorial Organisations and Bodies*	5.4
* For Industries T and U the average of all other industries was applied.	

Source: Statistik Austria, own calculations.

APPENDIX F: PROPOSAL FOR A SCORING SYSTEM

Antonopoulos et al. (2014) used real-world data based on 86,000 applicant files from a pilot project in Greece for their estimation of the probability of applying to a job guarantee program in Greece. Unfortunately, no similar dataset is available for Austria, as the *Aktion 20,000* pool only consists of 3,824 individuals within a very specific target group. However, the Greek pilot project also provides selection criteria and a scoring system that can be adapted to the Austrian case.

Table 22 presents a scoring system for the unemployed, underemployed, and silent reserve, based on different criteria of interest. A scoring system like this can be used to rank applicants based on priorities in social policies if a gradual implementation of a job guarantee is preferred, lowering the score threshold needed in each year until a universal job guarantee program is implemented.

Table 22 Proposal for a Scoring System

Targeting Area	Criterion	Points
<i>Low income</i>	• Household income is below 60 percent of national median equivalized disposable household income (at-risk-of-poverty threshold)	10
	• Household income is 60 percent or above but below 80 percent of national median equivalized disposable household income	5
	• Household income is 80 percent or above of national median equivalized disposable household income	0
<i>Health of applicant</i>	• Person has a chronic illness	5
<i>Household composition</i>	• Single parent household, at least 1 child	10
	• 2 adults, 2 or more children	8
	• Other households with children	6
	• 2 adults, 1 child	6
	• 2 adults, no children, at least one person age 65+	4
	• Other households	0
<i>Length of unemployment</i>	• 1 year and above	15
	• 6 months to below 1 year	10
	• 3 months to below 6 months	5
	• Below 3 months	0

Source: Based on Antonopoulos et al. (2014).

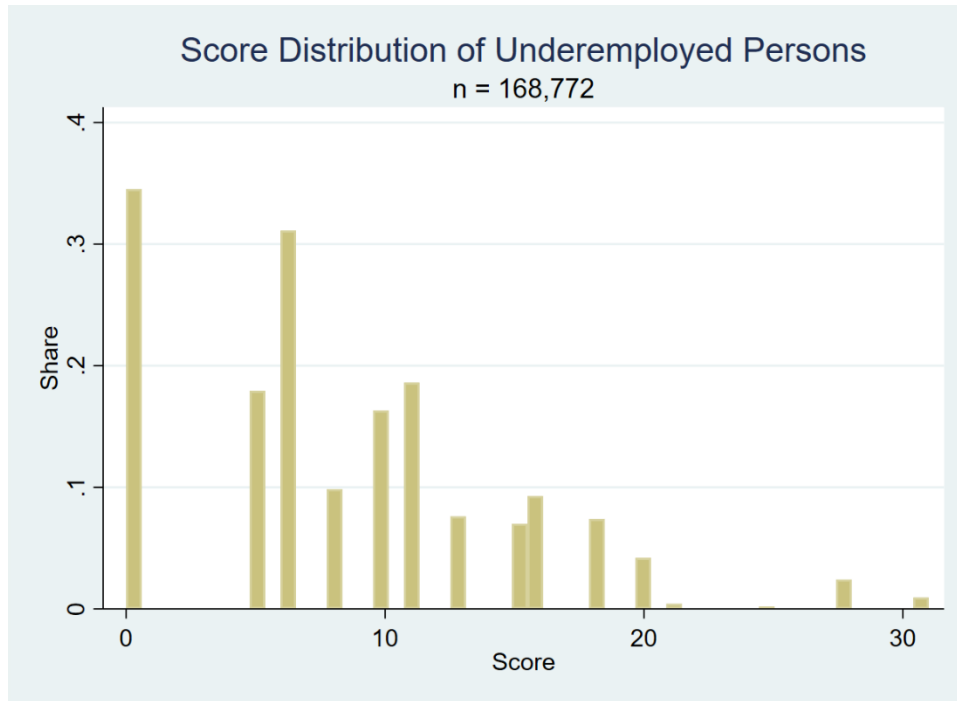
Figures 17 to 19 illustrate how the distribution of scores for such a scoring system might look like in Austria, based on an application of the scoring system to the aged dataset of the microsimulation.

Figure 17 Score Distribution of Unemployed Persons



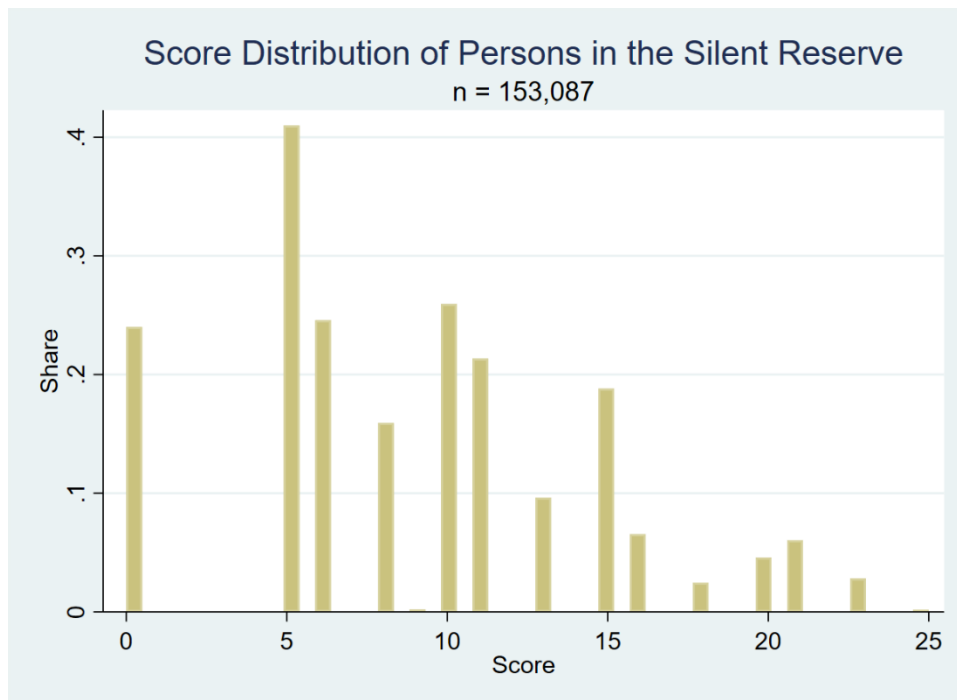
Source: Own calculations.

Figure 18 Score Distribution of Underemployed Persons



Source: Own calculations.

Figure 19 Score Distribution of People in the Silent Reserve



Source: Own calculations.