

Stefan Paul Miejski

**THE LABOR FOUNDATION
AS A STRATEGY AGAINST
TECHNOLOGICAL UNEMPLOYMENT**

University of Tampere
School of Social Sciences and Humanities
Master's Program in Comparative Social Policy and Welfare
Supervisor: Prof. Liisa Häikiö

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Stefan Paul Miejski

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Abstract

Technology is improving at an accelerating pace. Fundamental changes can be seen in different fields, like 3D-printing, autonomous cars or artificial intelligence to name a few. Most of those new technologies require less human power than needed in traditional industries. As a consequence, there are many voices, mainly from US-authors, who claim that a high number of jobs will get lost due to computerization. Others argue that only looking on what is missing ignores the vast opportunities to create new jobs, since with every invention there are always new possibilities. However, there is a broad consensus that the structure of the labor market is changing. Research shows that during the last decades demand for high-skilled workers has risen significantly. At the same time, there also has been an increase in low-skilled workers, although on a smaller scale. But, there is a sharp decrease for those jobs in the middle-skilled sector. Whereas low- and middle-skilled workers have a rather negative perspective, demand and payment for high-skilled workers are expected to rise further. Consequently, there is a lack of skilled-workers, basically in all OECD countries. The rising demand on high-skilled workers require labor market instruments, which have their focus on upskilling, such as the labor foundation. This instrument of active labor market policies (ALMPs) has not yet been analyzed on its suitability to deal with the consequences of technological improvement. The research question focuses particularly on this issue and reads as follows: *“How suitable is the model of a labor foundation as an instrument of active labor market policy to deal with the challenges of technological unemployment?”* The question was approached by conducting a case study which includes four qualitative interviews as well as a sufficient analysis of the literature available. The focus of the case study lies on the Steel Foundation, which is broadly considered as the best-practice example of labor foundations and was also awarded with this distinction from the European Commission. The case study includes two crises situations.

The findings show that for different reasons, like its flexibility or its focus on upskilling, the labor foundation can be a vital instrument of ALMPs to deal with technological unemployment. This includes sudden changes in the labor market as well as slower structural changes which still require a constant increase in high-skilled workers or workers in new and different fields. The labor foundation is therefore an instrument which should be considered when policy makers search for innovative sustainable solutions to deal with technological unemployment. However, it also needs to be said that due to its nature of being embedded in a private environment, it automatically excludes everybody who did not work at an associated firm in the first place. The labor foundation, therefore, can only be an additional instrument of active labor market policies, but by no means the only one.

KEYWORDS: technological unemployment, disruption, technological improvement, labor market, labor foundation, Steel Foundation, active labor market policies

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1. Introduction

Technological improvement and its disruptive consequences for the labor market slipped increasingly into the focus of scientist as well as journalists, authors and politics over the last years. Even the World Economic Forum Annual Meeting 2016 took place under the theme “The Fourth Industrial Revolution”. With an increasing amount of literature also the amount and angles of different perspectives are widening. Many arguments sound very compelling and it is not per se difficult to follow a narrative of a perspective. For instance, some, mainly US-authors (Brynjolfsson & McAfee 2014, Frey & Osborne 2013 etc.), claim that technological improvement will lead to a massive reduction of workers needed. Consequently, unemployment will rise unavoidably.

Disruption, and fundamental changes at an enormous pace can be seen in different fields, like 3D-printing, autonomous cars, artificial intelligence and many more. Airbnb, Alibaba, Uber and co. were unknown just a few years ago and are now household names. It was the 29th of June 2007 when the first iPhone was purchased and this introduced the era of the smartphones. At the end of 2015 there were already more than 2 billion smart phones (Schwab 2016). Today we have more computer power in our hands than the most powerful computers in the world about 20 years ago. It goes without saying that they were almost as large as a tennis court. Speed however is not the only thing is changing: Wealth needs much fewer workers than it used to 15 years ago because the marginal costs tend towards zero. For example, in Silicon Valley, the three biggest companies had a significantly higher market capitalization in 2014 than Detroit had as a center of traditional industries in 1990. However, they only had ten percent of the employees (Schwab 2016). Nevertheless, different fields which had little in common in the past are harmonizing and internet as well as mobile communication systems are altering the industries, enabled by increasingly powerful and compact information processes (Kuhlmann 2015).

It seems not bold to argue that technological progress will eliminate many jobs. However, with every new technology invented, there is a sharp increase of opportunities for new jobs or even new job fields. One significant example is the invention of the steam engine back in the 18th century which triggered the first industrial revolution. It took many jobs away but created even more. The same happened with the second industrial revolution, when electricity allowed mass-production, and with the third industrial revolution, when computers changed the way we work fundamentally (Bauernhansl 2014, 5f.). Consequently scholars like Autor (2015) ask why there are still so many jobs, and argue that there are no valid signs that unemployment has to rise over the next years. If one

only focuses on what goes lost, the value of those tasks, which can uniquely be carried out by workers, get ignored. (Autor 2015, p. 5).

One could take the easy way out by saying that the truth lies somewhere in between. However, how this issue will develop in the future is not only dependent on how technology will evolve but significantly on how politics and whole societies decide to structure policies and with that the way how they want to live. There are indeed enormous opportunities by using machines to our advantage, and there are also significant threats. To argue that everything will end in a doomsday scenario denies the wide range of instruments and options policy makers have to counteract negative outcomes. On the contrary it would be also very shortsighted to say that just because there are theoretically endless opportunities, there is nothing to worry about. A crucial issue to deal with the challenges of technological improvement in the context of the labor market is to find and establish the most suitable instruments. Therefore, it seems important that in an environment of fast progressing technology, social policy is innovative as well. In the 1950s, one innovative measure of fighting unemployment was first introduced in Sweden, named active labor market policies (ALMPs) (Boeri and von Ours 2013). Over time many different instruments of ALMPs were developed and introduced, with the main goal to put people back to the labor market. There is extended literature about ALMPs, about its implementation as well as about its effectivity. A rather unknown, since just in some parts established instrument of ALMPs is the labor foundation. The literature of this particular instrument is small but precise. However, there is no literature available yet which asks the question about how suitable the model of the labor foundation as an instrument of active labor market policy is to deal with the challenges of technological improvement. This Master's thesis aims to fill this gap.

This paper is structured as following. In a literature review, I will first provide an overview about the field of technological improvement, including the four industrial revolutions with a specific focus on the fourth. Then I will give information about how technological employment evolved and a historical summary of the fear of technological unemployment. In chapter three, I will proceed with the literature review by giving an overview about different active labor market instruments and their implementation, including an overview of the labor foundation. After the methodology part, there is the case study where I analyze the Steel Foundation as best-practice example of labor foundations with the focus on its suitability as an instrument of active labor market policies to contribute to a successful dealing with the challenges of technological improvement and disruption. This chapter is followed by a selection of alternative instruments, scenarios and visions. The final part will be the conclusion and outlook of this Master's thesis.

2. Development of Technological Improvement and Unemployment

Economic process is mainly based on technology with three industrial revolutions as its main drivers. The first one started in 1750 and had its breakthrough when James Watt invented the steam engine in 1769. This technology served as the power for many other inventions. Moreover, the steam engine did not just motivate many scientists for new inventions, it also led to a massive improvement of different technologies which were already available but lacked power (Matschoss 1901, p. 14). Industrialization became a main factor for the end of hunger catastrophes. People could be provided with nourishment and clothes because of a better transport system due to steamers and trains. Moreover, productivity of basic supplies sharply increased. Such revolutions, however, also always have a significant influence on society. Classical jobs in craft as well as in agriculture reduced rapidly, and at the same time factory worker appeared on a large scale (Bauernhansel 2014, p. 5). The second industrial revolution started at the end of the 19th century, when electricity was invented and mass production became possible. From a labor perspective this means that electricity brought the automation to production, which increased the demand for skilled workers who can operate machines, whereas the demand for unskilled workers shrank (Goldin and Katz, 1998). In the 1960s, the third industrial revolution evolved. It is also called the digital or computer revolution since it was established by the invention of mainframe computing, semiconductors, personal computing and the internet (Schwab 2016). Over the last years an increasingly amount of authors has become certain that we are at the advent of the fourth industrial revolution. In 2016, even the World Economic Forum was held by the claim “Fourth Industrial Revolution”.

2.1. The Fourth Industrial Revolution

There is no specific distinction about what the fourth industrial revolution embraces. In fact, even the terms for this phenomenon vary. In Germany, the term “Industry 4.0” was coined in 2011 at the Hannover Fair to describe how the organization of value chains will be revolutionized on a global scale (Schwab 2016). Brynjolfsson and McAfee (2014), for example, synthesize the same phenomenon under the term “The Second Machine Age”. There is also no consensus about if this is a sharp paradigm shift, as Schwab, Brynjolfsson and McAfee and many others argue or rather a constant progress of technological development as Bauernhansl (2013) and others claim.

Although there is no single term, and perspectives vary, there is a broad consensus about the main drivers of the fourth industrial revolution. Kuhlmann (2015) states that industry 4.0 is a crucial issue in industry since several years. It still remains as a vision, however, there is a central idea.

Digitalization and information of machines, processes and products should be improved and interconnected. The Internet and mobile communication systems in combination with increasingly powerful, robust and compact information processing are altering the opportunities of the industry. Networks are appearing which are able to communicate with each other even over long distances and are leading to an erratic increase of data (Kuhlmann 2015, p. 1f.). There are different emerging technological breakthroughs in different fields such as robotics, artificial intelligence (AI), autonomous vehicles, the internet of things (IoT), 3D printing, energy storage, quantum computing, biotechnology, nanotechnology and material science. This list is by no means complete, many of them are at their infants, and there is no certainty on how the transformation will unfold (Schwab 2016).

For a deeper understanding of technological improvement on an exponential rate it is worth to have a closer look on Moore's law, a theory widely accepted in industry. Introduced in 1965 by Gordon Moore, co-founder of Intel, Moore's law says that the number of components per integrated circuit are doubled every year (Moore 1965). Ten years later, Moore corrected his forecast to a doubling every two years. Over the last decades in many industries the period of 18 months was commonly accepted as Moore's law of doubling and is still accurate for many technological developments like memory capacity, sensors, quality-adjusted microprocessor prices or size and number of pixels in cameras (Brynjolfsson, McAfee 2014). All this technology is advancing at exponential rates. As an example of Moore's law, we could use the Apple's iPhone, as is shown in Table 1.

Table 1: iPhone improvement over time

Version	Year	Processor	Pixels	RAM	Camera
iPhone 1	2007	412 MHz	480x320	128 MB RAM	2 megapixel
iPhone 3G S	2009	600 MHz	480x320	256 MB eDRAM	3 megapixel
iPhone 4s	2011	1.0 GHz dual-core	960x640	512 MB DDR 2 RAM	8 megapixel
iPhone 5s	2013	1.3 GHz dual-core	1334x750	1 GB LPDDR 3 RAM	8 megapixel

Source: Based on data from Apple (2016).

Table 1 shows a summary of the main hardware parts of Apple's iPhone from the first model from 2007 to the iPhone 5s, introduced in 2013. What we can observe is that within six years all parts have improved their characteristics by about three to four times. It is to say that improvement is not always visual at the pure numbers. For example the camera technology improved significantly from the 4s to the 5s, however the amount of megapixel remained unchanged.

The futurist Ray Kurzweil (2002) gives another example of exponential growth in his book, "The age of spiritual machines", when he tells the ancient story of an inventor of chess and an emperor in China. The emperor loved the game; therefore, he offered the inventor a reward. The inventor wanted only one grain of rice on the first square of the chessboard, two on the second and four on the third and so on, always doubled by every square. The king considered the inventor as very humble and immediately accepted the request. Indeed, not much happened until they finished the first half of the chessboard. After 32 squares the emperor had to give the inventor close to 4 billion grains of rice. This is approximately the yield of one large field. At this time nothing much would have happened, but now the emperor started to take notice. They entered the second half of the chessboard and everything started to change dramatically. At the end of the seventh row they already reached 500 million tons in total. This equals the world's annual rice production, and there was still a row to go. How the story ended is not clear. In one ending, the emperor lost all his wealth; in another he got so mad that he had the inventor beheaded (Kurzweil 2002).

Its pace, as well as its changing character, always evokes anxiety of technological unemployment. It seems to be relevant to understand that with all big inventions people were afraid to end jobless. Therefore, I will provide an overview about how this fear evolved in the next section, followed by a comprehensive review on how technology has indeed changed the world of work.

2.2. Technological Improvement: Destroyer or Enabler?

Particularly since the outbreak of the first industrial revolution, technological improvement has also led to cultural anxiety. Technology has often been portrayed as alien, threatening, incomprehensible and possibly uncontrollable in literature (Mokyr, Vickers & Ziebarth 2015, p. 31). But also in the real world the outcomes of the angst of technology were unmissable. The inventor of the loom, Richard Arkwright, for instance, became an enemy of the working class. His factories were destroyed by workers who feared to lose their jobs. Some years later, Joseph-Marie Jacquard had the same experience with his weaving loom (Matschoss 1901, p. 12).

The fear of technological unemployment never really stopped. In fact, there have been many scholars who have warned about the effects of technological improvement. The argument that technological progress brings distortion and the alienation of labor, has already had famous proponents in the 18th century. In his “The Wealth of Nations” Adam Smith (1776) argued that most people were exercising just a few very simple operations. As a consequence, those people would unlearn their skills and would become ignorant and stupid (as cited in Braverman 1998, p. xv f.). Karl Marx (1944), even better-known as a critic of industrialization, claimed that the capitalist system would estrange individuals from others and even from themselves (as cited in Mokyr, Vickers, Ziebarth 2015, p. 38). As Mokyr, Vickers and Ziebarth (2015) points it out, this was no issue held only by the left. Even many supporters of slavery, like John C. Calhoun (1837), came to similar conclusions. For Calhoun, industrialization would eliminate the option for the slave-owners to live a life lofty from the nasty and dirty nature of work (Mokyr, Vickers, Ziebarth 2015, p. 38).

Mokyr, Vickers and Ziebarth (2015) identified three different forms of anxieties of technology. First, and probably most common, is the anxiety that technological progress will lead to severe losses of jobs since machines take their place. Moreover, a short-run effect would be an increase in inequality, even if the effects are beneficial in the long run (Mokyr, Vickers and Ziebarth 2015, p. 32). One out of many claims in that direction came from John Maynard Keynes’ who predicted that the economizing of the use of labor will outrun the pace at which new jobs can be created (Keynes 1930). Second, there is anxiety about the moral implications of technological improvement for human welfare. This includes the dehumanizing effects of work, which were particularly prevalent in times of the first industrial Revolution, such as factory labor and its routinized character. In modern times another anxiety has become more relevant, namely the idea that the lack of work leads to dehumanization itself, mostly since human desire to contribute. Third, there are some authors as Gordon (2012), and Cowen (2010) who go in the absolute opposite direction and claim that the years of great technological improvement are already past. Therefore, for instance, the growth in economics and productivity is too slow because of insufficient technological progress (Mokyr, Vickers and Ziebarth 2015, p. 32).

In fact, as a lot of different research shows (for example, Mokyr 2002, Autor 2015), there was temporary technological unemployment in specific areas but never on a larger scale. In the 19th century, neither the fears of the Luddites nor that of the scholars after what machines would push workers into unemployment was realized. For Mokyr, Vickers and Ziebarth (2015) the main reasons are well understood. Machines could only replace a limited number of workers in the 19th century.

Simultaneously, the improvement of technology led to new jobs that were complementary to the capital goods, which appeared with the new technologies. Those new jobs were obvious ones like mechanics that fix the machines, but include supervisors also who oversee the factory system or accountants who manage enterprises. A main factor, however, is that technological improvement has become a main driver for innovation, which has led to the establishment of entirely new sectors. This was a development which was almost completely missed in the discussion of scholars of this time. They did not expect that people, who could not find a job in the cotton-mills anymore, could have become trained engineers, cybersecurity experts or social-media experts (Mokyr, Vickers, Ziebarth 2015, p. 36).

Recent developments in technology again nurture the anxiety of technology unemployment. In their book "Race against the machine" Brynjolfsson and McAfee (2011) see the problem that technology is improving faster than new jobs can be created. Computers are therefore already established in about 60 percent of the labor force in the United States and will get increasing influence in the remaining 40 percent. This will make it harder for institutions to avoid technological unemployment (Brynjolfsson, McAfee 2011). Frey and Osborne (2013) claim that about 47 percent of the total employment in the United States is at risk of computerization. They also took into account the effects of recent advances in Mobile Robotics and Machine Learning and were the first who categorized occupations according to how susceptible they are to be replaced by job automation through computer-controlled equipment (Frey, Osborne 2013, p.1ff.). Moreover, computers are getting increasingly pervasive. According to Brynjolfsson und McAfee (2014), digital technologies are performing mental tasks, which were always considered as a domain of humans. As Frey and Osbourne (2013) argue, most jobs in logistic occupations, transportation, together with administrative support and office workers are at risk of being computerized. Another very vulnerable group are workers in the production (Frey and Osbourne 2013, p. 44). However, as digital technologies will continue to improve, just a few skills will remain as a bastion of humans. The high end skill of technology is able to replace lawyers or humans in medical diagnostics (Brynjolfsson, McAfee 2014).

Autor (2015) has a different opinion and includes further explanations on why technological unemployment would not happen on a large scale. He agrees that it was hard to foresee the development. Furthermore, the fact that technological progress has not led to severe unemployment seems to be contradictory on the first glimpse, because when the automobile became mass-produced, the demand for many equestrian jobs shrank drastically. This includes the work of blacksmiths and stable hands. A more recent example would be a computer, which alphabetizes a list of names,

processes a company's payroll etc. By doing so, the computer substitutes a task that would have been done by a human in previous era. Moreover, most workplace technologies are designed to reduce labor demand. Regardless of whether the technology is spreadsheets, tractors or assembly lines, the companies' main goals are to replace human musculature by mechanical power, human handiwork by machine-consistency and slow and error-prone workers by digital calculation. Thus, automation substituted labor undoubtedly, but it also complemented labor. As a consequence, automation raises the output, which leads to increasing demand for labor and interacts with adaptations in the labor supply. Therefore, Autor claims that experts, as well as journalists, often overstate the magnitude of how human labor is substituted by machines, and ignore the prevalent strong complementarities between labor and automation. He continues to argue that the comparative advantage of computers to humans has led to a substitution from workers by machines in performing routine and confident tasks. However, workers still have a comparative advantage in adaptability, problem-solving skills, and creativity. Machines would have enormous problems in substituting workers in tasks that require judgement, flexibility, and common sense (Autor 2015, p. 5).

To get a broader view it seems to be valuable to get a picture from within companies, which are operating in the field of technology. According to case studies at the SOFI Göttingen (2015), there is skepticism at practitioners and managers in companies about the hype of industry 4.0. Yet, digitalization of processes and products and interconnectedness of procedures and exploitation of industry 4.0-technologies have become standard in most enterprises. The research shows that most actors do not expect disruptive but evolutionary processes in the advancement of industry 4.0. Moreover, they have little doubts that there is an accelerating process of digitalization in the world of work (Kuhlmann 2015, p. 2).

2.3. Skill-Biased Technological Change

Even though technological unemployment has not happened yet on a large scale, technology has shaped the world over the last centuries, and has altered the way we work entirely. It can be seen best in the case of agriculture. In a subsistence economy the peasant family just plants what it needs for a living and may sell the surplus at the market. In preindustrial societies 80 to 90 percent of the people worked in the agrarian sector. In the German Empire of the early 20th century, which was the second most industrialized country in Europe, still 40 percent were occupied in agriculture. After World War 2 it were 20 percent and today not more than 2 to 3 percent work in agriculture (Werner, Presse 2010, p. 309). People moved from their farms into factories and now find themselves in service jobs.

Since the first industrial revolution, the population increased enormously and so did the number of possible occupations, even when unemployment has also risen in the last decades.

Improvement of technology did not only have consequences on where and how people work and if they find a job, but also on how their wages are structured. As Krueger (1993) claims, computers became drivers of increasing inequality. Those who kept using a computer would earn about 10 to 15 percent more than those working without them (Krueger 1993).

According to different research in the field of skill-biased technological change (SBTC) and its influence on wage inequalities, the structure of jobs has already changed significantly. The evidence from several authors, like Goldin and Katz (2009), Acemoglu and Autor (2011) or Autor (2015), shows that economic inequality has risen greatly since the 1980s. In particular, college graduates experienced great increases in their earnings, whereas income for those with high school graduation barely increased or did not improve at all. Moreover, top manager's and professional's income increased much faster than the income of ordinary workers. However, there were also differences between college-graduates. Those with degrees from elite universities earned more money than those from institutions with lower standards. The widening gap in income affected more or less everybody (Goldin, Katz 2009).

Autor (2015) also emphasizes the increasing polarization of the labor market over the last decades. He argues that the labor market has become U-shaped, which means that the availability of jobs with little income rose and so did the jobs which require high-skills and are very well paid. However, those jobs at the middle of the income distribution decreased sharply, as can be seen in Figure 1 (Autor 2015, p. 5).

Figure 1

Average Change per Decade in US Occupational Employment Shares for Two Periods: 1940–1980 and 1980–2010



Source: Autor (2015, p. 9), figure 1, based on Katz and Margo (2014), table 1.6, panel A. Occupations are categorized in seven groups from the lowest income to the highest. The percentage points at the ordinate signalize the increase or decrease of a job-category by decade.

The idea behind this theory lies in the fact that more highly educated individuals will be able to master intricate technology. Employers, therefore, are rather willing to hire those with the suitable education and abilities to use and improve new technologies. Employees who are slower and not as adaptable to new technology will not be promoted, or their earnings will even be reduced. Therefore, the quicker and better worker will be rewarded (Goldin, Katz 2009, 89f.). A recent article on the development of SBTC from Autor and Dorn (2013) shows that those workers in high skill-required jobs still do very well since they have the capacity to solve the appearing problems, but also the low-income manual workers see growing employment. Therefore, particularly those with middle skill levels suffer from falling demand. However, as Frey and Osbourne (2013) argue, especially those jobs of the low skill workers are at risk to computerization, which means that their job are particularly likely to be replaced by machines (Frey and Osbourne 2013).

This job polarization is also well researched in Europe through the recent work of Goos, Manning, and Salomons (2014). The authors demonstrate in their empirical part that in the period 1993–2010 job polarization is pervasive in European economies. Thus, they claim that in Western Europe the structure of employment has also been polarized with the effect that the employment shares for managers and highly paid professionals as well as for low-paid service workers have been rising, and those for routine office workers and manufacturing have been falling (Goos, Manning, Salomons 2014, p. 2510f.).

2.4. How we can Deal with it

Even though the discussion of the further evolution of technology and its effect on the labor market is very controversial, there is little doubt that according to speed, breadth, depth and the transformation of entire systems, the fourth industrial revolution will provoke more upheaval than the previous ones. Consequently the new technologies will cause changes in the nature of work across all occupations and industries, although there is uncertainty about the extent to which labor will be substituted by automation and how long this would take (Schwab 2016).

Technology is not some kind of an exogenous force, which is impossible to control. On the contrary, one of the biggest influences will result from how governments will relate to their people and how enterprises will relate to their employees, customer and shareholders. Consequently, the fourth industrial revolution requires more collaborative forms of interaction between the empowered actors in order to succeed. Schwab sees a main problem in decision-makers, who think traditional and linear too often, and are too occupied by immediate concerns. For the upcoming challenges, however, a strategic thinking about the forces of innovation and disruption will be inevitable (Schwab 2016). The future is not made yet, and there is no good in being frightened. However, policy makers should be prepared for what is about to come. Adequate models to deal with the effects of technological improvement – however it evolves – seem to be crucial. Active labor market policies provide a broad set of instruments to stay on eye level with the developments. Therefore the next chapter provides an overview of those ALMPs and its instruments.

3. Active Labor Market Policies

When unemployment rates started to rise, solutions or at least alleviations for the negative effects needed to be found. Over time different approaches were developed, mainly with the goal to bring unemployed back to the labor market as quick as possible. In this Master's thesis the focus lies on active labor market policies (ALMPs), since there is a particular focus on the ALMPs-instrument labor foundation. This chapter provides a broader overview of this ALMPs. The opposite way to spend public resources to fight unemployment can be summarized as passive labor market policies, which are comprised of unemployment assistance, unemployment insurance and related welfare benefits.

There is a long-standing tradition of active labor market policies in many countries. It was at the beginning of the twentieth century when first employment offices were established. During the Great Depression governments established programs to bring the unemployed back to the labor market (Boeri & van Ours 2013, p. 351). Many authors as Swenson (2002) or Bonoli (2012), however, date the origins of ALMPs in the 1950s when Sweden developed active labor market policies with the goal to bring demand and supply of labor closer together. Later, retraining became the focus to foster occupational and regional mobility with the goal to facilitate structural adjustments. More recently, activation schemes were also used to put pressure on unemployment beneficiaries to avoid that they get long-term dependent on public transfers (Boeri and van Ours 2013, p. 351). According to the official OECD-definition (2013) ALMP's are designed to increase the amount of people in the labor force, and to alleviate potentially negative impacts of unemployment by improving their skills in active job search as well as in participating in measures. Thereby employability should be improved, and employment services, as well as other labor market measures, need to be managed to assist and promote the return to work (OECD 2013a, p. 132).

Active labor market policies are comprised of different instruments to reduce unemployment. The categories vary slightly by different authors. The main fields, which are mentioned by most authors are labor market training, job assistance, public employment services, wage subsidies to the private sector and activation (Boeri and van Ours 2013). Labor market training is designed to train unemployed adults, people who are at risk to lose their jobs as well as employed adults. Wage subsidies to the private sector are comprised of targeted measures to provide a job for the unemployed. Moreover, private-sector firms get provided with wage subsidies to be encouraged to recruit targeted workers in order to continue employment for those who are at risk of losing their job and to support unemployed by starting new enterprises. Finally, it concerns the job creation in non-

profit or public organizations to provide jobs for the unemployed. Public employment services are including job search courses, counseling, placement, vocational guidance, and administration of unemployment beneficiaries. Activation measures are meant to give incentives finding a job. Those incentives can be provided for the unemployed either through mandatory participation in training, through benefit sanctions, or through subsidized employment (Boeri and van Ours 2013, p. 351). Other authors like Bonoli (2012) do not include benefits and sanctions as part of ALMPs, however includes job search assistance as separate type. Lehmann (2001) additionally includes youth measures, and measures for the disabled. Bonoli (2012) consequently argues that ALMP is rather an umbrella term, which refers to many interventions of different types.

Bonoli (2012) distinguishes between two dimensions of ALMPs. The first one is about the objective of policy to bring people back to the labor market – which means unsubsidized market employment – provided either by public or private employers. From a social investment’s perspective this is important, since putting people back to work is vital to keep the expenses for the public purse low. Moreover, they help jobless people to gain a long-term perspective by cutting the frightening effect of unemployment. Bonoli calls it the “pro-market employment orientation” (Bonoli 2012, p. 184). The second dimension focuses on the extent to which programs are based on the investment in the human capital of jobless people. Upskilling jobless people enhance their likelihood to re-enter the labor market. It also has a positive impact on productivity. Investment in vocational training helps the jobless persons to fulfill the requirements of the labor market at both soft skills and technical skills. By intersecting those skills the various types of ALMPs become clearer, as the table 2 from Bonoli (2012) shows.

Table 2: Types of active labor market policies

	Investment in human capital			
	None	Weak	Strong	
Pro-market employment of orientation	Weak	(passive benefits)	Occupation Job creation schemes in the public sector Non-employment related training programs	(basic education)
	Strong	Incentive reinforcement Tax credits, in-work benefits Time limits on reciprocity Benefits reduction Benefit conditionality	Employment assistance Placement services Job subsidies Counseling Job search programs	Upskilling Job-related vocational training

Source: Bonoli (2012, p. 184)

There are different key examples for activation programs, like those in which the unemployed gets intensive interview trainings with employment counselors, apply for jobs, directed by their employment counselors, search independently for jobs vacancies and apply for them, accept suitable job-offers, and get training or participate in job creation programs. If unemployed persons are not willing to join those programs, they typically lose their entitlement to benefits temporarily or even permanently.

A term often used for activation programs is “workfare”. Its goal is to keep the unemployed busy but do not provide further services. It can be seen as some sort of work-test where the administration can be distinguished between those people who are willing to work and those who are not. However, most OECD countries aim to avoid workfare (Boeri and van Ours 2013, p. 351f.).

One measure of active labor market policies which gained increasing attention over the last years is flexicurity. In 2006, the European Commission wrote in its employment report that ...

“countries should adopt institutional configuration in the labour market that better combine the requirements of flexibility and security - in other words ‘flexicurity’.” (European Commission 2006, p. 111).

The European Commission further suggested that in an environment of increasing transitions between different kinds of employment and between employment and non-employment, policies should provide adequate conditions for individuals, which allows them to manage these transitions. Thereby, the individual's integration and progress in the labor market should be sustainably ensured (European Commission 2006).

3.1. Analysis about the Effectiveness of ALMPs

The idea behind ALMPs was a shift in public spending from passive to active labor market policies to sustainably reduce structural unemployment. However, the effectiveness of ALMPs is not undisputed. In the 1980s and 1990s, some countries with rather low spending in ALMPs maintained low unemployment, whereas others spent over average in activation but had a rise in structural unemployment. Moreover, there are several potentially crucial interactions between the mix and size of ALMP spending, the generosity of unemployment insurance systems and the influence of benefit eligibility on conditions regarding job search and employability. Thus, activation is very hard to measure, particularly since it involves a wide range of different factors, such as the responsibility of institutions of delivering employment services or the payment of unemployment insurances (Martin 2015, p. 3).

Nevertheless, the literature gives a broad overview about analyses of the effects on ALMPs on both the micro and the macroeconomic level. The influential review from Heckman et al. (1999), which includes the United States and other countries, contains a summary of about 75 micro-econometric evaluation studies. Kluve et al. (2007) analyzed almost 100 different studies only in Europe. A meta-analysis from Card et al. (2010) includes 97 studies of ALMPs between 1995 and 2007. This study is consistent with the former ones regarding the fact that subsidized public sector employment programs tend to be ineffective. Distinguished programs show significant differences over time. The authors claim that longer-term evaluations tend to be more favorable than those which had analyzed the short-term effects. Thus, job search assistance has generally positive impacts, particularly in the short term, however, on-the-job and classroom trainings are not effective in the short run, yet they show more positive relative effects after two years (Card 2010, p. 453f.). A further conclusion from Card et al. (2010) is that there is no significant gap between men and women.

Analyzing the macroeconomic literature, Martin (2015) analyzes 13 different cross-country economic studies with the conclusion that the majority suggests that spending for ALMPs has a negative

influence on unemployment in short- and long-term, which means that ALMP leads to reduced unemployment. The effectiveness of ALMPs also depends significantly on the recipients. As the OECD country review showed, activation works best for those who are job-ready, however are less successful for long-term unemployed or recipients of long-term disability or sickness benefits (Martin 2015 p. 22).

3.2. Active Labor Market Policies in Austria

In Austria, training, orientation and job search assistance are in the center of ALMP. Through the Public Employment Service, which is independent since 1994, there is an attempt to enhance the skills of the unemployed to reintegrate them into the labor-market. Subsidized employment and foundations are also established in Austria (Ludwig-Mayerhofer and Worblewski 2004).

Ludwig-Mayerhofer and Worblewski gave a broad overview of the historical development of the active labor market policies in Austria. In their work they concluded that not many attempts to reorganize the labor market structure were taken. The most popular was probably the “bonus-malus-system”, established in the mid-1990s. With that, the elderly should be supported to reintegrate to the labor market by offering employers a reduction in contribution to social security. Thus, companies have to pay less social security fees if the hire employees 50 years or older but need to pay a one-time contribution in case of dismissal (Ludwig-Mayerhofer and Worblewski 2004).

With a spending of 0.75 percent of the GDP, Austria’s expenditures in active labor market policies is slightly above the average comparing to other European countries. Only in 2012, 85,000 jobseekers were integrated in ALMP-programs. Direct effects are reducing strains in the labor market as well as an improvement of the jobseekers skills. Additionally, ALMP-programs are also increasing the demand for educational services, and indirectly influences demands created by social insurance-based benefits, expenditure on programs, and consumption boosting expenditure (Federal Ministry of Labour, Social Affairs and Consumer Protection 2013).

3.3. ALMPs in Context of Technology

As the literature review in chapter 2 shows, there is indeed a strong connection between unemployment and adaptability to new technologies. In almost all OECD-countries the main part of unemployed people have weak education and there is a flaw with skilled workers. Therefore, a vital strategy is to get citizens higher educated to help them to fulfill the requirements of the labor market.

The basis for this strategy is that enough jobs are available or can be created through higher qualification. Otherwise, the consequence would be that the higher educated workers have to enter lower paid jobs and will force lower educated people out of the labor market. Autor (2015), Brynjolfsson and McAfee (2014) and others claim that advanced technology is highly combinational and therefore will lead to a significant number of different job possibilities.

With the rising problems and challenges of technological improvement not only the operational but also the political actors are demanded to adapt their policies to options and possible impacts of proceeding digitalization in the world of work. According to case studies of the SOFI institute there is even an increasing demand in enterprises for compositions of different labor policies (Kuhlmann 2015, p. 5). The set of instruments of active labor market policies should therefore be constantly adapted. Labor foundations could be such an instrument to deal particularly with the challenges of technological improvement and will be introduced in the next section.

3.4. The Model of Labor Foundations

The model of labor foundations can be categorized in the “upskilling” part of active labor market policies (see table 2 on page 16). The main goal of a labor foundation is to enhance the opportunities of re-employment for dismissed persons. Appropriate qualification measures are the key to enable this re-employment. Moreover, upskilling should prevent workers from falling back into unemployment (Seckauer, 1998, p. 119). Labor foundations are a form of corporate initiatives, which appeared first at the outset of the industrial revolution, in the USA as well as in Europe, (Dolleschka 1988 et al., p. 7). Since then, different initiatives in many countries have been established, and some still exist today.

In principal, labor foundations are collectively established by the company, its employees’ organization, and the intercorporate social partners. It appears to be insufficient for dismissed employees to get a one-time payment, if there are massive alterations in the structure of the area where their particularly industry is operating (Dolleschka 1988 et al.). Pivotal for the labor foundation is that it combines different labor market measures. The measures are a combination between personal development and technical training, and can be adapted to individual needs of the participants. The measures vary, but typically include job orientation, training and development, internships, business formation, and intensive care (Seckauer, Gerich 2001).

Labor foundations are typically financed by corporate means on the one hand, and public means on the other hand. The implementation is primarily financed and operated by the company, for example through the provision of offices or training rooms. The securing of the participant's livelihood on the contrary, will be financed through public means which take more than half of all expenditures applied with the labor foundation. If the provided money is not sufficient, it is possible to tap further sources. Those are typically public facilities, such as the federal state government or municipalities. Participants themselves could also provide a co-payment. This, however, is typically quantitatively insignificant and has a rather symbolic character. The head of the foundation is most commonly a public charity. Sometimes, there are even several foundations combined under one roof of a public charity (Seckauer, Gerich 2001, p. 268f.).

Labor foundations played a crucial role for Upper Austria's good labor market policy key figures (Punz 2013). The model of a labor foundation comprises people, who join the foundation, then have a phase of orientation, getting an education based on their own desires as well as on the requirements of the labor market, and finally have time and get support by searching for a job, is still a suitable package of measures (Dobesberger 2016). Particularly in times of crisis, many measures are necessary to alleviate severe ramifications. Labor foundations are thereby a crucial element of active labor market policies (Foglar 2013, p. 12).

The first foundation in Austria was the Steel Foundation (Details in chapter 5), introduced by the VOESTALPINE STAHL AG in the mid-1980s. Others were established soon afterwards, many of them by other companies. Nowadays, foundation measures are processed by big adult education companies, such as BFI, WIFI or BBRZ. Thus, meanwhile, almost in all parts of Austria, those suppliers, in collaboration with the Public Employment Service, the Land government and the Land social partners, have founded a provider who conducts all the foundation measures. Dobesberger (2016) says, according to the law, it still would be possible to establish a foundation in the sense of the Steel Foundation; however, the restrictions by the Public Employment Service are so big that most companies say that this should be done by someone who knows how to do it (Dobesberger 2016). However, as Punz (2016) argues, it is only a question of will of the political actors to enable a fruitful environment for labor foundation. The model of the labor foundation could therefore be established in every country, even very similar to the best-practice-example Steel Foundation if politically desired (Punz 2016).

4. Methodology

The journey to conduct this case study was time intensive. In the beginning, I focused on the whole company voestalpine as a case to deal with the challenges of technological unemployment. After a first, but intense research when I came in deeper contact with the Steel Foundation, I realized that it would be much more viable to examine not a company, but an instrument of social policy.

In this chapter, I will first give a brief overview about the case study as a method of qualitative research, including pros & contras as well as argumentation why I have chosen this method. In the next section I will state the research question and the purpose of the case study followed by a brief overview of the previous research. Finally, I will explain how I conducted the case study in detail.

4.1. The Case Study as a Method of Qualitative Research

The case study is one out of many different methods available in the realm of social science to answer academic research questions. As an empirical inquiry it investigates a contemporary phenomenon in a real-life context. This is in particular the case if the boundaries between the phenomenon and its context are not evident. The case study should contain a “Why?” or “How?” question, and it is preferred for the examination of contemporary events. Distinctive features of the case study are a direct observation of the events of the study and interviews with people who are involved in the study. Like other research methods, case studies investigate an empirical topic and follow a set of predefined procedures (Yin 2009). For this Master’s thesis, the case study seems to be best suitable, since it fulfills all the requirements to answer the proposed research questions.

The reputation of the case study increased over time but the method is not undisputed. Arbercombie, Hill & Turner (1984) claim that a case study is not capable to show reliable information about the broader class. But, so their argumentation, it is suitable in the preliminary stages. On this level it can provide useful hypothesis, which then again can be tested in a quantitative way. Dogan and Pelassy (1990) state that particular cases can only be validly explained on the basis of general hypothesis. Interestingly, also Campbell - who one decade later made a U-turn and became a strong advocate of case studies- used to be a critic when he figured that such studies have almost no scientific value and are uncontrollable (Campbell & Stanley 1966). Sartori claims that in case studies it is vital to have comparative cases to gain control (Sartori 1991). “Misleading” and “oversimplifying” are the comments from Flyvbjerg (2006) concerning the critics. In his point of view it is simply not true that a case study fails in providing reliable information about the broader class. Moreover, he argues that

seeing the case study only as a pilot method is misleading (Flyvbjerg 2006). As Yin argues, the challenge of conducting a case study is often underestimated. The idea that analytic skills are not necessary and the case study is merely a description of how “it is”, is far away from the truth (Yin 2009, p. 68).

Yin (2009) most probably is right, when he claims that here are several problems with the case study like there are in every method. No one can fully replace another one. However, it is to say that case studies are a very suitable method for going into depth, which I try to conduct in this Master’s Thesis (Yin 2009).

4.2. Purpose and Research Question

Since technology is progressing and comes along with disruptive effects, it seems to be necessary to have a pool of adequate instruments to deal with the negative effects. The purpose of this case study is to analyze the Steel Foundation as a best-practice model of the ALMP-instrument labor foundations. The results should fill a gap in the research, since no one yet focused on this instrument in combination of technological improvement. To conduct this analysis, I pose following research questions:

How suitable is the model of a labor foundation as an instrument of active labor market policy to deal with the challenges of technological unemployment?

4.3. Previous Research

The Steel Foundation has always been attractive for academic research. Already in 1988, the first book “Die Stahlstiftung. Eine Idee wird Wirklichkeit” (The Steel Foundation. An idea become reality) was published (Dolleschka et. al 1988). It was the first comprehensive summary of the idea and goals of the Steel Foundation. Since it always has been a dynamic evolvement rather than a fix steady idea research has also evolved over time. Particularly at the Johannes Kepler University in Linz different thesis and dissertations have a focus on the Steel Foundation. One widely recognized study is from Hiesmair and Niederberger (2012) who investigated the social return of investment of the Steel Foundation. In 2012, 25 years after its establishment, the book “25 Jahre Stahlstiftung” (25 years Steel Foundation) was published. This book includes different insights from involved people as well as stories about individuals who successfully improved their professional life due to the Steel Foundation. This book provides a very comprehensive overview about the history and evolvement

of the company, however, since it is published from the company itself, it tends to be in the favor of the Steel Foundation. This means it is rather a positive summary than a critical analysis.

4.4. Conducting the Study

This case study was conducted between January and July 2016. For data collection, I have collected the most relevant academic articles and books about the voestalpine Steel Foundation. This includes the aforementioned published books as well as thesis and dissertations. For that reason, and since I had specific questions according to my own research, I have chosen to conduct in-depth interviews with key-persons in relevant positions, which is to say experts.

First, I interviewed the founder of the Steel Foundation, Erich Dipplinger, who was personnel director at the VOESTALPINE STAHL AG. This interview provided me with a broad overview of the rough times in the late 1980s, comprised of steel crisis and mass unemployment. I could obtain valuable information, which are not written in any book. From my perspective, it has a positive effect that he is already retired, and as a consequence has thereof the opportunity to speak freely without any restrictions, politically or concerning business. The questions focused on the time when the Steel Foundation was established. I asked about the foundation and the establishment of the Steel Foundation in detail as well as about the following years. Critics as well as political intervention played a crucial role in the set of questions.

The second interview was with the current CEO of the Steel Foundation, Bernd Dobesberger. I have chosen him because of his position, which provided in-depth information from the inside. According to his position, his answers were rather positive about the current situation and the working conditions with the job service. He tried to relativize critics, but also showed detailed knowledge from the inside of the Steel Foundation and could provide a picture about the recent developments. Since he joined the Steel Foundation in 1993, I focused my questions rather on the time period from the end 1990s to now. This interviewee could also provide in-depth information about the Steel Foundation's role during the first years of the Great Recession.

As third interview partner, I have chosen the representative from the Austrian Public Employment Service at the Steel Foundation Josef Punz, who was part of the Steel Foundation from the very beginning. Like the personnel director, he was an essential part of the first years of the project. As he claimed himself, his retirement allows him to speak openly about his perspective, since there is, like

with the first interview partner, no more political or business barrier for him. The questions focused on the establishment of the foundation, including different factors and the perspective of the Public Employment Service.

Finally, I interviewed the head of personal development at the Steel Division of the voestalpine. She was vital for the study, since she could provide me with information about the recent development, changing requirements and challenges of the company concerning employees. As a part of the voestalpine, she is not just familiar with the Steel Foundation, but also considered it as a worthy instrument for both the employees (or then ex-employees and participants of the foundation) and the company.

By no doubt, there would always be further interview partners, however, since this is only one person doing the research, I have chosen four very relevant sources carefully. Moreover, there would have been the possibility to interview participants of the Steel Foundation. However, to keep variation significantly low, I would have to interview a number of people, which is rather suitable for a research-team than a one person Master's thesis. All interviews were tape-recorded and afterwards carefully transcribed to avoid any misinterpretations. Moreover, to avoid a loss of information because of language issues, all interviews were conducted in the mother tongue of the interviewees, which is German. To be authentic, the main quotations are inserted at the case study. To avoid any loss of information for non-German-speakers the translation is right at the footnotes below.

In this case study, particularly since it is about a contemporary phenomenon, there is particular care about the ethical standards of social science. All the information from the interviews is gained with informed consent of all participants. They were properly informed about the case and the environment of the whole case study. All interviews are conducted with respect to the privacy and confidentiality of all interviewees (Yin 2009, p. 73). With careful preparation, I also tried to avoid bias of the investigator.

After gaining all the data, I have chosen two cases. The time during the steel crises in the mid-1980s and the time during the Great Recession. These two periods of time were very significant for the Steel Foundation. In the mid-1980s it was founded out of an emergency of mass dismissals at the VOESTALPINE STAHL AG and at the outbreak of the Great Recession in 2008 the number of participants rose from 150 to 1400 in just one month. For a proper comparison, I have selected the most similar systems design. Here, overall similar cases are chosen, so the Method of Differences

can be employed (Przeworski, Adam, and Henry Teune (1970)). Therefore I have selected six variables, namely economic and political initial situation, dealing with opposition, measures, job situation, finance and technology. After finding all the relevant data, the relevant similarities and particularly differences are highlighted. It allowed me to conclude with the argument that the model of a labor foundation can be a very suitable instrument to deal with the challenges of technological improvement, if it is deployed properly.

5. The Steel Foundation

The Steel Foundation was first introduced in the fall of 1987, and was at the same time the first labor foundation in Austria. Initially, it was established as an initiative for crisis management, however, it rose and developed over the years and is still a very significant labor market instrument. Basis for the establishment of the Steel Foundation was a severe steel crisis associated with heavy reductions in workforce. At that time mass retirements were standard, however, not further bearable for the government (Voestalpine-Stahlstiftung 2013, p. 20). The structural change in the steel industry threatened whole regions with unemployment and social descent. The Steel Foundation, however, brought new perspectives to the people and the regions (Foglar 2013, p. 12). In 1997, the European Commission entitled the Steel Foundation as “best practice” model and as commendable approach of active labor market policy (Voestalpine-Stahlstiftung 2013, p. 22). It is to say that in a society where a scarcity of skilled workers is ubiquitous, a higher qualification is likely to have positive long term effects on the labor market.

During the Great Recession the voestalpine and its associated companies again had to dismiss a significant amount of employees. It was the first time after its starting years that the Steel Foundation was needed to avoid severe and sudden unemployment. The starting position was different this time, as the Steel Foundation was already established, technology played a much greater role, and occurring influences were different. However, again it was necessary to act quickly on the one hand, and be innovative on the other hand. The Steel Foundation showed its capability as an instrument of active labor market policy to deal with these issues. In this case study, I am going to analyze the suitability of the Steel Foundation to mitigate the negative effects of technological unemployment concerning the labor market.

The case study is structured as following: Since the Steel Foundation would not exist without the voestalpine, where it was founded and where it still almost exclusively operates, I am going to start with a timeline of the key events in the history of the company, followed by overview of the basic structure, main goals and purpose of the Steel Foundation. The next two sections will include the two cases of this case study. The first one is about the steel crises in the 1980s, including the establishment of the Steel Foundation, and the second about the Great Recession, which led again to mass dismissals at the voestalpine group. This is followed by an analysis of the cases and a conclusion & outlook part in the last section.

5.1. History of the voestalpine AG

The voestalpine counts more than 500 Group companies, is operating in more than 50 countries and has more than 48,000 employees worldwide. The revenue of the business year 2015/16 amounts 11.1 billion Euro. The EBIT for the same period was 888.8 Million Euro. The following timeline provides a brief overview from its foundation to recent years (voestalpine 2016).

1938 - 1945

It was in the advent of the World War 2 when the groundbreaking ceremony of “Reichswerke Aktiengesellschaft für Erzbergbau und Eisenhütten “Hermann Göring” in Linz took place on May 13, 1938. During the Second World War the production focus was on tank parts and armaments. Thus, the “Eisenwerke Donau GmbH” became the biggest producer of tanks in Nazi-Germany. In summer 1944, Linz came under attack of allied bombing, and on May 5, 1945, US-troops arrived in Linz. Later in the year, the company was renamed “Vereinigte Österreichische Eisen- und Stahlwerke” (VÖEST), ordered by the US-military government. At that time the future of the area was very uncertain, until, after long negotiations, the decision was made to continue operating the plants in Linz and the VÖEST became nationalized (voestalpine 2016).

1963

In 1963, VÖEST became reorganized according to the passage of the First Nationalization-Organization Act. Different plants, which were associated with VÖEST became integrated in the process of group formation. In the following years, many new structures were built and the company was growing rapidly. The ÖIAG (Austrian Industry Administration AG), which was responsible for the interests of Austria's nationalized companies, conducted a merger between VÖEST, Linz, and the operations of Österreichische-Alpine-Montangesellschaft, Vienna. At this time the group covered already 103 companies, where the then-called VÖEST_ALPINE AG held a majority of interest. Moreover, it held also qualified minority interests in 14 companies (voestalpine 2016).

1975 - 1985

The effects of the merger concurred with both the first oil crises and the severe changes in economics. In 1975, the outcome of the international steel crises, along with a price collapse, hit Austria and growth declined heavily. As a consequence, the steel sectors of industrial countries experienced rapidly accelerating structural alternations. To deal with this evolvement the management of VOEST-ALPINE focused on the expansion of finished products and industrial plant construction in order to diminish the dependency on economic cycles. Between 1975 and 1985, the VOEST-ALPINE built

different production facilities. However, since 1981, the company received government subsidies since it operated at a big deficit. In 1985, the entire management board resigned after the issues were insurmountable. So, the constant influence of politics, the abuse of the firm as a national labor pool, the hollowing of individual companies, failures in foreign projects (in diversification and in finished products), and the tremendous losses of the VOEST-ALPINE trading subsidiary Intertrading, with oil-speculations, led to the so-called “VOEST-Debacle”. The conglomerate, which had 70,000 employees at that time, was broken up. As a consequence, the Austrian industry underwent a far-reaching restructuring process (voestalpine 2016).

1987 - 1988

In 1987, according to the heavily reduced workforce, the Steel Foundation was introduced to support employees who had lost their jobs. After the restructuring process, in which new concepts and organizational structures were introduced, was renamed in VOEST-ALPINE STAHL AG and achieved a turnaround in 1988. In the following years the company focused on high-quality products again and more and more on environmentally wise processes as well as on cost-efficiency (voestalpine 2016).

1993 - 1995

In 1993 the privatization process started and the VOEST-ALPINE Technologie AG, the VOEST-ALPINE STAHL AG and the Böhler-Uddeholm AG were created. In 1994 the VOEST-ALPINE Technologie AG was first introduced on the Vienna stock exchange. In October 1995, the VOEST ALPINE STAHL AG was transformed from a nationalized company to a listed one. Those years were coined by a number of different acquisitions and an extensive expansion program. It was in November 2001 when for the first time the employee shareholding scheme became implemented. Approximately 4 percent of the company’s shares were held by employees in the Austrian sites. At that time, and so far the last time, the name of the group was changed. The VOEST-ALPINE STAHL AG became the voestalpine AG (voestalpine 2016).

2002 - 2014

The Steel Division started “Linz 2010” in 2002, a more than 2 billion euro investment program. This expansion-program encompassed an increase in capacities, new processing facilities, reduction of pollutant emissions and the creation of new jobs. In September 2003, the company was entirely privatized and the voestalpine was fully in private ownership. With the integration of the BÖHLER_UDDEHOLM AG in the Steel Division in 2007, the voestalpine Group gained an

enormous amount in size and had above 41,000 employees in the 2007/08 business year. At the same time, the employee's percentage of shares of voestalpine AG rose to 11.3 percent. 2008/09 was the so far best business year of voestalpine with revenues of 11.7 billion euros. The economic crisis hit the company hard, with a major decline in incoming orders as a consequence. The business year 2009/10 became one of the hardest in history. However, already in 2010/11 the company recovered. In 2012, the company's strategy became even more internationalized with big investments in the USA, China, South Africa, Germany and Romania in the automotive sector. It also reorganized the divisions and only used their English names. In 2014 the shares of voestalpine AG held by the employees rose to 14 percent (voestalpine 2016).

5.2. Basic structure of the Steel Foundation

The Steel Foundation is not a public charity but a foundation in the legal sense. The participation in a labor foundation is always voluntary, i.e. the dismissed employees can choose between a severance indemnity and the participation in the foundation; a mutual abolishment of the working contract is presumed (Seckauer, Gerich 2001, p. 268f.). Altogether, the Steel Foundation has eleven locations, however only those in Linz, Kapfenberg and Donawitz are constantly occupied. At the other sites, services and trainings are typically conducted by major institutes. There are about 80 different companies (the number varies since there are frequently mergers and spin-offs), which are part of the Steel Foundation. Apart from one company, they are all part of the voestalpine AG. In the 1990s, there was the idea to open the Steel Foundation for the whole site in Linz. At that time four companies, all in a very close relationship with the voestalpine as supplier or service provider, joined. However, soon these rules were changed again since it did not appear to be practicable, particularly since no other company from outside joined anymore (Dobesberger 2016).

The Steel Foundation is built on a mutual initiative of all associate companies to provide dismissed employees with a social net. Or in other words, the Steel Foundation is supposed to bring dismissed people back to the labor market (Voestalpine-Stahlstiftung 2013, p. 7). It is financed by the company itself, social partners in form of unions, the chamber of labor, the Austrian economic chamber and the Federation of Austrian Industry (Seckauer, Gerich 2001, p. 268). A specific feature of the Steel Foundation is that even the employees of all associated companies pay a solidarity contribution. In other words, 24,000 persons contribute to the funding of the Steel Foundation. This payment can be seen as insurance premium. In November 1987, employee organization and board agreed to solidarity contribution of 0.75 percent, adapted it to 0.25 percent two years later in November 1989

(Voest Alpine-Stahlstiftung 2013, p. 30), and finally changed it to 0.50 percent during the Great Recession.

Entitled to the Steel Foundation are exclusively employees who lost their jobs in one of the associated companies, and lost their job for one of three particular reasons:

1. Reduction of the workforce for economic reasons
2. Reduction of the workforce according to streamlining
3. There is no different option to work in another position at one of the associated firms for impairment to health, qualification flaws which cannot be remedied extra occupational, or unemployability in the associated firms (Voest Alpine-Stahlstiftung 2013, p. 7). However, if persons show very compelling arguments they can join the Steel Foundation even if their job is not at urging risk (Dobesberger 2016).

At its start in 1987, the VOEST-ALPINE AG established a non-profit foundation worth 10 million Schilling (726,000 Euro). Interests from this foundation are going directly into the Steel Foundation. The associate companies are bearing the costs for infrastructure, administration and overhead expenditures. Moreover, costs for administrative staff as well as infrastructure like computer, office equipment etc. are paid by the associated companies. The participants contribute with a part of their severance indemnity (Voest Alpine-Stahlstiftung 2013, p. 29). As long as the participants are supervised by the Steel Foundation, they also receive specific training unemployment benefits (“Schulungsarbeitslosengeld”). Additionally the foundation pays a grant of 370 Euro maximum per month, which is paid 14 times a year, however, just in the month of active participation including five or six weeks of holidays.

Once a participant joins the Steel Foundation he or she starts with the course “professional orientation” (Berufsorientierung). This course is designed for six weeks and is comprised of group seminars and personal coaching. Its goal is to find out where the career of the participant should head. At that time the decision is to be made, whether there will be an education in the previous field or in an entirely new one. As a second step, it will be considered which education is necessary to reach the goals. This professional orientation course always takes place in Linz for those who work at the site in Linz. In Donawitz and other sites this professional orientation is purchased from major adult education institutes at the standards of the Public Employment Service.

Synthesizing on the idea of the Steel Foundation, there were replicas of different sorts. However, particularly those that are not closely related with their firms, are facing troubles, which the Steel Foundation does not have. Companies which are part of the labor market act rather target-orientated, and are therefore better suited to deal with the assignments of employment promotion as every governmental organization (Diplinger 2012). However, there are other success stories of labor foundations such as the “labor foundation Steyr” or the “Salzkammergut Stiftung”.

5.3. Main Goals and Purpose

The main goals of the steel foundation relate with ALMPs and especially upskilling and employment assistance. The Steel Foundation was originally built upon six main factors.

1. Offered alternatives should alleviate the employee’s shock of a dismissal.
2. Technological progress made several specializations obsolete. Education and advanced training should retrain those workers.
3. The foundation should diminish the depressing atmosphere of mass dismissals.
4. Creation of new employment
5. The advanced training has to happen “on the job”
6. Upskilling as a main instrument to find a new job for the ex-employees. (Dolleschka et al. 1988, p. 36-37)

In 2013, in the book for the 25 years anniversary of the Steel Foundation, the goals were slightly adapted and reformulated. Thereby, the Steel Foundation has five main goals. First, it aims to alleviate the consequences of dismissals. Second, the level of qualification of the participants should be improved. On the personal level, as well as on the professional level. Third, the Steel Foundation is supposed to motivate to business formation and entrepreneurship. Fourth, participants have to be supported to re-enter the labor market. Finally, appropriate qualification should prevent long-term unemployment (Voestalpine-Stahlstiftung 2013, p. 7).

The offered qualifications are diverse, and include apprentice training as well as a university degree (Voestalpine-Stahlstiftung 2013, p. 22). Personal responsibility and autonomy play a major role. Moreover, personal interests, strengths and affinities are considered (Voestalpine-Stahlstiftung 2013, p. 26). A high occupancy rate for the participants is particularly desired. Regulated schedules are therefore standard. Moreover, supervision needs to prepare the participants for the demanded jobs

at the labor market, which have a perspective to still exist in the future. Another goal of the Steel Foundation is to be pro-active. In times of growth it supports innovative research at a university and non-university level (Voestalpine-Stahlstiftung 2013, p. 26).

Positive effects for the participants are that higher qualification often leads to higher payment, development of personal and professional abilities, and the opportunity to revise a former wrong decision about one's professional career (Voestalpine-Stahlstiftung 2013, p. 27). The Steel Foundation not only supports the employees but also the firms. Particularly in times of crisis and technological change it is hard to dismiss people. With the foundation, times of crises are easier to overcome, and employees can be trained for occupations where they are needed (Voestalpine-Stahlstiftung 2013, p. 27).

Some of the participants join the Steel Foundation to upgrade their skills and re-enter the company as skilled-worker. A typical way of upskilling is a blue-collar employee who works at the voestalpine but loses his job. He then joins the Steel Foundation, goes through an education for a qualified engineer and comes back to the company. Those employees are particularly likely to be hired since they know the company, and it is therefore relatively easy to join them into the workplace.

„Und jetzt gibt es gar nicht so wenige von diesen Ingenieuren, die arbeiten in der Voest, verlieren aus welchem Grund auch immer ihren Job, machen in der Stahlstiftung dann eine HTL und sind dann extrem gerne gesehen, wenn sie ins Unternehmen zurückkommen, schlicht und einfach weil sie das Unternehmen kennen. Bessere Ingenieure können wir uns gar nicht vorstellen, weil wenn wir einen 20-jährigen HTL-Absolventen haben, den müssen wir anlernen und einer der so kommt, den müssen wir nicht mehr anlernen, weil der kennt alles.“ (Dobesberger 2016)¹

However, many participants of the Steel Foundation get education for an entirely different sort of work. They use the chance to do something they maybe always wanted to do. This is particularly true for people in an advanced age who often see it as an opportunity of last resort. Younger people are rather prone to participate in the active labor processes and are much more willing to adapt to new technologies. Many people change to jobs in caring, which is also very reasonable from a society's

¹ „There not only a few employees at voestalpine who lose their job - for whatever reason - then go into the steel foundation and do an education to become an engineer (HTL), and are then very welcome when they rejoin the company, simply because they already know the firm. The firms, then say that they cannot even imagine better engineers, since a 20 years-old HTL-graduate needs to be trained and adapted to the company, whereas those who have been educated at the steel foundation already know everything.“ (Dobesberger 2016)

point of view, because they demand in this job-field is rising faster than in many others (Head of personnel development of the voestalpine Steel Division 2016).

„Es gibt natürlich diese Höherqualifikation, sehr viele machen aber komplett was anderes. Weil die dann auch einfach die Chance nützen und sagen, da möchte ich mich jetzt nochmals komplett neu orientieren. Das hat auch mit der Lebensphase zu tun, in der diese Menschen sehr häufig sind. Nicht die Jungen, die sehr gut mitkommen und sich im aktiven laufenden Arbeitsprozess neuen Technologien auch positiv stellen, sondern das sind dann so die 50-Jährigen, die stehen dann oft in einer Lebensphase, wo sie sagen, dass ist jetzt noch mal eine Lebensphase, wo ich mich noch mal völlig neu orientieren will. Viele sind auch in soziale oder pflegende Berufe gegangen. Manche wird es auch geben, die machen eine Ausbildung ohne wirklich noch mal groß Fuß zu fassen im Arbeitsleben, weil sie schon in einer Altersgruppe sind, wo es schon sehr schwer ist, ihnen einen Job zu vermitteln.“ (Head of personnel development of the voestalpine Steel Division 2016)²

Education options are steadily developing and need to be adapted to changing conditions on the labor market (Voestalpine-Stahlstiftung 2013, p. 24).

5.3.1. Implacement

The Steel Foundation ran an implacement. In this model, the requirements of prospective employers were compared with the abilities and interests of the participants. In the case of them matching each other, the Steel Foundation offered the qualifications requested. That was reasonable since the development of tailored training plans has always been a core competence of the Steel Foundation (Voestalpine-Stahlstiftung 2013, p. 27). The implacement ran up to 300 participants at its highest occupation, however, with February 2016, the last person left the implacement after its expiration was decided one and half year earlier. Research showed two different reasons, an official one stated by the CEO of the Steel Foundation who claims that it was very hard for the Steel Foundation to control the qualification and education for a particular job performance, even if the instrument is very sensible. As a matter of fact, some people worked full-time for real at a company, some of them even alone, like a saleswoman who worked for several days alone. Then it is a rather a matter of

² „There is of course this higher qualification, however, many participants are doing an entirely different job after the foundation. They simply use the chance that they can completely re-orientate themselves. That also has to do with the stage of life in that those people are. Not for the young ones who can easily follow and have a positive access to new technologies, but the people aged 50 years old, they are frequently in a life stage, where they decide that this is now a time where I want to entirely re-orientate myself. Many of them entered social or caring jobs. Some will make an education without establishing themselves in the professional life, because they already have reached an age where it is difficult to convey them.“ (Head of personnel development of the voestalpine Steel Division 2016)

employment than education. Even those situations were exceptions it was always the problem that it was hard to control if they companies really offer adequate education (Dobesberger 2016).

„Implacement ist eine gute Idee. Ich habe einige Zeit den Vorschlag verfochten, dass wir es sehr stark reduzieren. Machen wir es nur mehr für voest Alpine-Firmen für den Bedarf, den wir hier am Standort haben. Diese Diskussion wollte dann keiner führen und dann habe auch ich das aufgegeben. Es ist ein durchaus sinnvolles Instrument, das allerdings ein Problem hat, es ist relativ stark missbrauchs anfällig. Weil die Leute sind ja in dem Unternehmen, in dem die Dienstleistung passieren soll. Und die Grenze ziehen zwischen Schulung bzw. Qualifizierung für eine gewisse Tätigkeit und Arbeitsleistung ist eine, die von außen überhaupt nicht kontrollierbar ist. Und wir wissen, dass viele Leute eigentlich real gearbeitet haben, und es ist real dann eine Frage vom Dienstverhältnis. Jetzt hat die Stiftung immer die Debatte im Hintergrund gehabt, könnte uns da jemand anzeigen, eigentlich habe ich ein Dienstverhältnis gehabt und bin nicht bezahlt worden. Wir hatten Unternehmen, mit denen hatten wir ein sehr gutes Verhältnis, da wussten wir, da sind die Leute qualifiziert worden, und wir sind bei manchen draufgekommen, wenn eine Verkäuferin tagelang im Geschäft steht und die Verkäuferin ist eine Implacement-Teilnehmerin, weil sie lernen soll und es ist niemand da, der ihr irgendwas lehren kann ... von daher habe ich lange Zeit auch ein schlechtes Gewissen dabei gehabt.“ (Dobesberger 2016) ³

However, if a person works fulltime without getting an appropriate education, it is very likely that at least over time this person reports that. Thus, abuse can be avoided relatively well, if employees have the courage to communicate that. Another reason for ending the implacement, were again increasing requirements of the Public Employment Service, and as it seems the lack of will and resources are very decisive to make this model successful (Punz 2016).

„Und da hat sich da wirklich ein Eigenleben ergeben und als man dann draufgekommen ist, man kann da wirklich ein Geld verdienen mit diesen Implacementstiftungen und haben möglichst viele

³ „Implacement is a good idea. For a long time I asserted the proposal that we significantly reduce it and just run it for firms of the voest Alpine group for the demand we have here at this side. However, nobody wanted to have this discussion and I then surrendered this idea. It is a quite sensible instrument, which has the problem that it is relatively prone to be abused. This is because the people are in the company where the service should happen. The boarder between education or qualification for a certain occupation and performance is absolutely not manageable from the outside. We know that many people worked for real, and it is then a question of employment. The foundation always had the debate in the background, if it is possible that someone could report us because actually there was employment but it was not paid. With some companies we had a very good relationship, and we knew that they qualified their people, by others, however, we realized that an implacement-participant worked four days alone in a shop where nobody could teach here anything ... accordingly for a long time I had a bad conscience.“ (Dobesberger 2016)

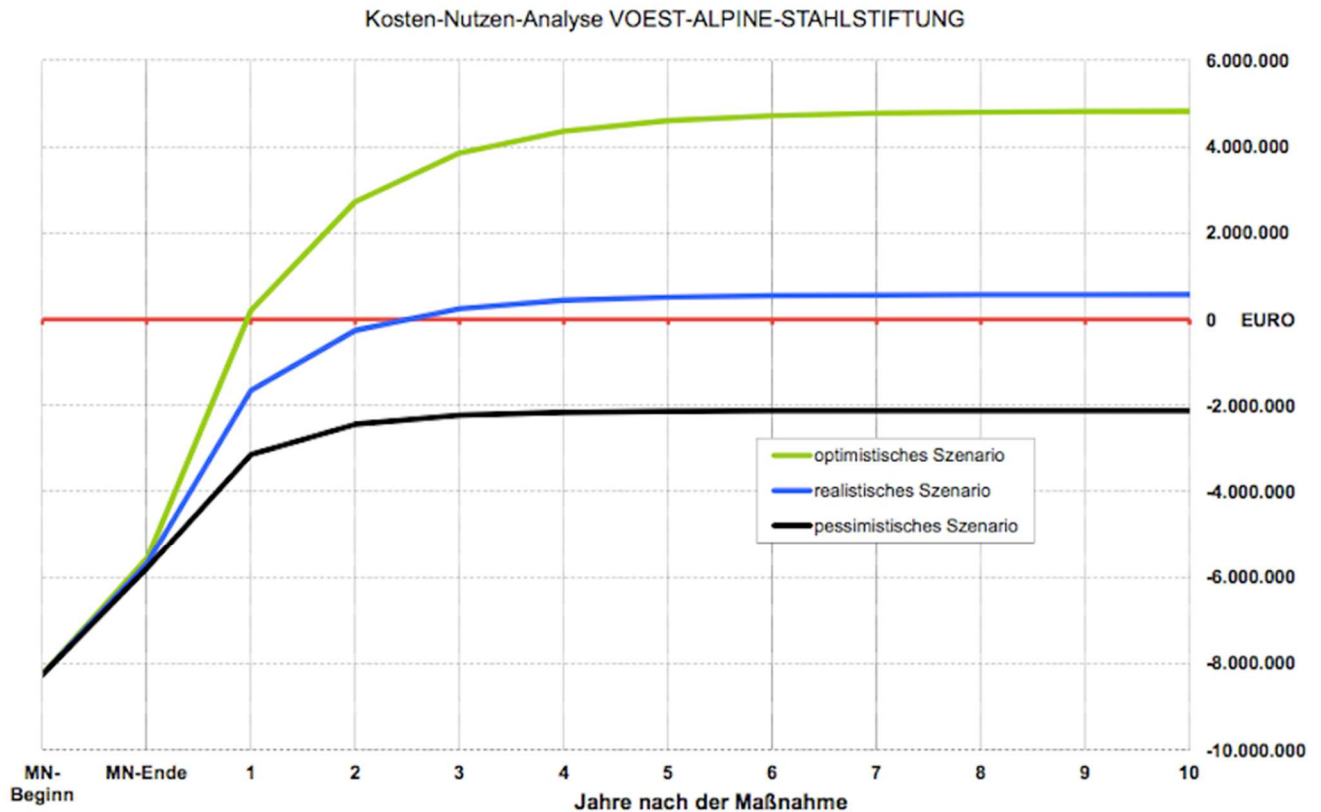
Projekte gemacht und haben keine Zeit mehr gehabt, die Leute auch zu begleiten und zu betreuen. Und wie im Leben, gibt es auch Firmen, die sagen, eineinhalb Jahre kostet mich das keine Lohnkosten, muss ich nutzen. Wobei der Krug geht so lange zum Brunnen bis er bricht. Ich traue mich wirklich zu sagen, fast allen Unternehmen sind wir irgendwann draufgekommen, weil ja die betroffenen Leute irgendwann was sagen, und dann sind wir draufgekommen. Großes Problem ist, dass es schon der Österreicher ist oder die Österreicherin, die schüchtern ist und sagt, da traue ich mir nichts zu sagen sonst verliere ich meinen Ausbildungsplatz, meinen Job vielleicht später, und haben auch bei den Rückfragen von den Stiftungen immer gesagt, da passt alles und damit entsteht das auch. Es sind nicht nur die Unternehmen Schuld, sondern auch ArbeitnehmerInnen schuld gewesen.“ (Punz 2016)⁴

5.3.2. Social Return on Investment

Hiesmair and Niederberger (2012) analyzed the social return on investment of the voestalpine Steel Foundation. Thereby, they took not only the economical revenues such as income, social security contribution or taxes into account but also non-monetary aspects such as social security, health etc. (Hiesmair and Niederberger 2012, p. 7). Basis for their analysis from 2007 to 2012, are 2,209 persons who were trainees in the Steel Foundation for at least one day. The higher the education level was when they entered the foundation, the longer they remained in the foundation, and the older the trainees were the shorter they dwelled (Hiesmair and Niederberger 2012, p. 28). The authors could show that with a very high likelihood the Steel Foundation could gain a profit for private and public shareholder (Hiesmair and Niederberger 2012, p. 40). They developed three different scenarios, a realistic, an optimistic and a pessimistic one. In the realistic one, the profit was 569,844 Euro, in the optimistic one shows even a profit of 4,825,116 Euro, and the negative scenario a loss of 2,118,121 Euro. The authors, however, claim that the optimistic and pessimistic scenarios are computed with extreme values. Moreover, all used parameters for the realistic scenario are rather underestimating than overrating the use of the service. Therefore it is likely that the pecuniary value of benefit is above the realistic scenario (Hiesmair and Niederberger 2012, p. 40). Figure 2 shows the different scenarios in detail.

⁴ „An independent existence developed, and it was realized that it is possible to earn money with placement foundations. There were many projects but not enough time and people to accompany and supervise those projects. And as in life there are companies who say, one and a half year no wage costs, I have to use that. However, the jug goes to the well until it breaks. Great problem is that the Austrian is shy and says, I do not want to say anything, otherwise I lose my trainee position, or perhaps later my job. Even at check backs from the foundations they always argued that everything is fine, and that is another reason. It was not only the fault of the companies but also of the employees.“ (Punz 2016).

Figure 2. Cost-benefit analysis steel foundation



Source: Hiesmair and Niederberger 2012, p. 40

5.4. Steel Crisis

In the 1970s, it was state of the art that life is divided into three stages, starting with education, followed by at least 40 years of work, and ending with retirement (Stahlstiftung 2012, p. 24). For many years it was a clear deal: The work is arduous, but the wages are high and the job is safe (Dobesberger 2012, p. 10). In the mid-1980s, the steel industries of industrialized countries entered a profound structural crisis. The main problem was significant overcapacities in production. Consequently, steel groups had to rationalize their structure massively, which included a large depletion of employees. However, this measurement did not lead to an employment orientated restructuring of the production in the affected regions (Dolleschka et al. 1988, p. 26).

Erich Dipplinger, personnel manager at the VOESTALPINE STAHL AG at that time was responsible to run down the staff numbers. Ludwig von Bogdandy, CEO of VOESTALPINE STAHL AG from 1988 to 1992, made a significant request to the personnel manager when he claimed that the engineers of the company would be very innovative, yet, the human resources department would not be innovative at all.

„Der damalige Vorstandsvorsitzende, Ludwig von Boghdandi, deutscher Manager, hat mich eines Tages geholt und sagte: Dipplinger, wir Techniker, wir sind ständig innovativ und was bringt ihr zusammen? Nichts! Wenn wir jetzt so viele Leute abbauen müssen, das ist nicht leicht zu bewerkstelligen, das kann zu sozialen Unruhen führen. Ihnen muss was einfallen, was über die normale arbeitsrechtliche Schiene hinausgeht, das ist Ihre Aufgabe.“ (Dipplinger 2016)⁵

The personnel manager, however, already had a new concept about education and retraining in mind. He also already had realized how unilateral many employees were trained. For instance, some were only able to do accounts payable accounting and others exclusively accounts receivable accounting. Thus, the personnel manager and his team had the goal to establish something, which would help those people to enter the free market. Inspired by Mr. Hartz, who ran a similar project in Saarland, Germany, the personnel manager tried to establish the Steel Foundation in Austria where he experienced fierce resistance. The Austrian union was one big opponent; another one was the Austrian Federal Chamber. They argued that there is a strategic plan missing and the whole project is very raggedly organized. Also the media criticized the idea, and so did Mr. Strasser, co-founder of the Johannes Kepler University, who warned the personell manager that this would be like an insane, unproven operation on a cancer patient. The personnel manager and his team were well aware of a lacking master plan, but they simply did not have enough time to go into every detail. They, however, had a strong argument when they claimed that if they would not proceed, the dismissed employees would likely burn down houses (Dipplinger 2016).

„Die Gewerkschaft war natürlich dagegen. Die Wiener natürlich, der Linzer Betriebsrat nicht, der war super. Die Bundeskammer sowieso, es gab nur Widerstände. Das war in der Anfangsphase nicht schwierig, weil wir sagten, na gut, dann zünden sie euch halt die Häuser an, wenn wir nichts machen können. So krass wäre es sicher nicht geworden, aber es war ein gewisses Unbehagen da, weil in so einer Form hat man solche Phänomene noch nie bewältigt.“ (Dipplinger 2016)⁶

⁵ „The chairman at that time, Ludwig von Boghdandi, a German manager, told me one day: Dipplinger, we engineers are permanently innovative and what is the achievement of you guys? Nothing! If we have to dismiss so many people, it is likely that it leads to social unrest. You have to develop something which goes beyond the concerning industrial law, that is your task.

⁶ „The union certainly opposed that. The Viennese certainly, not the employee organization in Linz, which was superb. The Austrian Federal Chamber anyway, there was only resistance. That was not a big deal in the beginning, since we argued, okay then they will ignite your houses if we are not able to do anything. It would not have been that stark, but there was a certain discomfort prevalent, because in that form such phenomenon were never been solved.” (Dipplinger 2016)

A dramatic situation at the site in Eisenerz, where many jobs were lost very sudden, was then the final trigger for the establishment of the Steel Foundation. At the same time, in 1987, the Upper Austria Public Employment Service received a rather general inquiry from the VOESTALPINE STAHL AG that the company would not be able to solve its problems alone and if there would be a support. This led to a strong discussion at the Public Employment Service. Eventually, the Public Employment Service installed one person directly at the VOESTALPINE STAHL AG. This person was a personal-subsidy for the Steel Foundation (Punz 2016).

„Es war ein völlig neues Projekt. Nämlich es war insofern auch spannend, ich habe den Arbeitsplatz von der Gruberstraße in die Voest verlegen müssen. Das war für mich kein Problem, aber für das Arbeitsamt war es eines. Weil bei den Beamten alles kompliziert ist, aber es hat sich alles lösen lassen, und habe dann im Vorfeld, bevor die Stiftung real begonnen hat, vor Ort gemeinsam mit den Akteuren haben wir zusammen überlegt, wie können wir das machen.“ (Punz 2016)⁷

Actually, the representative from the Public Employment Service was installed to control the participants of the Steel Foundation, however, he personally engaged himself in the project. In fact, his arrival was not very much appreciated in the beginning, since people at the VOESTALPINE STAHL AG expected a person from the Public Employment Service who controls what participants do in the Steel Foundation. This was even the unspoken idea of the Public Employment Service, however the representative from the Public Employment Service was very convinced about the idea. He then played a key role since he was more engaged in the project than some of the representatives of the VOESTALPINE STAHL AG, and what is more, he kept the Public Employment Service away from the Steel Foundation (Punz 2016).

“Das war ja so die Vermutung, wenn da jemand vom Arbeitsamt kommt, dass ich kontrolliere und schaue, ob da die Zeit, die die Leute in der Stiftung verbringen, auch dementsprechend was machen. Das war auch die unausgesprochene Idee vom Arbeitsamt damals. Dass ich da mitarbeite, das haben sie auch nicht bekommen. Das war ein persönliches Engagement.“ (Punz 2016)⁸

⁷ „It was an entirely new project. It was also in that way exciting that I had to relocate my workplace from the Gruberstraße to the area of the Voest. That was not a problem for me, however, it was a problem for the Public Employment Service. Because at the clerks everything is complicated, but everything could be solved before the steel foundation started. At the Voest, in collaboration with the actors, we thought about how we could do it.“ (Punz 2016)

⁸ „It was assumed that if someone comes from the Public Employment Service I would control if the people in the foundation use their time properly and work adequately. That was also the unspoken idea of the Public Employment Service. They did not recognize that in fact, I contributed to the project. That was my personal engagement.“ (Punz 2016)

Not just the representative of the Public Employment Service, the whole Steel Foundation did not experience too much acceptance in the beginning either. Most people did not understand the concept and many explanations were worthless. However, the resistance declined constantly and the Steel Foundation became soon state of the art. Many ideas and projects were successful, yet not all ideas could have been realized, even if they were promising. In detail, many minor firms were established, however, the expected big companies, which should have been developed from participants of the Steel Foundation, have never come to reality (Diplinger 2016).

One major reason for the failure by establishing big companies was the thinking of Voest-employees at that time. When they started the first enterprises, the initiators thought big, including high wages from the very beginning. Simultaneously, there was a lack of well-thought concepts. Consequently, most of the new big enterprises collapsed already within one or two years. However, there are more explanations why those major companies never succeeded. When the current CEO of the Steel Foundation entered the organization in 1992, the last tries to establish a big company, founded by participants of the program, failed. Soon afterwards, the CEO of the Steel Foundation evaluated the foundations of participants from the very beginning on, with the result that this idea never worked. One reason is that particularly in the first years of the Steel Foundation, ideas were brought to the participants with the offer to establish them, but it were not their idea, and therefore they did not identify themselves with it. Another - probably an even more significant reason - was that big companies require major financial commitment, and it is typically not possible to get those huge sums of money from the banks at an early stage of an enterprise. For that reason, there was the discussion if means of the Steel Foundation could be used as credit financing. This "road" was not taken because there was no solution for removing the risk from the Steel Foundation. Therefore, it was barely impossible to establish big firms (Dobesberger 2016).

„Als ich angestellt worden bin, war es damals im Gespräch, Ideen, Geschichten mit einem Mühlviertler Unternehmensberater, der so die Idee hatte, im großen Stil Tourismusberater über die Stiftung qualifizieren zu lassen, die schwerpunktmäßig aber nicht nur im Mühlviertel eingesetzt werden. Es hat sich innerhalb von ein paar Monaten herausgestellt, das geht so nicht, was er da im Kopf hat. Das war so der letzte Versuch, wo man so etwas probiert hat. Ich habe das dann evaluiert von Stiftungsgründung weg und da hat sich rausgestellt, das hat faktisch nie wirklich funktioniert.“ (Dobesberger 2016)⁹

⁹ „When I was hired, there was a discussion initiated by a business consultant from the Muehlviertel, who had the idea to qualify tourism consultants on a grand scale through the foundation, who are not just deployed in the Muehlviertel.

However, there has always been support for entrepreneurship, and many smaller firms could be established. About one out of ten participants of the Steel Foundation founded their own company, yet they typically did not have more than four employees. Another problem was that many of the participants were good craftspeople but poor business people. The Steel Foundation tried to bring handcrafts-skilled people together with businessmen or offered an education to train the lacking skills (Punz 2016).

„Das hat halt dann bewirkt, dass wir gesagt haben, nicht Projekte von der Voest her zu initiieren, sondern von den Teilnehmern. Und es hat die ersten Jahre, ohne Übertreibung, jeder Zehnte hat sich selbstständig gemacht. Es sind auch einige erfolgreiche Projekte entstanden, die nach wie vor erfolgreich unterwegs sind. Und da haben wir wirklich in diese Unternehmensbegleitung ziemlich viel Zeit und Geld investiert, um diese Begleitung möglich zu machen. Das heißt, es sind diese Unternehmensgründer, meistens war das Problem, es waren gute Handwerker, aber schlechte Kaufleute, da haben wir eben geschaut, es gibt einen Kaufmann dazu, oder er lernt diese kaufmännischen Fähigkeiten auch, und dann sind eben wirklich sehr viele erfolgreiche Projekte entstanden. Aber kleinere halt.“ (Punz 2016)¹⁰

A main reason for the establishment of the Steel Foundation was the declaration of the employees to contribute with their own money. When established, they paid 0.75 percent of their income into the foundation. This had first of all a major symbolic character, because money has never been a major problem, since any other solution to dismiss such a huge amount of employees would have been far more expensive. More than money, the scarce resource was time. To be efficient, former employees were re-educated to trainers. Additionally, a psychologist was hired, since depression was a phenomenon that occurred on a larger scale. Nevertheless, many of the trainers were also dismissed employees who had to fight with their own harsh circumstances. Thus, they cried with the others, which was challenging in the beginning.

Within months it appeared that his ideas would not be possible. This was the last try of such an attempt. I have evaluated that from the inception of the foundation on with the insight that this in fact never really worked.” (Dobesberger 2016)

¹⁰ „As a consequence of the failure of the big projects, we decided to not initiate the projects from the Voest anymore, but from the participants. Every tenth participant set up his own business. Moreover, many successful projects were established which are still successful. We have invested quite a lot of time and money in backing those companies. That means that those entrepreneurs – mostly the problem was that they were good craftspeople but bad merchants, and here we sought for a merchant or trained the person also in mercantile skills – could establish successful projects. But small ones.” (Punz 2016)

„Die zeitlichen Ressourcen haben sich auch dadurch ergeben, dass wir viele Leute aus der Firma auch als Trainer genommen haben. Die haben ihren Job ja auch verloren zum Teil, und die haben wir umgeschult zum Trainer, wir haben da also sehr pragmatisch gearbeitet. Wir haben zum Teil aus damaliger Sicht skurrile Methoden angewandt. Ich wollte auch Psychologen einschalten, weil wir das Problem hatten, dass Leute, die da trainiert haben, waren zwar sehr nett, aber sie haben teilweise selber geweint mit den Gekündigten, da sie teilweise selber betroffen waren. Das war nicht geeignet. Also habe ich mir gedacht, wir müssen etwas finden, wo wir auch diese Aufwärtsentwicklung darstellen können. Da sind wir auf ein paar Psychologen gestoßen. Das hätte ja alles unendlich lange gedauert. Hintergründe darstellen etc., das war unmöglich.“ (Dipplinger 2016)¹¹

The establishment of the Steel Foundation also benefited from a declining influence of politics. However, when the Steel Foundation turned out to be successful, politicians claimed, they would have decisively contributed on its emergence, and it is the same with the Public Employment Service. The personnel manager and his team supported this attitude for the greater good (Dipplinger 2016).

„Der Bundeskanzler und die Politik haben sich zurückgenommen. Und eigentlich waren wir da weitgehend unbehelligt. Sie hatten die Devise, na, schauen wir mal, was sie zusammenbringen. Die Politik hat das nachher natürlich gemocht. Sie hat die Ideen gehabt. Das ist eh normal. Wir haben das auch gefördert, weil wir das als hilfreich empfunden haben. Die Politik und gar das Arbeitsamt haben sich dann selbst große Mitarbeit am Projekt zugesprochen. Wir haben unsere Eitelkeit damit befriedigt, dass ein paar eh wussten, wie es tatsächlich gelaufen ist, das hat uns gereicht.“ (Dipplinger 2016)¹²

The quota of people who found a job was almost one hundred percent at that time, for which the high image of the Steel Foundation was essential. To reach this image, the former personnel manager incited employees from whom he has known they would be very good in their jobs to join the Steel

¹¹ „Time resources appeared also because we recruited many people from the company as trainers. Partly they also lost their job and we have reskilled them to trainers. We, therefore, worked very pragmatic. From the perspective of that time we applied quirky methods. I also wanted to integrate psychologists because we had the problem that those people who had giving trainings were nice but partly cried with the dismissed because parts of them were affected themselves. That was not convenient. Therefore, I thought we have to find something where we can display this upward trend. There, we found a couple of psychologists. It would have lasted forever. To depict backgrounds etc. was impossible.“ (Dipplinger 2016)

¹² „The Federal Chancellor and the politics withdrew themselves. Actually, here we were widely unmolested. They had the motto: Let’s see what they manage to do. Afterwards the politics certainly liked what we did. Then it was them who had the ideas. That is normal anyway. We even promoted this, since we felt it would be helpful for us. The politics and even the Public Employment Service awarded themselves collaboration on the project. We satisfied our vanity with the fact that some knew how it really happened, that was enough for us. (Dipplinger 2016)

Foundation. In some way, he acted in conflict with his own company, however, for the wealth of the Steel Foundation. He justifies his action in that way that he always wanted to avoid that the Steel Foundations become some place where just those people land who nobody wants to have. This image might have already been the end of the Steel Foundation (Dipplinger 2016).

“Als Personalchef habe ich viele Leute gekannt und auch sehr gute Leute, und ich habe schon Leute angestiftet, wo ich wusste, die sind sehr gut, und eigentlich ist es schade, wenn sie die Firma verlassen. Aber für die Stiftung ist es auch gut, wenn so einer in die Stiftung geht. Da ist mir einiges gelungen, was nicht immer zur Freude des Betriebes war und wo ich auch in Konflikt mit dem Betrieb gekommen bin. Im engeren Sinn war es zum Schaden des Betriebes. Für mich war der Horrorgedanke die Stiftung im Saarland, wo die Mühseligen und Beladenen und die Alkoholiker hingekommen sind, eine Abschiebeeinrichtung. Das hatte ich immer als Angstbild vor mir, dass das so etwas wird. Es ist aber nicht so geworden. Die Versuchung war immer da, dass man es benützt in irgendeiner Form, dass man Leute weghaben will und dann sagt, gehst halt in die Stiftung. War nicht immer ganz einfach zu händeln. Da habe ich gegensteuern müssen, da habe ich Leute in die Stiftung gebracht, die absolut niemals den Job verloren hätten sonst. Aber ein anderer hätte dann den Job verloren. So gesehen habe ich nichts Negatives getan, aber es war vielleicht nicht ganz im Sinne der Firma.“ (Dipplinger 2016)¹³

The incapability of the Public Employment Service was a main reason why almost 100 percent of the participants of the Steel Foundation found a new job, since the foundation was the only institution, which could provide praxis-orientated education at that time. Particularly in the IT-sector the Steel Foundation could offer people for distinctive jobs, which were simply not possible to be provided by the Public Employment Service. The main difference between the Steel Foundation and the Public Employment Service at that time was that the foundation could work unbureaucratically. Moreover, they established a word-of-mouth advertising that they had short and efficient ways of decision making (Dipplinger 2016).

¹³ „As personnel manager I have known many very good people, and I incited people who I knew are really good, and it would actually be sad if they would leave the company. However, for the foundation it was good if such a person joined the foundation. I realized something, which was not always in the favor of the firm, and even brought me in conflict with the enterprise. In a narrow sense it was even harmful for the firm. For me, the worst case was the foundation in the Saarland, where „that labor and are heavy laden“, and alcoholics ended up, so to say a facility for deportation. That always has been my image of fear that the steel foundation would evolve as something like that. But it did not become that. The temptation was always prevalent that it would be used in any form like that, so to get rid of people and say: okay then go in the foundation. That was not always easy to handle. Here, I had to counteract. I brought people into the foundation, who would have never lost their job. However, another one would have lost the job. From this perspective I did nothing wrong, but maybe it was not entirely in the sense of the company.“ (Dipplinger 2016)

„Also das ist glaube ich, ist der Unterschied, dass wir sehr unbürokratisch vorgehen konnten, dass wir auch einen gewissen Druck intern aufgebaut haben und dass wir sehr viel Mundpropaganda entwickelt haben, dass wir einfach kurze und einfache Entscheidungswege hatten.“ (Diplinger 2016)¹⁴.

There was also the idea of making the whole project charitable. But the former personnel manager decided otherwise since he believed that the economic consideration is the flywheel of the Steel Foundation. Thus, his conviction that the philosophy of kindness would not be a success was the end of this idea.

„Dann ist mir nahegelegt worden, ich sollte das Ganze gemeinnützig aufziehen. Ich bin dann davon weggekommen, weil ich mir gedacht habe, ich muss das ökonomische Kalkül reinbringen, das ist das eigentliche Schwungrad. Wenn ich dann in diese Nettigkeitsphilosophie komme, bringe ich nichts zusammen. Die Gleichen, die sagen, der macht das so nett und sozial, die nehmen mir keine Leute ab. Die sagen: Na, der hat lauter solche. Diese Zwiespältigkeit, das war ein Hauptproblem, dass ich vermieden habe, in Richtung Sozialinstitution zu gehen.“ (Diplinger 2016)¹⁵

A main reason for the establishment of the Steel Foundation was the fact that the Public Employment Service in the 1980s was not able to do activation measures to qualify people for a new job by themselves, mainly because they did not have enough money for it. Another very important component was time. Labor foundations are more flexible than the Public Employment Service, since the decisions of the latter are always depended on legal rules, decrees etc. (Dobesberger 2016).

„Wir sind nicht Behörde, Sozialversicherung noch sonst irgendwas. Wir werden als Bestandteil des Unternehmens gesehen. Das hat klimatechnisch einen wesentlichen Vorteil.“ (Dobesberger 2016).¹⁶

¹⁴ „That is, as I believe, the difference that we could proceed very unbureaucratically that we established a certain internal pressure, and that we developed very much word-of-mouth advertising, that we had short and simple paths of decision making.

¹⁵ „Then, it was suggested, I should establish the whole thing as a charitable project. I have distanced myself from this idea because I was convinced that I need the economical calculus since this is the actual flywheel. If I use this philosophy of kindness, I will not be successful. The people who say: „he is doing that kindly and socially“, do not employ any of my people. They say: He has „those“. This ambivalence was the main problem and the reason why I avoid establishing a social organization.“ (Diplinger 2016)

¹⁶ „We are neither authority, social insurance nor something else, but are seen as part of the company. That brings a decisive advantage.“ (Dobesberger 2016)

From the very beginning, the Steel Foundation was placed within the area of the voestalpine. This is considered as a main reason for the success. There were different considerations for that assessment. First, the participants still felt like part of the company. Second, since the employees contributed with a part of their income, they could see what happened with their money. Third, the employees are still in their familiar environment.

„Wir haben auch so getan, als ob die Stiftung eine Abteilung wäre, wir haben es auch so aufgebaut. Die eine Abteilung der Firma war, um die Leute nicht zu sehr zu entfremden. Wir haben auch immer versucht, eigene Schulungseinrichtungen zu verwenden, eigene Leute usw., damit wir nicht so ein Cold-Project haben. Damit das Ganze etwas Wärme und Verbindung zur Voest hat. Da haben wir sehr viel Wert darauf gelegt. Das war auch Teil des Erfolges.“ (Dipplinger 2016)¹⁷

Technology did not play a major role in the 1980s. The VOESTALPINE STAHL AG was leading in technology, however, the demand on high-skilled workers was not too high. The problems at that time were rather structural. Pure upskilling would not have saved too many jobs, since they were simply not available. However, occupational re-orientation of the participants of the Steel Foundation turned out to be a success story. This was also due to the finding of new (small) enterprises.

5.5. The Great Recession, 2008 – Today

The Great Recession hit the voestalpine hard. It was the second time in the company's history that it had to deal with mass dismissals. Contrary to the time in the 1980s, this time the Steel Foundation had already been established. This, however, had advantages and disadvantages at the same time.

In the boom era of the early 21st century, the amount of participants in the Steel Foundation was very low, yet with the Great Recession the Steel Foundation became home of many more people, and was again an instrument of crisis management (Voestalpine-Stahlstiftung 2013, p. 22). In detail, there were 150 participants in September 2008 at the site in Linz. There was even one day where the number of participants went below 100. In 2007, a discussion evolved if service packages could be created which have nothing to do with unemployment, and the first package was already about to be

¹⁷ „We also pretended that the foundation would be a department, we even structured it as one. The sense of the department was not to alienate the people too much. We furthermore also always tried to use our own training facilities, our own people etc. to avoid having a cold-project. On the contrary it should have warmth and a connection to the voestalpine. We have placed great emphasis on that. That was also part of the success.“ (Dipplinger 2016)

established in 2008, when Lehmann Brother's went out of business and the Great Recession started to evolve (Dobesberger 2016).

„Wir haben dann Leistungspakete entwickelt, die sich an aktive Mitarbeiter gerichtet haben, wo es um Wiederherstellung der Beschäftigungsfähigkeit gegangen ist. Und der Plan war, wir fangen 2008 mit der Ausrollung dieser neuen Leistungen an. Und im September 2008 war das mit Lehmann. Spätestens im Oktober war klar, da steht uns jetzt einiges bevor.“ (Dobesberger 2016)¹⁸

Things evolved very quickly. The number of 150 participants in September 2008 rose to 1400 in October 2009. To deal with the situation, 800 people were part of the classical Steel Foundation, for the rest the model of the educational leave (“Bildungskarenz”) was developed. This is actually a classical tool of the Public Employment Service, which was adapted by the Steel Foundation. The main difference is that the educational leave only lasts for one year and there are six fixed programs available. This means that companies nominated participants for the educational leave for whom it was clear from the very beginning that if they join the program, they will be reintegrated in the firm. Therefore, employees from those companies which figured that they will recover after a year, the educational leave was the better option, whereas those who did not know about their future, or were supposed to get trained for a different job, joined the classical Steel Foundation.

„Wenn es Unternehmen gibt, die sagen, eigentlich gehen wir davon aus, dass es innerhalb eines Jahres besser wird, und es gibt Leute, die sie momentan nicht beschäftigen können, aber in einem Jahr wieder, dann das Instrument der Bildungskarenz besser ist als das der klassischen Stiftung. Wir haben während der ganzen Krise 1300 bis 1400 Leute über die Bildungskarenzmaßnahmen qualifiziert und im Oktober 2009 hatten wir über 700 Leute in Bildungskarenz. Wir hatten also ein Jahr später zehnmal so viele Leute. Wir haben das eigentlich ganz gut bewältigt. Da ist uns einiges gelungen. Das Entscheidende, was uns dann unterstützt hat, ist, dass ab Sommer 2009 die Unternehmen zunehmend gesagt haben, dass die Auftragslage wieder deutlich besser wird, und wir können die Leute aus der Bildungskarenz wieder übernehmen. Das wäre ja das Dilemma gewesen wenn nach einem Jahr alle gesagt hätten, es ist eh super, aber wir können sie nicht mehr nehmen, weil die Auftragslage nicht besser geworden ist.“ (Dobesberger, 2016)¹⁹

¹⁸ „We then developed service packages addressed to active employees, with the goal of restoring employability. The plan was that we start 2008 with rolling out those new services. Then, in September 2008, was the Lehmann bankruptcy. By October it was clear that there is something big in front of us.“ (Dobesberger 2016)

¹⁹ „If there are companies that say, actually we expect a recovery within a year, and there are people, who they cannot hire at the moment, but in a year, then the instrument of the education leave is better than the classical foundation. During the whole crisis we qualified 1300 to 1400 people through educational leave policies, and in October 2009 we had more than 700 people in educational leave. So after one year we had ten times as many people. We managed that quite well

The combination of Steel Foundation and educational leave turned out to be the right decision to overcome the hardship of the Great Recession. A further positive aspect was that the motivation to learn was high during that time, because employees had a professional learn-environment without the harmful threat of their existence.

„Die Schulungsmodelle in Kombination mit der Bildungskarenz waren ganz essenziell. Auch da ist die Lernmotivation durchaus eine hohe. Du hast natürlich diesen Veränderungsdruck, der dir gegeben wurde, aber du hast auch ein gutes Lernumfeld, denn zu lernen unter existenziell höchstbedrohlichen Rahmenbedingungen ist nicht die beste Lernatmosphäre, die du damit schaffst. Wenn du eine Grundsicherung hast und du weißt einmal, für die nächsten drei Jahre bist du finanziell soweit abgesichert und kannst dich deinem Lernprozess widmen, ist das eine andere Lernatmosphäre als wie wenn du nicht weißt, wie du den nächsten Tag die Milch kaufst.“ (Head of personnel development of the voestalpine Steel Division 2016)²⁰

The Great Recession was also a huge financial challenge. When the discussion about the meaningfulness of the Steel Foundation emerged shortly before the crises, one argument was that the Steel Foundation had already cluttered an amount of twelve millions of Euros on reserve assets, and it was hard to understand what this money could ever be used for. However, with the increasing number of participants also the costs exploded. This exhausted all reserve funds and forced the associated companies to transfer additional grants to the foundation to ensure its operation. Also the employees have increased their contribution - it had shrunk to 0.25 % during the boom years - to 0.5 % of their monthly gross salary. Moreover, the Upper Austrian government as well as the European Commission with the European Globalization Adjustment Fund supported the Steel Foundation with funds (Voestalpine-Stahlstiftung 2013, p. 30f.). But, beside all this financial support, even without the educational leave-model the reserve assets would have been exhausted. Therefore, to fund the educational leave, the Steel Foundation made a financial agreement with the voestalpine for a loan to establish a transitional funding. The idea was that the Steel Foundation would then pay

actually. The crucial thing that supported us was that beginning of September 2009 the companies increasingly said that the order situation is significantly recovering, and we can rehire the people from the educational leave. That would have been a dilemma if after a year everybody would have said, it is great what you do but we cannot take more people because the order situation has not improved.

²⁰ „The training-models in combination with the educational leave were essential. The learning-motivation is high. You certainly do have on the one hand the pressure for alteration, but on the other hand you also have a good learning environment. Learning under an existentially highly threatening framework condition is not the best learning atmosphere. If you have basic security, and you can be certain that for the next three years you are financially secured, and you can devote yourself to your learning processes, it is a different learning atmosphere than if you do not know how to buy milk the next day.“ (Head of personnel development of the voestalpine Steel Division 2016)

the money back on the long run. This, however, did not happen, since the management board of the voestalpine AG decided after the tough years of 2008 to 2010 to take over all costs for the educational leave with the argument that the education, which the people got, was for the benefit of the company (Dobesberger, 2016). In 2011, the first reverse funds could be generated again (Voestalpine-Stahlstiftung 2013, p. 31).

„Wir haben zuerst eine Kreditvereinbarung getroffen, dass wir eine Übergangsfinanzierung haben, laufend die Schulden ans Unternehmen zurückzahlen und da hat es dann zum Schluss vom Vorstand die Entscheidung gegeben, dass uns das als Zusatzfinanzierung gegeben wird, mit dem Argument, dass ja die Ausbildungen, die in der Bildungskarenz absolviert wurden, dem Unternehmen nutzen.“ (Dobesberger 2016)²¹

The Steel Foundation has become significantly more bureaucratic over the years, even if it was not intentional. In its first years it enjoyed total freedom from the job service, since they were just delighted that someone else takes care about those people. Another reason is that in the beginning, the Steel Foundation was the first and for the first years the only foundation in Austria, whereas the foundations had become a common instrument of active labor market policies in this country. The Public Employment Service, therefore, had begun to adapt the standards and formulate it more clearly and comprehensive, which is unavoidably a driver for rising bureaucracy (Dobesberger 2016).

„Wie halt so Apparate funktionieren, sind die dann halt ... am besten schickst du jeden Tag sieben Zettel, das ist ihnen lieber, als wie wenn man nur einen schickt. Also, von daher stimmt das. Und mit dem leben wir, manchmal wehren wir uns, manchmal gelingt der Widerstand, aber im Prinzip ist das eindeutig so. Das was wir in der Zwischenzeit an Nachweisen und Erklärungen liefern müssen, hat es früher in der Form überhaupt nicht gegeben.“ (Dobesberger 2016)²²

²¹ „We first made a loan agreement about a transitional funding, and that we continually repay the debt to the company. At the end the board decided that we receive that money as additional financing, arguing that the training completed during the educational leave did benefit the company.“ (Dobesberger 2016)

²² „And as such apparats function ... you better send seven sheets of paper than one. From this perspective it is true that bureaucracy is rising. Sometimes we live with it, sometimes we defend ourselves and oppose, and sometimes the resistance is successful, but in principal it is true. What we have to submit now on proof and explanation would have been absolutely impossible in the past.“ (Dobesberger 2016)

One problem for the Steel Foundation due to rising bureaucratization is that costs rise as well, since more people are necessary, who need to create lists or carry together slips. At the Steel Foundation, to adapt to this situation, they try to automate this process to provide this slips from databanks.

„Wenn sie die Information aber wollen, dann soll das für uns zumindest ein möglichst geringer Aufwand sein.“ (Dobesberger 2016) ²³

Besides from higher costs and effort, bureaucracy narrows creativity (Dipplinger 2016). But not as much as it would not be possible to organize the freedom necessary for the Steel Foundation, where the freedom is still much higher as it is at the Public Employment Service (Dobesberger 2016).

In principal, and on a personal level the collaboration with the Public Employment Service works mainly free from complications for the Steel Foundation, however on a structural level it sometimes can be hard. In particular, there is a major discussion between the Steel Foundation and the Public Employment Service, which recurrently occur, because there are two fundamentally different perspectives. The Public Employment Service focuses on bringing people back to work as soon as possible. The Steel Foundation, however, focuses on upskilling or re-skilling, which takes time. High acceptance, long-time establishment and the fact that it is embedded in a powerful big firm, the Steel Foundation still supports those who want to reach a higher education level intentionally, even if he/she would not have troubles in finding a new job (Dobesberger 2016).

“Jetzt hat das AMS manchmal die Idee, Facharbeiter dürfen nicht in die Stiftung eintreten, weil Facharbeiter können sie sofort vermitteln. Und wir führen immer die Auseinandersetzung, und sagen, das mag schon sein, aber ihr müsst damit leben, dass es nicht nur um die Vermittlung geht.“ (Dobesberger 2016) ²⁴

The trend that the situation on the labor market is increasingly worse for people with low skills can also be seen at the Steel Foundation. It can be observed on the one hand on the stagnating number of participants – since 2012 the number of participants between 450 and 500 but is not declining anymore – in the Steel Foundation, and on the other hand at the tough situation about conveying

²³ „If they want this information, it should be at least not too much effort for us.“ (Dobesberger 2016)

²⁴ „The Public Employment Service sometimes has the idea that skilled workers are not allowed to enter the foundation, since it they can be instantly conveyed. We then always have the controversy that we say, that may be true, but this is not just about placement.“ (Dobesberger 2016)

participants. Even if age, qualification and engagement is okay, there are difficulties to put people back in the labor market. The labor market situation has become much more difficult than before the crisis. Moreover, the demand of skills rose significantly, which makes upskilling and professional education increasingly important (Dobesberger 2016).

„Wir merken, dass der Arbeitsmarkt immer schlechter wird. Es gibt Leute, die bei uns austreten, wo die Kollegen sagen, der ist jetzt ohne Job gegangen und ich weiß nicht warum. Weil vom Alter, Qualifikation, Engagement hat alles gepasst, so etwas hätte es früher nicht gegeben. Da haben wir immer gewusst, der findet jetzt nichts weil! Weil er alt ist, weil er nicht will etc. Wir sind jetzt damit konfrontiert, dass es zwar noch nicht massig viel, aber doch Leute gibt, warum der oder die nichts gefunden hat, ist kompliziert und schwierig. Und dass natürlich die Anforderungen an die neuen Jobs steigen. Die Anforderungen, die vor 20 Jahren neu waren oder noch nicht überall verlangt wurden, zum Beispiel, dass sie mit einem Computer umgehen können, dass da auch halbwegs selbstständig arbeiten können, das sind Dinge, die wir merken.“ (Dobesberger 2016)²⁵

The percentage of people who leave the Steel Foundation without a job increased from ten percent before the Great Recession to about 15 percent, due to the hardship on the labor market. In other words, the success ratio went slightly down to 85 percent (Dobesberger 2016).

Over the years, significant changes in the requirements of education occurred. Since the jobs require ever more skills, particularly to operate the machines, skills play an increasing role in training people. Moreover, IT complexity and velocity are also increasing and changing the way people communicate at work. Those changes have an enormous influence on the working reality in technology-based firms like the voestalpine AG. On the one hand there is the challenge to find enough skilled workers, but on the other hand there is also the challenge to permanently educate the low-skilled ones (Head of personnel department of the voestalpine Steel Division 2016).

“Der Komplexitätsgrad für die Mitarbeiter hat sich verändert. Und das ist sicher auch mit ein Faktor, was den Stress-Level betrifft. Also, der Komplexitätsfaktor und die Geschwindigkeit, die über die IT

²⁵ „We perceive that the labor market becomes increasingly worse. There are people who resign from us, where my colleagues say, he left without a job and we do not know why he could not get one. Age, engagement, qualification, everything was fine. That would not have happened in the past. Back then we always knew why a person could not get a job. Because he is old, because he does not want to etc. Now we are confronted with a situation – it is not yet massive – that there are people, where it is complicated and difficult to say why he or she did not find a job. The requirements for a new job are rising. The requirements which were new 20 years ago, or at least were not requested everywhere, namely dealing with a computer, working reasonably independent, that are issues we notice.“ (Dobesberger 2016)

in das Arbeitsleben hereinkommt, und da meine ich jetzt nicht nur die Geschwindigkeit, wie sich die IT als solches entwickelt, sondern auch wirklich die Art der Kommunikation, die über die IT schneller wird, ist mit ein wesentlicher Stressfaktor, der einfach dieses Arbeitsleben und das subjektive Belastungserleben der Mitarbeiter extrem beeinflusst.“ (Head of personnel development of the voestalpine Steel Division 2016) ²⁶

This evolvment leads to an ever faster widening gap in society and between the employees, what is to say between the high qualified and the low qualified (Head of personnel development of the voestalpine Steel Division 2016).

„Der Qualifikationslevel hat sich über das letzte Jahrzehnt enorm entwickelt. Was aber natürlich auch zu der Herausforderung führt, dass der Gap, so wie jetzt auch in der Gesellschaft auf der sozialen Dimension, bei uns zwischen den Qualifikationslevel auseinanderklafft, zwischen den sehr hoch qualifizierten und den sehr wenig qualifizierten.“ (Head of personnel development of the voestalpine Steel Division 2016) ²⁷

There is an agreement that the Steel Foundation is not the right instrument, if a company invests in a new facility and the employees need to be retrained or better qualified to operate the new facility. The reason is that Steel Foundation is to a high amount financed by solidarity, and the employee representatives argue that it is the responsibility of the company to qualify their employees. However, if technological change does not happen on a planned scale, the Steel Foundation is indeed a crucial instrument to upskill employees (Dobesberger 2016).

It is similar on a qualification level below. From a historical perspective, particularly in the steel industry many workers are unskilled or have educations which have nothing to do with the steel industry, like a baker who works at the voestalpine because he earns significantly more money there. However, with technological improvement fewer and fewer unskilled workers are required, but more

²⁶ „The degree of complexity has changed for the employees. This is also a factor for the stress-level. The factor of complexity and the velocity which arrived through the IT into the world of work - and in this context I do not mean the velocity of the development of the IT itself, but the manner of communication which became faster through IT - is a crucial stress-factor which extremely influences the professional life and subjective burden of the employees.“ (Head of personnel development of the voestalpine Steel Division 2016)

²⁷ „The level of qualification evolved enormously over the last decade. That, however, also leads to the challenge that the gap - like it is now in the society on the social dimension - at our company between the levels of qualification is diverging, between the very high qualified and the very little qualified.“ (Head of personnel development of the voestalpine Steel Division 2016)

skilled workers. Thus, an ordinary worker gets the opportunity to upskill for a certain qualification-level, but this also includes the risk that in case of no further education because of lacking potential or other reasons, it becomes very hard to find a job for unskilled workers (Head of personnel development of the voestalpine Steel Division 2016).

„Durch die Automatisierung werden die einfachen Aufgabenstellungen immer weniger, die einfachen Aufgabenstellungen bekommen eine Komplexität dazu, in dem sie über Steuerungssysteme stärker zu bewältigen sind, das bringt auch wieder andere Qualifikationslevels mit sich. Das bringt auf der einen Seite für den einen die Möglichkeit, sich dorthin zu entwickeln, und natürlich auf der anderen Seite die Gefahr, dass wenn das intellektuelle Potenzial nicht da ist, dass Arbeitsplätze weniger werden für ein bestimmtes Qualifikationsklientel.“ (Head of personnel development of the voestalpine Steel Division 2016)²⁸

In fact, digitalization and computerization have changed the production entirely. It has become unimaginable that someone works in production without being able to handle a personal computer. Denier of technology and computers are therefore a particular challenge for the Steel Foundation, since this is typically a combination of advanced age, and strong reluctance to learn new technologies. Also a challenge are people who are willing to learn, but are overwhelmed by the responsibilities which come along with technology (Dobesberger 2016).

„Also die haben einen irren Stress, da stehe ich jetzt auf dem Steuerstand und weiß, wenn ich jetzt auf den falschen Knopf drücke, dann ist die ganze Anlage kaputt.“ (Dobesberger 2016)²⁹

Therefore, technology plays a decisive role in the education plan of the Steel Foundation. As one example, all participants have to attend the course “internet research”. The participant gets the task to research about his/her professional future and come back with his/her results. Many of them are able to read some newspapers online or even participate in social media, but do not know how to research with a specific target (Dobesberger 2016).

²⁸ „Through to automatization simple tasks are declining. There is a complexity added to the simple tasks, as through control systems tasks are more sophisticatedly to handle, which again requires a different level of qualification. On the one hand, this implies the opportunity for a participant to develop in this direction, on the other hand it implies the hazard that when the intellectual potential is missing, jobs are declining for a certain clientele of qualification.” (Head of personnel development of the voestalpine Steel Division 2016)

²⁹ „They have enormous stress, if they stay at the control station, and they know, “if I push the wrong button, I will destroy the whole plant.” (Dobesberger 2016)

„Wie die Kollegen gekommen sind und das vorgeschlagen haben, habe ich gesagt, das ist doch ein völliger Blödsinn, das kann doch ein jeder. Sie haben mir dann sehr anschaulich gezeigt, alle sind im Internet, aber sie finden nichts.“ (Dobesberger 2016)³⁰

This example shows that using computers and technology has become an increasingly important issue. However, technology has produced a gap between younger and older employees. Older employees are particularly stressed by the fact that if they learn a new instrument, it is very likely that those instruments have already different features just half a year later. It is therefore certain, to qualify the older ones as soon as possible to avoid that they always let their younger counterpart do the technological-related work and consequently lose the connection entirely (Head of personnel development of the voestalpine Steel Division 2016).

„Das was unsere älteren Mitarbeiter extrem stresst für die Zukunft, ob sie die Arbeit noch gut machen können, ist der technologische Fortschritt, und vor allem die Geschwindigkeit. Dass die Instrumente, mit denen ich gerade noch gut umgehen kann, haben in einem halben Jahr schon wieder neue Zusatzfunktionen haben und andere wegfallen. Und dass dort die Herausforderung ist, wie hält man frühzeitig unsere Mitarbeiter soweit affin, mit der IT mitzugehen, dass der Gap da nicht zu groß wird und sie nicht das Gefühl haben, sie können diese Hürde nicht mehr überwinden und meiden das dann, oder da kommen die Jungen, die Generation Y, und die das irgendwie im linken Finger haben, und die sie da sowieso schon überholen, und sagen: Mach du das, du kannst das gut. Und dadurch die Degeneration dieser Generation noch weiter fortschreitet.“ (Head of personnel development of the voestalpine Steel Division 2016)³¹

Apart from the qualification, another very important level of the Steel Foundation still is the psychotherapist, who takes personal care of people who are in a situation of crises. Thereby, it is possible to help people to deal with the changing and increasingly forcing requirements on the job, and make them employable again (Dobesberger 2016).

³⁰ „When my colleagues first come to me with that idea, I said this is total bullshit, everybody knows how to do research. But, they showed me very convincingly that the participants do not find anything. They are able to read online newspapers, but they do not find concrete information in the internet.“ (Dobesberger 2016)

³¹ „What stresses our elder employees extremely for the future is that they do not know if they are still able to adequately do their job due to fast progress and pace in technology. They have an enormous stress that instruments, which they use just properly now, will again have new additional functions, whereas others will disappear in half a year. The challenge here is to keep the employees so far affine as they are able to follow the progress in IT, so that the gap will not get too big and they will not have the feeling that they will not overcome this hurdle and as a consequence avoid the instrument. Moreover, there are the young ones, the generation Y, who have the technology in their left finger, and they overtake the older ones, who then say: Do it, you are good at it. And consequently the degeneration of this generation is further progressing.“ (Head of personnel development of the voestalpine Steel Division 2016)

A main reason why the Steel Foundation could succeed during the Great Recession was also the quick recovery of the contributing companies. It was therefore crucial that beginning with summer 2009 firms agreed to reintegrate their employees from the educational leave since the order situation was increasing again. It would have been a dilemma, if the order situation would not have been any better after one year. After all, the crises had a major influence on the acceptance of the Steel Foundation. With the Great Recession, all critical voices became silent, and there was never a doubt of the meaningfulness of the Steel Foundation again (Dobesberger 2016).

5.6. The Key Factors

In this section, both cases, the steel crisis and the Great Recession are analyzed by six main factors, namely economic and political initial situations, dealing with opposition, measures, job situation, finance and technology.

5.6.1. Steel Crisis

Economic and political initial situation

Due to a severe structural crisis in the mid-1980s in the steel industry as well as a crisis of public companies the dismissals of thousands of employees at the VOESTALPINIE AG became inevitable. Since the Public Employment Service would have been overwhelmed with the reintegration into the labor market for all those people the Steel Foundation was created and established in 1987. A dramatic situation at the site in Eisenerz, where many jobs vanished very sudden, made this novelty possible.

Job situation

Almost one hundred percent of the participants of the Steel Foundation could find a job and were re-integrated into the labor market. The Steel Foundation had a big advantage in comparison to the Public Employment Service at that time, since it was able to offer praxis-orientated education, which was highly demanded.

Finance

From the very beginning on, the Steel Foundation was co-financed by the company itself, social partners in form of unions, the chamber of labor, the Austrian economic chamber and the Federation of Austrian Industry. The main driver for the acceptance and success of the Steel Foundation,

however, was the declaration of the employees to contribute with their own money. At that time they paid 0.75 percent of their income into the Steel Foundation.

Technology

In 1987 the VOESTALPINE STAHL AG was already a technology-affine company. However, technology was neither an important trigger for the crisis, nor was the lack on technology-skills of the employees a significant problem. At that time, sufficient jobs without at least basic qualifications of technologies, like computers, were available.

Measures

There were different measures installed in the beginning. Decisive was that also rather highly qualified and respectably good workers entered the Steel Foundation. Others were reskilled to trainers, so they could convey the know-how directly. The installation of a psychologist was of big importance, since the trainer also was affected by losing his/her job and the atmosphere was tense in the beginning. Another successful measure was to help people founding their own companies. However, the idea to found big companies turned out to be a failure. There was also the idea to make the Steel Foundation charitable. However, it was decided that it would be more successful with the economic logic. Moreover, an important measure was to establish the Steel Foundation right in the center of the VOESTALPINE STAHL AG, and run as a section of the company. Thus, the participants still felt as part of the company and less alienated.

Dealing with opposition

The idea of the Steel Foundation was heavily opposed in the beginning. From the unions to the Austrian Federal Chamber, there was a broad alliance of resistance. However, the direct influence from politics was rather low, since their influence was declining because of the demise of the public companies. To have control, the Public Employment Service installed one person directly at the VOESTALPINE STAHL AG. However, this person became rather a part of the Steel Foundation, which was decisive for a successful establishment.

5.6.2. Great Recession

Economic and political initial situation

Before the Great Recession occurred, the Steel Foundation had not more than 150 participants. There were even discussions if this institution is still necessary. With the onset of the Great Recession,

however, the number of participants rose up to 1400 within a very short period. Again the Steel Foundation had to deal with sudden mass unemployment.

Job situation

Particularly with the onset of the Great Recession, but also in the years following, the situation at the labor market deteriorated. The number of participants, with 450 to 500 people, remains significantly higher than before the crisis, and the success ration went down from 90 to 85 percent. It has become harder to convey people since fewer jobs are available and skill-requirements are rising.

Finance

The Great Recession turned out to be a huge financial challenge for the Steel Foundation. Although it already gathered twelve million Euros on reserve funds over the years, additional grants from the voestalpine were necessary to ensure the operation. Also employees increased their contribution from 0.25 percent, which was paid in 2008, to 0.5 percent. Moreover the Steel Foundation was financially supported by the Upper Austrian Government and the European Commission. After the tough years of 2008 to 2010 the management board decided to pay for the extra costs for the educational leave-measures since they were in the favor for the company after all. Thus, the Steel Foundation is again in the situation to gather reserve funds.

Technology

Over the last decades technology has become an increasingly important issue. With it, the demand on high-skills and technology-affinity as well as the complexity of jobs has risen enormously. These changes have great influence on the working reality in big firms like the voestalpine. With this development also the gap between low-skilled and high-skilled workers widened. Re-training and upskilling has become increasingly demanding because of the higher demand on skills. Digitalization and computerization have entirely changed the production-process. Consequently, technology has shaped the training and skilling-processes at the Steel Foundation. However, it makes an institution like the Steel Foundation rather more important than obsolete, since it has the opportunity to convey the demanded skills in a praxis-orientated environment.

Measures

To deal with the enormous and sudden increase of participants, it was again necessary to establish new models. This time the educational leave in combination with the established model of the Steel Foundation made it possible to incorporate the high amount of participants and re-integrate them

into the labor market on a large scale. Vital for the success of the educational leave-model was the fact that the economy recovered after one year, and the dismissed employees could be re-integrated into the company - higher qualified than before. Another important part of the Steel Foundation still is the psychotherapist. This model has not changed over the years.

Dealing with opposition

Over the years the Steel Foundation has become widely accepted and is not directly opposed anymore. However, it also has become increasingly bureaucratic. The freedom from the Public Employment Service significantly shrank over the years. New standards and formulations on behalf of the Public Employment Service makes it difficult for the Steel Foundation to stay flexible. Moreover, the more on bureaucracy is also a more on costs. However, as the first year of the Great Recession shows, in case of emergency, the Steel Foundation was still flexible enough to establish new measures.

5.7. The Effectiveness of the Steel Foundation as an Instrument of ALMPs

There are many similarities between the situation at the Steel Foundation during the steel crisis in the mid-1980s and the Great Recession between 2008 and 2010. In both cases many people were about to lose their jobs or had lost their jobs already. In either case the Steel Foundation turned out to be a story of success, even though there were significant differences, which required different actions. In the mid-1980s, there was no labor foundation established in Austria when many employees were about to lose their jobs. The starting situation was similarly severe at the outbreak of the Great Recession, when the number of participants suddenly extremely rose. In both cases it was necessary to introduce new and innovative measures. The case study shows that flexibility and innovation were vital for the success. This is also true from a financial point of view. In both cases it was necessary to have payments from different sources including public payments as well as transactions from the company and a contribution from the employees of all companies, which are part of the Steel Foundation. It was not just the contribution of all these actors but also their quick commitment to pay (in the 1980s) or increase their payments (during the Great Recession) when it was necessary.

Both cases show that another reason for the successful withstand of the crisis was the time issue. The policies in the end of the 1980s were complex and cumbersome, the Steel Foundation on the contrary enjoyed freedom and was therefore able to bolster quickly. And, although the

bureaucratization in the area of labor foundations was advancing, the Steel Foundation could act spontaneously and fast to establish a new instrument when the Great Recession evolved and hit the company. Another main factor was the ambitions of individuals. During the steel crisis the Steel Foundation was facing fierce opposition, which just could be overcome due to the strong will of the actors in charge at that time. During the Great Recession, there was not this kind of opposition, however, it was necessary to enforce new measures against bureaucracy, which evolved over time. Thus, at both times there were external factors to deal with which made it harder to establish the structures necessary, and also in both cases individual ambitions were crucial for the success. Moreover, it is one of the major advantages of the Steel Foundation to provide individual solutions for every participant (Dobesberger 2012, p. 10).

The result shows that the concept of a labor foundation such as the Steel Foundation offers an instrument, which can be very suitable for sudden crisis as well as structural changes. However, it loses power if it has to work after strict rules, since every crisis is different, and needs flexible adaptations. Both cases show that they would not have been success-stories if there would not be adequate adaptations.

Those insights bring us to the main question, namely how suitable the model of a labor foundation is as an instrument of active labor market policy to deal with the requirements technological progress brings to the labor market. First of all, it is to say that technology was a completely different factor in the 1980s, when the VOESTALPINE STAHL AG was already a technology-affine company, but it still was relatively easy to find jobs without any knowledge of computers, comparing to the time of the Great Recession, when it has become increasingly difficult to fulfill the rising demands of the labor market, particularly in a technology-affine environment as at the voestalpine. One could easily argue that the comparison shows a clear picture: During the steel crises almost 100 percent of the participants found a new job and since 2008, the success-ratio is not higher than 85 percent. However, by taking the development of the labor market (see chapter 2) into account, it has become much harder to fulfill the requirements of the labor market than it used to be 3 decades ago. Upskilling has become an increasingly important factor to sustainably re-integrate persons into the labor market. And, even it is not possible to qualify everybody on a certain level, the success ratio is still high.

I, therefore, argue that the Steel Foundation, as a best-practice model of the instrument labor foundation, shows that it is very useful and practicable to deal with the challenges of technological unemployment. First, it has a preventive effect, since constant learning is the best protection of

unemployment. Second, it has an incentive effect, since qualified workers are a scarce resource as technology progresses and the Steel Foundation can deliver such wanted workers. Third, it has a sustainable effect. While many active labor market policies mainly focus on bringing persons back to the labor market as soon as possible, the Steel Foundation focuses on long-term employment in a field where employees have a perspective. Additionally, they can choose the field in which they would like to be educated which increases personal ambition. Finally, it has a social effect, since dismissed people do not lose contact to their company and the world of work, but still feel part of it.

There are also some critical points, which should not be left unspoken. Disruption happens at an accelerating pace, it however often takes years to retrain people, particularly in a sophisticated field like technology. The Steel Foundation has approved that it can be successful even if a lot of jobs get lost suddenly, however it gets increasingly hard to find new ones. The success of the Steel Foundation during the two big crises at the voestalpine are to a high percentage due to ambitious individuals, solidarity and great cohesion. This does not happen naturally, so it is hard to argue that this would always be the case, in every labor foundation. It can, however, be said that the Steel Foundation shows a role model for how to act in case of sudden changes. Nevertheless, the Steel Foundation is just available for those who already worked at one of the participating companies, which consequently means it excludes all people but the employees. Yet, of course, the more labor foundation models are established, the higher the percentage of people is who can participate.

It can be concluded, that prolonged unemployment benefits and benefits for training and education makes a labor foundation very suitable in case of disruption through technological improvement, no matter if it is structural, or because of a job segment which is suddenly abolished. However, it is vital that a foundation stays flexible, since every crisis is different and needs adequate adaptations. It is to say that a labor foundation never can be the only instrument of active labor market policies to deal with unemployment, however it can be a very important and effective supplement, particularly in a harsh job-environment and increasing technological progress.

6. Alternative Instruments, Scenarios, and Visions

Particularly in the field of technological improvement, there are many scholars who claim that “thinking out of the box” becomes inevitable to harvest all the gains that technological improvement brings and avoid the devastating effects of disruption. With no doubt, there are more alternative strategies available, as would ever fit into this Master’s thesis. To act properly in an uncertain, fast moving area, however, it seems adequate to think about alternative instruments, scenarios and visions in the context of technological improvement and disruption in the labor market. Therefore, I will state a summary of three ideas, which reached broad attention in the academic world and beyond. In a brief conclusion at the end of this chapter, I am going to bring them in context with the Steel Foundation.

6.1. The Basic Income

One method broadly discussed over the last years is the basic income. There are different perspectives on what a basic income should be like, however it can be properly summarized as an unconditionally granted income to every individual of the society without any kind of work requirement and means test (Van Parijs and Vanderborght 2015, p. 229). Thus, every single person within the society gets a (typically monthly) payment, independently if this person is rich or poor, or has a job or not. However, if (s)he does have a job, (s)he will get the money additionally to her/his wages (Van Parijs 2004, p. 7). A basic income is provided in cash, but there is no in-kind provision such as a bundle of food or housing grants. It is also unconditional, since it has no restriction on how and when the received money will be spent, invested or saved. In most kind of variants, it also rather supplements than substitutes established in-kind transfers such as basic health insurance or free education (Van Parjis 2004, p. 8-9).

A basic income does not necessarily need to be paid by a Nation-state. It could also be distributed by a politically organized part of a Nation-State, like a commune or a province. Moreover, there are also proposals, which advocate a basic income made by the level of the European Union, or even at the level of the United Nations (Van Parjis 2004, p. 9). There is also no principled restriction on membership of a political community to retrieve a basic income. Most advocates of a basic income even prefer other solutions; like that membership could include all legal permanent residents (Van Parjis 2004, p. 10).

Many advocates like Werner and Presse (2010) claim that the basic income would release those people who want to be free from work. Additionally, Van Parjis (2004) sees three main and interacting reasons why a basic income is reasonable to make life better, particularly for those who need monetary support the most, namely the poor. First, the problem that people, who are entitled to benefits, do not pick up their money because they are poorly informed will be eliminated. Second, benefits given to everybody are not humiliating, which reduces the stigma of unemployment-benefits. Third, the regular payment will not be stopped after accepting a new job. That gives prospects to poor people, who have usually good reasons to avoid any risks (Van Parjis 2004, p. 13). The basic income, however, also has many opponents with a broad set of arguments. According to Vobruba (2010), it would therefore be in the people's interest to keep transitions from social transfer to earned income fluent, however, he argues that it is undoubted that to avoid poverty the installation of a minimum benefit system is necessary, but there would be no reason to establish a basic income to solve this problem (Vobruba 2010, p. 320). Another argument is the "unemployment trap", since there is no significant positive income differential between low-paid work and no work. This, consequently, would lead to a lack of incentive to a person on the bottom end of the earnings distribution to take a low-paid job-opportunity (Van Parjis 2004, p. 14). One major concern about basic income is the question about how to finance it. Different authors contributed on that question and made proposals. Some want to fund it by taxing natural resources or by taxing land. Others were more in favor with a highly expanded value-added tax. Werner (2010) advocates a consumption tax. The opportunities are infinite, however, principally the basic income does not need to be funded in an earmarked way (Van Parjis 2004, p. 10).

6.2. The Second Machine Age

Brynjolfsson and McAfee (2014) introduced what they call "the second machine age", in which technology follows the rules of exponential growth and Moore's law. According to their perspective, as a consequence of ever smaller units and rapidly increasing amount of data, technology has already become more human and many jobs like taxi driver, manufacturer, or builder will be gone over the next one to two decades (Brynjolfsson and McAfee 2014).

When steam was invented, it took several decades from its invention to its actual breakthrough, which has led to the first industrial revolution. Brynjolfsson and McAfee (2014) are convinced that something similar is happening with computers. They argue that we are right at an inflection point, and are entering "the second machine age". Where steam replaced physical power in various ways,

there would now be computers to replace different kinds of mental power, however at an unprecedented rate (Brynjolfsson, McAfee 2014). As a matter of fact, many forecasts of the year 2050 or 2100 from the 20th century were already outdated at the beginning of the 21st century or even earlier. To visualize that, this pace is further increasing and it gets almost impossible to reputedly forecast the future, Brynjolfsson and McAfee taking the book “The New Division of Labor” by Frank Levy and Richard Murnane (2005) as an example. It was published a bit more than ten years ago and has soon become an oft-cited futuristic book, considered as compelling but oversubscribed. The authors predicted a system with nearly endless productive capacity requiring increasingly less human labor (Levy and Murnane 2005). Further, they distinguish between which fields computers are good at and in which humans do have advantages. Computers are therefore strikingly superior in counting for example, or in everything with arithmetic rules, like predicting if a person’s credit score allows them to get a mortgage. However, computers would be lousy when it comes to pattern recognition. Thus, according to the authors, it would rather be unlikely in the foreseen future that cars can be drive automatically. So, what was unimaginable in 2005, has been already outdated in 2010, when Google let cars go fully autonomous. In 2015, Mercedes presented the F 015, a futuristic self-driving car, which already exists as a prototype, and many other big players are working on autonomous driving. Brynjolfsson and McAfee (2014) claim that this is not a unique phenomenon of the car industry but happens in many industries (Brynjolfsson and McAfee 2014).

Robotist Hans Moravec became famous when he claimed that,

“it is comparatively easy to make computers exhibit adult-level performance on intelligence tests or playing checkers, and difficult or impossible to give them the skills of a one-year-old when it comes to perception and mobility.” (Moravec 1988, p.15).

This statement soon became “Moravec’s paradoxon”. According to Brynjolfsson and McAfee (2014), it is exactly “Moravec’s paradoxon” which is about to erode. They claim that computers would accomplish tasks in which people were not good at all, and in which they were not expected to be accomplishing any time soon. To underline this argument, Brynjolfsson and McAfee (2011, 2014) give several examples like IBM’s “Watson”, a computer which beats even the best humans in the complex game “Jeopardy!” by far, or flexible cheap industrial robots which are able to do work in factories. There are several more examples, like 3D-printer, which make it possible to print whole houses.

Another important fact about the accelerating pace are the shrinking costs. It is not that computers are just getting more advanced, they are also getting cheaper. One just needs to think about the costs of an average computer 15 years ago and how cheap they are now, although they are far more powerful. This, on the one hand, makes it much easier to improve technology, and on the other hand cheap and powerful technology are a strong incentive for employers to replace workers with machines (Frey, Osbourne 2013, p. 14).

As Matschoss analyzed in 1901, before steam got invented, there were already a lot of technologies with huge potential available, just the power was missing. Nowadays it is rather similar: Many of the new inventions do not happen at the same time by accident. The ideas of an intelligent supercomputer, autonomous cars, 3D-printers etc. are actually old. But, many of those inventions now have the power to drive this technology. The name of this power is big data. Autonomous cars would not work without those huge amounts of data. There are also enormous amounts of data needed to make computers do highly sophisticated non-routine actions. However, it would be impossible to save and use all this data if memory capacities would not grow at an exponential rate. Since many of the technological inventions are combinational, it can be continuously improved and adapted to almost any parts of life and business (Frey, Osbourne 2013 p. 15f.). For Brynjolfsson and McAfee (2014) many inventions, which appear new and seminal, are just possible since big data brings us to the second machine age and rapidly increasing capacities and efficiency of memory makes it possible to use it. According to the authors, this second machine age is just at its beginning and has three key characteristics: exponential, digital, and combinatorial. And it has the potential to change the rules of society entirely. (Brynjolfsson, Mc Affee 2014).

6.3. Postcapitalism

Paul Mason (2015) calls his widely recognized vision of the future “postcapitalism”. He claims that over the past 25 years, the left’s project – the forced destruction of the market with the state as the lever – has collapsed. However, technology has accomplished to find out a new route, which has little to do with forced-march techniques. According to Mason, capitalism will be abolished by the more vigorous postcapitalism, which will break through and reshape the economy around new behaviors and values. Postcapitalism has become possible because of three major changes based on information technology. First, information technology has reduced the need for work, has brought work and free time closer together and has untightened the boundary of work and wages. Mason claims that the current automation wave is only stalled because established social infrastructure would not be able to

bear the consequences of a vast diminished amount of work needed. Second, information eliminates the ability of the market to form prices correctly, since information is abundant whereas markets are based on scarcity. He claims that giant tech companies and monopolies are the system's defense mechanisms. Their business model would be based on the capture and privatization of information, which was socially produced. However, these constructions would be fragile since they are in contradiction to the free use of ideas, which Mason claims as a crucial basic need of humanity. Third, collaborative production is rising rapidly. Thus, organizations, goods and services no longer pursue the requirements of the market. As an example, Wikipedia, has become the biggest information product in the world, is made by volunteers and has abolished the whole encyclopedia business (Mason 2015).

Over the last ten years the “sharing economy” brought a whole new business subculture along with buzzwords like “commons” and “peer-production”. Here Mason sees an escape route from capitalism, which needs to be protected and promoted by a fundamental change in governments doing as well as in the thinking about technology, work and ownership. Mason claims that all long-cycles from the 1850s to the 1950s were accompanied by strong organized labor, which forced corporations to not reviving outdated business models through cutting wages. Neoliberalism is now the first model in history of capitalism, which has weakened organized labor and is the first economic model which was smashing the social power and does not encourage technological innovation. The innovation wave does neither demand higher-consumer spending, nor the re-employment of workers in new jobs. Masons sees information as a machine, which does both, letting the price of things grind as well as the work time needed on the planet. Consequently, the number of neo-luddites is rising among the business class. They start nailing bars, contract cleaning firms or coffee shops. The planning system, the banking system and late neoliberal culture would, above all, reward the creators of low-value and long-hours jobs. For Mason the reason why innovation is happening but does not lead to a long upswing for capitalism lies in the specific nature of information technology. One major problem is that information is barely measurable. Companies would need a form of accounting which includes non-economic benefits, and risks to show what their data is worth. Mason concludes that something must be broken in the logic of valuing what he sees as the most important thing we have in the modern world. Information costs nothing, and if wanted, lasts forever (Mason 2015).

Mason also claims that the route beyond the market system is defined by collaborative production, the use of network technology to produce services and goods, which only work if they are for free, or shared. The state has built the framework for free trade, factory labor and sound currencies in the

early 19th century and it is the state that is needed to create the framework for the postcapitalist sector, which Mason believes to coexist with the market sector for several more decades, even if major change is already happening. Millions of people are connected with each other. Even if they were financially exploited, the whole intelligence of humans would be just one thumb-swipe away. Therefore, info-capitalism has yielded something entirely new: the connected and educated human being (Mason 2015).

According to Mason, capitalism is corroding because of information. Instead of hoarded in corporations it should spill over into all kinds of technologies, like genetics, healthcare, agriculture etc., where it could quickly reduce costs. Mason's goal is to expand those business models, behaviors and technologies, which eradicate the need for work, socialize knowledge, dissolve market forces and push the economy in the direction of abundance. He calls it "Project Zero", since it aims at the production of products, machines and services with zero marginal costs. Moreover, the necessity of work time should also come as close as possible to zero. The logic of postcapitalism does not lie in the construction of a new system but rather in alternatives within the prevalent system. Consequently, there is a strong contradiction between the idea of abundant goods and information and a system of government and banks trying to keep things scarce, private and commercial. Mason sees a struggle evolving between hierarchy and network, or in other words, between established capitalism and new forms of society like postcapitalism (Mason 2015)

6.4. The Labor Foundation in a Changing Environment

The basic income could be a suitable instrument for the labor foundation to implement ALMPs measures. Still with additional funds from private companies endowed, dismissed workers would have time and resources necessary to get upskilled. Since the costs would be shrinking, new foundations could be established on a large scale, when assuming appropriate law-amendments (Punz 2016). However, funding of money is not the main problem of the labor foundation, therefore it would rather be an additional facilitation than something indispensable.

Disruption at an increasing pace would be a particular challenge for the labor foundation. On the one hand, the labor foundation is perfectly suitable to deliver the skills required, on the other hand, however, it will be hard to deliver this skills in time. Thus, if there would be indeed a quick erosion of working places, like predicted in Brynjolfsson and McAfee's second machine age, the labor foundation can be an alleviation, but not on a very large scale, which consequently means that different and most probably more radical methods would be necessary. Scenarios like postcapitalism

could be very nourishing for a labor foundation. At the labor foundation, people have the time to find their talents and to participate adequately in a postcapitalistic society. Since there is a focus on a labor foundation on entrepreneurship, it also would be an ideal place to learn the skills required for a collaborative society.

7. Conclusion & Outlook

The fear of technological unemployment has a long history. Since the first industrial revolution the anxiety of severe hardship because of abolishing jobs due to technological improvement never disappeared. In fact, however, it is the structure of employment which evidently changed over the centuries, and particularly over the last decades, as the research of different authors, like Goos, Manning and Salomons (2014), and Autor (2015) shows. The labor market has become increasingly polarized over the last decades. Employment shares for managers and highly paid professionals have been rising and so have the wages for low-paid service workers. However, the employment shares of routine office workers and manufacturers have been significantly falling (Goos, Manning, Salomons 2014, p. 2510ff.). Concerning high-skilled workers, this trend is ongoing due to rapid technological improvement, however low-paid service jobs are at particular at risk to computerization (Frey and Osborne 2013).

Whereas facts about the development of jobs in history are evident, there are widely different perspectives about how technological unemployment will continue in future. Some scholars, like Brynjolfsson and McAfee (2014) and Frey and Osborne (2013), expect an increase in unemployment rates for the next decades. This argument is mainly underpinned by Moore's law, after which the number of components per integrated circuit is doubled every year (Moore, 1965). Others, like Autor (2015) argue that this effect is already about to mitigate and the threat of technological unemployment is overstated. Certainly, it is not possible to predict the future precisely. However, there is also no doubt, that it is crucial for policy makers to be innovative and use adequate instruments to avoid a sharp increase in unemployment due to improvement in technology and robotics.

Due to the sophisticated nature of technology, it seems inevitable to qualify people to its requirements. Scholars and governments are eager to find adequate strategies to deal with the outcomes of further technological improvement on the long run. Different measures are established to deal with the challenges of technological unemployment. Most popular are active labor market policies such as labor market training, job search assistance, creation of new jobs in the public sector or wage subsidies to the private sector. Active labor market policies are effective in many ways; however, they are susceptible to inefficiency, particularly in the short run (Martin 2015).

In this Master Thesis I have studied the labor foundation as an instrument of active labor market policy and analyzed how suitable it is to deal with the challenges of technological unemployment. It can be concluded that if used properly, the labor foundation can be an adequate measure to deal with technological improvement, if used properly. The case study showed different reasons for this argument. First of all, labor foundations have their focus on upskilling. Punz (2016) said in the interview it would be the “Royce-Rolls” out of the instruments of the instruments of ALMPs to underpin its focus on sustainable upskilling. Bringing the increasing need of high qualification back in mind, this is indeed a strong argument for the usability of such a model. On the contrary, the focus on traditional ALMPs is often on bringing the unemployed back to the labor market as fast as possible. This approach lacks a long-term perspective of the unemployed since they typically do not have enough time to sustainably fulfill the increasing requirements of the labor market. On the long run, therefore, labor foundations can be a valuable contribution to a decrease in unemployment and the lack of skilled-workers. However, it is to say that labor foundations never could be a solely instrument of ALMPs due to its nature as conglomerate of different associated partners.

But there are further questions to ask and discussions to conduct. Technology is in progress and during writing this Master’s Thesis new technologies are evolving, and disruption is happening. Maybe not on the very short run, but at least in a perspective of the next one to two decades it might be necessary to think even more “out of the box”, and consider entirely different measures. Changes in policies typically happen slowly and radical new measures, such as the basic income, have not been established yet. However, if technology continues to progress at an exponential rate, it may become inevitable to think about radical changes in the world of work. It has become natural that there are taxes on work, but not on productivity. The more things machines can handle, the louder the advocates for some kind of taxes on productivity or machines will be. Paul Mason’s “postcapitalism” gives us a perspective on how significantly technology could change our whole structure of the way we live and work over the next decades.

The future is not written yet. Therefore, every scenario – no matter if it is apocalyptic or optimistic – has not happened yet. How well societies can deal with technological progress is not uncontrollable. On the contrary, policy actors have a broad set of instruments where they can choose different measures. However, it will be vital to stay open-minded and innovative also on a social level, not only on a technological one. The model of a labor foundation can be a vital instrument, if properly used, to stay at eye level with technological progress and disruption.

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