Abequality

How does the third arrow of Abenomics influence economic inequality in Japan?

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Preface

Over the last decade, inequality in Japan has received an increasing amount of attention. Japan used to be a very equal society where 90% of the people thought of themselves as middle class. However the dominant phrase in Japanese society nowadays is 'all Japanese are poor'(Nomura, 2014). This phrase might sound rather odd, considering that Japan is an affluent country of the 'first world'. However, it refers to the widening economic inequality in Japan that has taken place since the economic crisis in the 1990s also named the 'burst of the bubble'. The crisis resulted in many debates on the causes of economic inequality. This paper will investigate the effects of labor market duality on inequality. In Japan both labor market duality and inequality have risen after the 'burst of the bubble'. Recently, prime minister Abe Shinzo formulated three 'arrows' that would 'cure' the Japanese economy. These three arrows were mainly aimed at restructuring the Japanese economy in order to become more competitive. The third arrow; structural reform would aim to tackle the problems in the labor market but its exact contents kept changing. There has been some research into the effects of 'Abenomics' on economic inequality by Aoyagi, Ganelli & Murayama (2015) and Saiki & Frost (2014). However they have not been conclusive about the effects of the third arrow. Mainly because the contents of its policies remained unclear. This thesis will investigate *the effect that the third arrow of Abenomics has had on economic inequality in Japan.* Examining the third arrow of Abenomics enables us to take a look at the relationship between labor (reform) and economic inequality.

In order to examine the effects of the third arrow of Abenomics it is necessary to first define inequality and to explore theories about the effects of labor (market duality) on economic inequality. Once the theoretical framework is established the problems that the Japanese labor market has faced will be described in order to show the previous situation that has led prime-minister Abe Shinzo to formulate his policies. After this the three arrows of Abenomics are examined. The effect of the first and second arrows on inequality are handled briefly because previous research has already examined these more thoroughly[1]. Then we can examine the effects of the third arrow of Abenomics, for this we use data on economic inequality in Japan. Then we use theories to show how inequality was affected by the third arrow of Abenomics. In this process the applicability of certain theories about the effects of labor market duality on inequality are tested as well.

[1] Aoyagi, Ganelli & Murayama (2015) and Saiki & Frost (2014)

Theoretical Framework

What is inequality and why is it a problem?

In an unequal society, social resources are not distributed in a balanced manner. Wealth, prestige, power and information are not distributed evenly and people do not have the same opportunities to acquire them(Kawashima, 2011, p.22). A certain level of inequality needs to exist in order to give people incentives to work hard, because that would lead to the attribution of more social resources. People can perceive an unequal society as fair, as long as some level of distributive equality is achieved(Kawashima, 2011, pp.31-33). A lot of this perceived fairness depends on the so-called 'equity principle'. When people believe that social resources can be acquired through good performance and results, they are more likely to judge the existing inequality as 'fair'. As opposed to people who believe that social resources are distributed through chance or luck instead of hard work and are more likely to believe the existing inequality to be 'unfair'(Kawashima, 2011, p.32). If basic goods are widely distributed in a society and people believe that social resources are acquired by hard work rather than chance, people tend to judge the existing inequalities as 'fair'(Kawashima, 2011, p.33).

The relationship between inequality and economic growth is contested. In this thesis, the assumption will be made that inequality has a negative influence on economic growth in the long term. However, in the short term or medium term it might have positive effects on economic growth(Frobes, 2000, p.885). According to the OECD there would be an increase in economic growth by 0.8% in the following five years for a reduction of 1 point in the Gini coefficient(OECD, 2015, p.67). If inequality is lowered by reducing income inequality at the bottom it has a positive effect on economic growth(Andrews, Jencks & Leigh, 2011, p.30). The OECD found that changes in top income inequality did not have a statistically significant impact on economic growth, see figure 3. High income inequality in the top might provide incentives to obtain high rewards through risky investments and thus create economic growth. However, they found the effect to be insignificant. Instead it finds evidence in support of the 'human capital accumulation theory'(OECD, 2015, pp.70-71). The human capital accumulation theory states that people who do not have the resources to invest in education are unable to achieve their full output potential leading to lower aggregate output(OECD, 2015, p.61). In the lower parts of income distribution some jobs do not provide opportunities for promotion or further training. This can cause an employee to become less productive because he/she lacks the opportunities to improve his/her own skills and wealth. Because

these workers become less productive, high levels of inequality have a negative effect on economic growth, see figure 1(Levy, 2016, p.19).

This confirms results of earlier researches that found that human capital influenced growth. Bassanini & Scarpetta (2001) that one additional year of education increased aggregate output by 6%(Bassanini & Scarpetta, 2001, p.24) and of Bénabou (1996) who found that the human capital accumulation theory best explained the differences in development between Korea and the Philippines statistically(Bénabou, 1996, p.61). Boeri & Garibaldi (2007) found that temporary employment has a negative impact on productivity. As the number of temporary workers increases, productivity decreases, because the marginal productivity of every additional worker is diminishing. The productivity diminishes for every additional worker because employers are less willing to invest in the improvement of skills of temporary workers(Boeri & Garibaldi, 2007, pp.376-378).

Furthermore, in societies with high levels of inequality the probability of being unemployed is higher for people with a lower economic background, while it remains unaffected for richer individuals. Inequality thus affects people with a lower economic background disproportionately. Since there are less opportunities in educational attainment for lower income individuals in these unequal societies, there is a low level of social mobility, see figure 4(OECD, 2015, pp.78-79). When combined with the equity principle, this would mean that this type of societies would be described as ‘unfair’, since the opportunities to obtain social resources are not evenly distributed between different economic backgrounds.

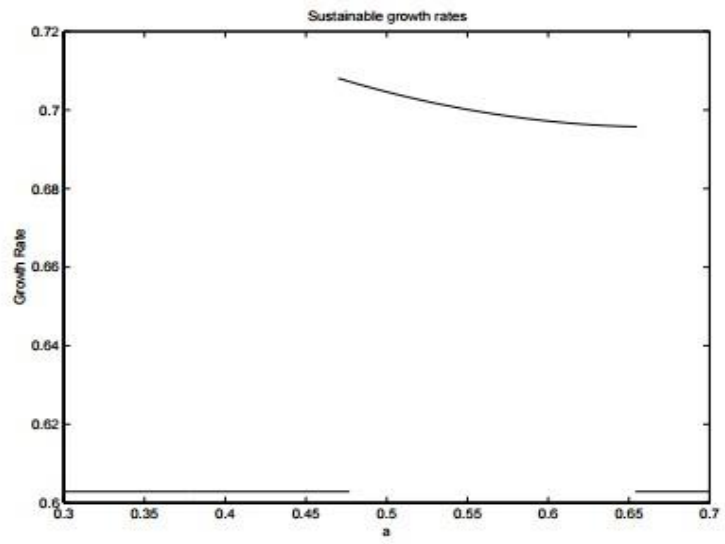


Figure 1 Productivity diminishes with growth (Benhabib, 2003, p.503)

Table 2.1. The negative impact of inequality on growth in OECD countries

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Net inequality (t-1)	-0.775**	-0.799**	-0.809*	-0.995***		-1.285**	-1.213**	
	(0.318)	(0.374)	(0.431)	(0.350)		(0.503)	(0.462)	
Gross inequality (t-1)					-0.583	0.172		
					(1.031)	(0.612)		
(Gross - Net) ineq. (t-1)							0.081	-0.278
							(0.686)	(1.325)
y (t-1)	-0.140**	-0.089	-0.069	-0.081	0.047	-0.073	-0.086	0.133
	(0.052)	(0.060)	(0.073)	(0.122)	(0.181)	(0.121)	(0.132)	(0.227)
Human capital (t-1)		-0.002	-0.005	0.004	0.009	-0.005	-0.007	0.014
		(0.013)	(0.013)	(0.018)	(0.022)	(0.013)	(0.012)	(0.020)
Investment (t-1)		0.216	0.521	0.187	1.606	-0.217	-0.251	2.423
		(0.379)	(0.634)	(1.393)	(1.299)	(1.359)	(1.486)	(2.028)
M2 (p-val)	0.710	0.536	0.605	0.774	0.903	0.594	0.656	0.940
Hansen statistic (p-val)	0.991	0.736	0.535	0.375	0.602	0.378	0.356	0.528
Observations	128	128	128	128	125	125	125	125
Number of countries	31	31	31	31	30	30	30	30
Number of instruments	27	31	26	16	16	18	18	16

Note: The dependent variable is $\Delta \ln y_t$ where y_t is per capita GDP, and [t-(t-1)] is a five-year period. Inequality is measured by Gini indexes. Robust, two-step System GMM estimator with Windmeijer-corrected standard errors. All regressions include country and period dummies. M2 are the p-values of the tests for second order serial correlation in the differenced error terms; Hansen denotes the p-value on the Hansen test of over identifying restrictions. ***, **, * denote significance at the 1%, 5%, 10% levels, respectively.

Source: See Annex 2.A1, OECD Secretariat calculations.

Figure 2 The negative impact of inequality on growth in OECD countries (OECD, 2015, p.66)

Table 2.2. Inequality at the bottom and at the top of the income distribution

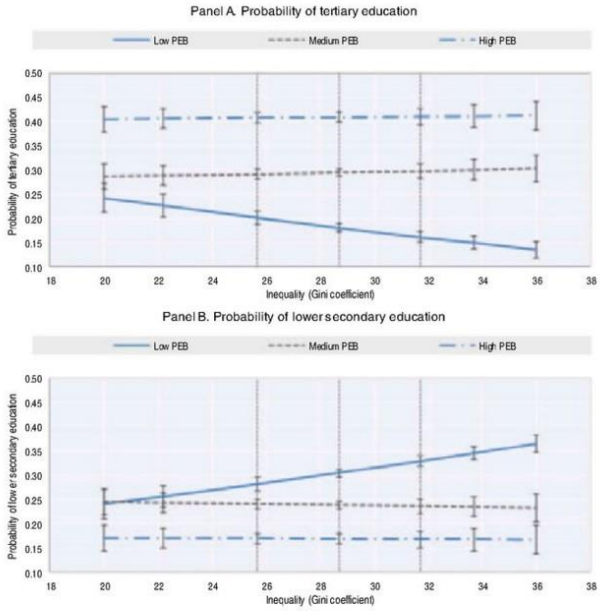
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Bottom inequality				*Bottom and top inequality*				*Top inequality*	
	1st decile	*2nd decile*	*3rd decile*	*4th decile*	*1st and 8th deciles*	*2nd and 8th deciles*	*3rd and 8th deciles*	*4th and 8th deciles*	*9th decile*	*10th decile*
Bottom inequality	-0.031**	-0.071*	-0.121*	-0.196*	-0.032*	-0.084***	-0.133***	-0.198**		
	(0.012)	(0.037)	(0.067)	(0.111)	(0.018)	(0.029)	(0.047)	(0.083)		
Top inequality					-0.038	-0.367	-0.220	-0.066	-0.571	-0.065
					(0.750)	(0.469)	(0.403)	(0.448)	(0.451)	(0.050)
M2 (p-val)	0.318	0.305	0.333	0.537	0.266	0.193	0.248	0.338	0.311	0.378
Hansen statistic (p-val)	0.436	0.513	0.615	0.120	0.703	0.807	0.823	0.753	0.449	0.309
Observations	94	94	94	94	94	94	94	94	94	94
Number of countries	30	30	30	30	30	30	30	30	30	30
Number of instruments	11	11	11	11	13	13	13	13	11	11

Note: The dependent variable is $\Delta \ln y_t$ where [t-(t-1)] is a five-year period. Bottom inequality is measured by the ratio between mean disposable income in the economy ($\bar{Y}$) and mean income of one bottom decile specified in the column heading ($\bar{y}_n$, with n=1,.., 4). An increase in the indicator in column 1, for example, implies a widening disparity between average overall income and the average income of the bottom 10% of the population. Top inequality is measured as the ratio between the average income of one top decile, specified in the column heading, and overall average income in the economy ($\bar{Y}$). All regressions include country and period dummies and a control for beginning of period GDP per capita (see Annex 2.A1 for a detailed description of variables and sources). A robust, two-step System GMM estimator with corrected (Windmeijer, 2005) standard errors is used. M2 are the p-values of the tests for second-order serial correlation in the differenced error terms. Hansen denotes the p-value on the Hansen test of over-identifying restrictions. ***, **, * denote significance at the 1, 5 and 10% levels, respectively.

Source: See Annex 2.A1; OECD Secretariat calculations.

Figure 3 Inequality at the bottom and the top of income distribution (OECD, 2015, p.70)

Figure 2.2. Probability of educational attainment by parent educational background (PEB) and inequality



Note: The two panels report the average predicted probability that individuals from poor, medium and high parental (educational) backgrounds attain tertiary education (Panel A) or at most lower secondary education (Panel B), as a function of the degree of inequality (Gini points) in the country at the time they were around 14 years old. Low PEB: neither parent has attained upper secondary education; medium PEB: at least one parent has attained secondary and post-secondary, non-tertiary education; high PEB: at least one parent has attained tertiary education. The bars indicate 95% confidence intervals. The vertical dashed lines indicate the 25th, the median and the 75th percentiles of the underlying distribution of inequality.

Source: OECD Secretariat calculations based on PIAAC data. See Box 2.3 and Annex 2.A1.

Figure 4 PEB and inequality (OECD, 2015, p.72)

Labor market duality

Labor market duality is an extreme form of labor market segregation. It occurs when the wage and non-wage benefits between primary and secondary sector workers are very different from each other. These two sectors are often divided between regular and non-standard work (NSW). NSW often consists of part-time or temporary work, fixed-term contracts or self-employment[2](Choi, 2016, p.1). The non-regular workers often receive less wage and non-wage benefits than regular employees. After financial crises firms often look for ways to cut costs because of the fallen aggregate demand. Instead of hiring permanent employees they tend to hire non-regular workers because they are cheaper[3](Brkić, 2015, p.28). After a financial crisis this pattern is seen everywhere[4]. Non-regular workers are the first to go in order to cut costs and are hired instead of permanent employees when demand returns. Especially in countries where job protection of 'regular' jobs is high, there tends to be a higher rate of temporary employment, since the strict labor laws do not apply to the temporary workers(OECD, 2015, pp.137-141). As a result of strong job protection laws, there may be an increase in NSW in contrast to regular employment, resulting in increasing income inequality.

However, labor market duality has its costs, especially for non-regular workers. Since disparities in wages are the main cause of income inequality, the distribution of labor affects inequality. In most OECD countries there has been a rise in inequality, most often as a result of a change in income which in turn is caused by changes in the structure of the labor market(Brkić, 2015, p.12). First of all, non-regular workers receive lower wages than their permanent counterparts. Therefore these lower wages tend to be at the bottom of the earnings distribution, thereby further increasing income inequality. In some countries, including Japan and Korea, part-time workers earn around 60% less than the hourly wage paid for regular workers(Grubb, Lee & Tergeist, 2007, p.24). This difference can be explained as a result of the type of jobs that are offered in NSW. These jobs are often concentrated in the service sector and their employees usually have a low educational background. Other explanations are the share of women in NSW who face overall occupational segregation and the need to compensate the costs for the regular employees by reducing the wages of NSW. Even when controlled for personal, family or work conditions the wage gap between temporary workers and regular workers remains around 11% for men and 13% for women in OECD countries.

[2] Part-time workers: both fixed-term and open-ended, part-time, direct employment. Temporary workers: relatively short fixed-term, fulltime, direct employment

[3] Since their wages, the costs of firing them and non-wage benefits are lower than for regular employees

[4] Extensive researches about this effect have been done about for example Croatia, Korea and Spain (Choi, 2016) (Brkić, 2015)

The same is true for the wage gap between part-time workers and regular workers[5](OECD, 2015, pp.155-156). In addition to this, the wages of non-regular workers tend to grow at a slower rate than those of regular workers, creating more difference between wages of non-regular and regular workers(Grubb, Lee & Tergeist, 2007, p.25). These disadvantages of NSW are not overcome by higher education; people in NSW with high education experience the same wage gap[6](OECD, 2015, pp.154-158).

Because the NSW tend to be concentrated in low-wage occupations, the lack of human capital could also explain the difference in wages. However, in these positions, non-regular workers do not accumulate human capital and do not receive promotion, and as a result do not receive higher wages. Non-regular workers receive less training than regular workers. Their non-permanent status causes their employers to think that the costs of the training outweigh the benefits of a more productive employee. Since the replacement rate is high it is a logical decision for the employer. However, for non-regular workers this means that they do not acquire human capital further limiting their chance to transit into regular employment(Choi, 2016, p.4).

In addition to receiving less wage and training than their permanent counterparts, non-regular workers also receive less non-wage benefits. These non-wage benefits include bonuses, overtime-pay or team-based bonuses(OECD, 2015, p.154). Especially in countries such as Korea and Japan, where social insurance is largely connected to companies, the unavailability of such non-wage benefits for non-regular workers contributes to the inequality between regular and non-regular workers(Choi, 2016, pp.3-4).

Another way of looking at NSW is that it is at least better for human capital and wage prospects than unemployment. We ought to look at non-regular work as a 'stepping-stone' to permanent employment. However, if the labor market duality is highly segmented, people in part-time or self-employment do not have a higher chance to transit to stable employment than unemployed people[7]. In OECD countries, temporary employees usually have a fifty-fifty chance of being hired permanently within three years, older male employees have a higher

[5] For men in part-time temporary positions the wage gap is 13% and 9% for permanent part-timers. For women the wage gap for part-time temporary workers is 12% and 4% for permanent part-timers

[6] The theory of labor market duality states that employees in secondary sectors receive lower wages because of their perceived productivity. The fact that people with high education and thus skills experience the same wage gap proves that employers pay according to perceived productivity and not actual productivity(Gordon, 1972, pp.46-49)

[7] People with temporary contracts do have a higher chance than unemployed people to obtain stable employment, these people tend to be higher educated/ higher income individuals.

probability than their younger or female counterparts. Self-employed or part-time workers do not have a higher chance to obtain regular employment than the unemployed. Retention is high; around two thirds tend to stay in part-time functions(OECD, 2015, pp.162-167). Other studies found similar results; in Korea 3 out of 5 people remain in non-regular employment[8](Grubb, Lee & Tergeist, 2007, pp.30-31) In some countries non-regular workers might even be in similar financial situations as unemployed people when the non-regular worker does not live with a regular worker. This is the result of taxes and redistributive policies such as welfare and might create a disincentive to find (non-regular) work. The people who do work under these circumstances are called the 'working poor'(OECD, 2015, pp.178-179). In many OECD countries, the incentive to move from inactivity to part-time work is low, since most of the acquired income would be "taken away" by the loss of benefits and the increase in taxes to be paid(OECD, 2015, p.185).

This is not to say that temporary employment does not have its benefits for both firms and workers. Young people might profit from an easier transition from education to employment and the firms are able to screen the temporary employees before hiring them for the permanent positions that are more secure(Brkić, 2015, p.12). During recession, governments often need to cut spending as well, which may lead to a reduction in unemployment benefits which causes temporary jobs to become more attractive alternatives to unemployment for women or low educated/experienced workers(Boeri & Terrel, 2002, p.70).

Conclusion

NSW does contribute to increasing economic inequality because of its effect on income inequality. This is not to say that non-regular employment does not have its benefits; some people (single parents, students etc.) prefer to work in NSW and businesses benefit from the increased flexibility and lower costs. Furthermore, when unemployment benefits are low, it will be a good alternative for people who are unable to work in regular jobs. However, there are some issues with non-regular employment. The working conditions and the wages are often lower than in regular employment. Within companies non-regular workers are less likely to receive promotion or training than regular employees. Moreover, mobility from temporary to permanent jobs is low. As a result of the lack of opportunities and the working conditions these workers become demotivated and their productivity decreases which is also undesirable for the firms(Boeri & Garibaldi, 2007, pp.376-378). As a result of these

[8] Only 15% of the non-regular workers managed to get into regular employment

circumstances that non-regular workers face, income inequality has grown and will continue to do so if nothing is done to compensate for the disparities between regular and non-regular workers.

Hypothesis

H1: The third arrow of Abenomics has not decreased economic inequality in Japan.

The third arrow should have consisted of structural reforms in the Japanese labor market and stated it wanted to reduce labor market duality. As described above, non-regular employees receive less wage and non-wage benefits than regular employees and experience low mobility to regular employment. Since the labor market segmentation in Japan is high, it contributes significantly to income inequality(OECD, 2015, pp.137-141). The arrow has not been launched correctly and the Abe administration has failed to formulate policies to reduce labor market duality. In Korea anti-discrimination policies were implemented and the targeted non-regular workers benefited at the expense of non-targeted non-regular employees and regular workers(Choi, 2016, pp.14-15). Japan has not formulated such policies and as a result inequalities between regular and non-regular employment remain intact. Because high labor market duality is a cause of income inequality, and the third arrow has failed to formulate policies to address it, inequality in Japan has risen.

Problems of the Japanese labor market

Before the economic crisis of the 1990s, it was normal for companies to provide insurance, pensions and other benefits to their employees in the system of 'life-long employment'. In this 'life-long employment' system an employee, usually male, would work his entire life at one company, which in turn for his loyalty would provide welfare benefits in addition to 'on-the-job-training'. By working hard in a company, one could work ones way up to the top ranks of the company thereby increasing their income as well. Thus in the 'life-long employment' system, intercompany mobility was possible if you worked hard and had a full-time job. This is not to say that there was no non-regular employment before 'the burst of the bubble'. Companies often used non-regular workers to increase the flexibility of their firms. However, for these non-regular workers there was upward social mobility because they could become regular workers through hard work and loyalty(Lechevalier, 2014, pp.87-91).

The redistribution policies of the Japanese government mostly took place between regions rather than social classes. The social protection system was mainly focused on expenditures on health care and pensions and less on social assistance, family policies and unemployment insurance, since the unemployment rates were so low. The Japanese government did not intervene much within the labor market and there were generally low levels of social regulation with the exception of dismissal regulation. This was because the government and the companies worked close together, a concept also known as 'Japan Inc.' but also because of the underlying political situation. For example, the Japanese welfare system cannot be categorized according to a certain political view like right-wing or left-wing. Unions and the left wing played no main role within the development of the welfare system. The ruling party, the Liberal Conservative Party of Japan (LDP), although mainly conservative has varying views depending on the subject and voters' mentality. This is why the welfare system has not developed among clearly defined right or left views and more on what the LDP thought voters wanted. The LDP has almost exclusively led the parliament in post-war Japan, hence its ties with businesses and its voters base are deeply integrated(Lechevalier, 2014, pp.87-91).

After the 'burst of the bubble' the life-long employment system became too expensive to maintain for companies. Providing insurance, pension, welfare benefits etc. was too difficult in this time of crisis. During the crisis, some employees were laid off and no life-long contracts were offered to new recruits. Instead of offering those contracts, companies turned to 'non-regular' contracts. Social benefits were not extended to people within NSW and the

labor laws were less strict, making this sort of employment less stable(Lechevalier, 2014, pp.95-104).

In order to restructure, companies cut costs on salaries of the senior employees and in order to create more non-regular jobs for young people senior employees were offered early retirement. However, for some the pensions have not been enough to support themselves and their spouse and it is only through redistributive government policies that most have been able to retain a decent life-style(Takanami, 2010, pp.16-31).

As a result of the shift from regular to non-regular contracts, economic inequality has widened between those who have regular employment and those who do not(Gordon, 2014, pp.314-315). Inequality has not increased because the rich have become more numerous but because the number of 'poor' people has increased, resulting in the phrase 'all Japanese are poor'(Lechevalier, 2014, pp.91-98). Dealing with these issues has proved to be a problem for the Japanese government. This was mainly caused by a misdiagnose of the causes of the rise of inequality(Gordon, 2014, p.433). The causes of the higher inequality, were unemployment, the increase in non-regular employees and the weakness of the social security system. In the aftermath, redistribution policies have strengthened the effect of the social security systems by improving the conditions of the elderly thus shrinking the effect of the social security system on inequality. Even with these redistribution policies the Gini coefficient after redistribution had increased since it *only* benefits the elderly(Takanami, 2010, pp.15-26).

Because of the crisis the weaknesses of the system were exposed. Not only the lower working class but also the middle class became exposed to the problems of non-regular employment. They were no longer receiving health benefits or insurances from their companies, worked in more unstable jobs and had less opportunities to receive a raise or training(Ishida & Slater, 2010, p.163). This combined with a social security system that mainly focused on the elderly meant that inequality rose in Japan(Kenworthy & Pontusson, 2005, pp.455-456). Even though the Japanese public and media focused on this issue and described it as an undesirable situation, not much was done by the government to address the growing social disparities.

The public discontent combined with the 2008 global financial crisis caused a historical electoral result. The ruling party, the LDP, who had been in power since 1955 with a brief interception from 1993-1994 lost the elections to the Democratic Party of Japan (DPJ) in 2009. The DPJ took hold of 308 of the 480 seats in the parliament and the LDP only 119. After some corruption scandals and the inability to fulfill his election promises DPJ Prime-Minister

Hatoyama decided to step down and new elections were called in 2012 in which the LDP won 294 seats with Abe Shinzo's election promises of Abenomics(Tiberghien, 2014, pp.45-52).

Conclusion

Because of perceived social mobility through hard work, people saw pre-crisis Japan as a 'fair' and equal society. After the 'burst of the bubble' this view changed. Unemployment rose and people who used to get into stable 'regular' employment now had to work in non-regular jobs with less stability and worse working conditions and salaries. It was not immediately noticed that unemployment, increase in non-regular employment and the weak social security system were the main causes of the rise in inequality. Because of public pressure the social security system has become somewhat stronger but still is mainly beneficial for the elderly while not being very supportive towards other groups in need. The increase in inequality combined with lower intercompany mobility causes the Japanese to perceive their society as increasingly 'unfair' and unequal. This in turn shook up the LDP when they failed to be elected and saw that they needed to address the problems more actively to satisfy the voters.

The first and second arrows of Abenomics

After the electoral loss of 2009, the LDP saw that it had to take action to win voters back[9]. People were discontent with the status of the Japanese economy. Aware of the public opinion about the lost glory of 'Japan Inc.', Shinzo Abe of the LDP came with a new strategy during the 2012 elections. He formulated the idea of 'Abenomics'; a grand plan to revive the Japanese economy with the use of three 'arrows'. These three arrows are monetary expansion, fiscal stimulus and structural reforms. The first arrow; also called quantitative and qualitative easing, was released immediately after the election(Hausman & Wieland, 2014, p.2). The second arrow; fiscal stimulus, was released in 2013 as 1% of the GDP. However, a year later the consumption tax was implemented. This tax had been passed by the parliament before Abe took office and was no part of Abenomics but it did influence the effect of the fiscal stimulus and public opinion(Hausman & Wieland, 2014, pp.3-4).

Figure 5 Inflation Rate Japan
Source: Japan Statistics Bureau. Ycharts
https://ycharts.com/indicators/japan_inflation_rate

The first and second arrows have helped Japan escape from deflation. In an IMF working paper, Aoyagi, Ganelli & Murayama have analyzed the effects of the first two arrows on inclusive growth. They argue that inclusive growth is needed because it both supports the reforms needed to revive the Japanese economy[10] and because inequality is bad for economic growth and social cohesion(Aoyagi, Ganelli & Murayama, 2015, p.3). They assess that the influence of the first two arrows on growth in 2013 has been an increase of between 1.1 and 1.8 percentage points which was mainly caused by expansionary monetary policy(Aoyagi, Ganelli & Murayama, 2015, p.4). According to them this indeed induces growth as long as the inflation is kept below 2%. The inflation rate does influence equality, however the authors assess this as insignificantly small(Aoyagi, Ganelli & Murayama, 2015, pp.17-18). The authors of the IMF working paper also predict that if monetary policy would be overburdened,

[9] As described in 'Problems of the Japanese labor market
[10] The third arrow

the inflation would hike beyond 2% and as a result inclusive growth would be reduced(Aoyagi, Ganelli & Murayama, 2015, pp.22-23). The inflation hiked beyond 2% in 2014 after which the inflation rate was soon brought back to zero, as can be seen in figure 5. After the launch of the first arrow, the stock market reacted immediately and the yen depreciated, the wages did not rise and only the rich seemed to benefit from the first arrow since they were able to profit from their stocks that had increased in value. The higher asset prices did not benefit lower income households since their savings typically consist of bank deposits which gained little nominal interest(Saiki & Frost, 2014, p.4447).

Fiscal stimulus, the second arrow, was not used for income redistribution. Therefore wages remained flat during 2013-2014, unemployment remained the same as well and structural reforms were not implemented yet. This meant that Saiki & Frost (2014) were able to assess the effect of the first arrow without the other two distorting the image. They found that both the Gini coefficient and the ratio of the top 20% and the bottom 20% had increased with +0.05; increasing inequality. However Aoyagi, Ganelli & Murayama (2015) found that if inflation would stay around 2%, it would generate more economic growth than inequality resulting in inclusive growth. Unless inflation exceeds the 2% target resulting in an overburdened monetary policy and no further structural reform. In this case inequality would increase(Aoyagi, Ganelli & Murayama, 2015, p.22). After an inflation hike in 2014 the rate quickly plummeted to 0%, see figure 5, meaning that it did not stay around 2% and therefore did not generate inclusive growth but more inequality. The effects of the second arrow; monetary policy on asset price are usually immediate since stock markets tend to react to them instantaneous(Saiki & Frost, 2014, p.4450). Saiki & Frost (2014) found that expansionary monetary policy positively influences the Gini coefficient. Over 10 quarters *'a one-standard deviation shock to the monetary base to GDP has a cumulative upward impact of about 0.012 on the Gini coefficient, which is equivalent to two times the standard deviation of the Gini coefficient during our sample*

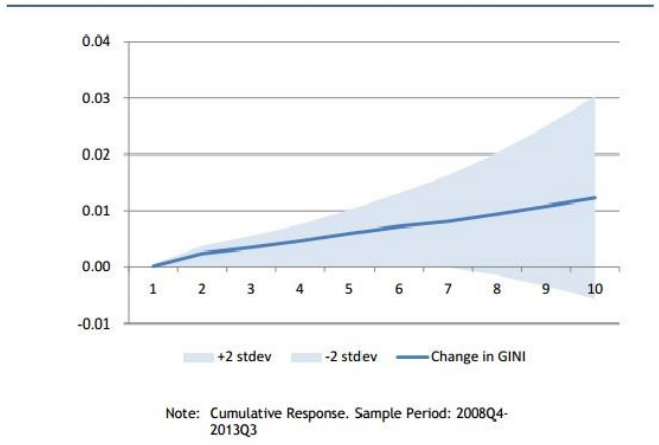


Figure 6 Saiki & Frost, 2014, p.14

period [2008Q4 to 2013Q4]. *This means that income inequality increases as a result of monetary shocks to an economically meaningful extent'*(Saiki & Frost, 2014, pp.13-14).

Conclusion

Both researches on the effects of the first two arrows of Abenomics argue that it generally increased inequality by 0.05 and 0.012 Gini points. In order to also generate long term growth and make this growth inclusive, Aoyagi, Ganelli & Murayama argue that structural reforms, the third arrow of Abenomics needs to be launched completely(Aoyagi, Ganelli & Murayama, 2015, p.22). Saiki & Frost conclude that if only monetary policy is implemented, the economic and social impact might be negative because the inequality mainly works through shocks to capital wealth rather than labor income(Saiki & Frost, 2014, p.4453).

Abe's third arrow

In order for Abenomics to fully succeed in both causing economic growth and decreasing inequality, the first two arrows need to be complemented with the third arrow; structural reforms(Aoyagi, Ganelli & Murayama, 2015, p.22). However, unlike Korea with similar labor market structure and culture, Japan has not formulated concrete laws or policies(Choi, 2016, pp.5-6). The third arrow of Abenomics is the most ill-defined arrow. Because of opposition within the LDP, the reforms are debated at every stage, following a non-linear track and sometimes making the process of reform very incoherent. This debating process is the reason of the slow nature of implementation of reforms in Japan(Tiberghien, 2014, p.27). The third arrow was first described as a package of structural reforms that would generate long-term growth in Japan mainly aimed at the supply-side, however no concrete policies were put forward. It included many 'possible' reforms of (de)regulation[11], gender equality, medical reforms and special economic zones but did not discuss policies that could aid Japan with its diminishing working population; immigration and labor deregulation. The LDP feared that there would be no support for the structural reforms that could influence the businesses and regular employees negatively. However, some authors saw Japans' efforts to join the Trans-Pacific Partnership (TPP) as a window of opportunity to implement structural reforms(Tiberghien, 2014, pp.51-52). Indeed, at first labor deregulation was not part of the proposed reforms, but soon relaxation of labor market rigidities was added to the list of reforms(Hausman & Wieland, 2014, p.3).

Now the reforms planned under the third arrow include an increase in labor participation and a reduction of excessive labor market duality(Aoyagi, Ganelli & Murayama, 2015, p.4). But exact policies have not been formulated. However, recently the Abe administration has put forward a plan of *ichiokusokatsuyaku'* or 'Dynamic engagement of all Citizens'. It basically replaces the

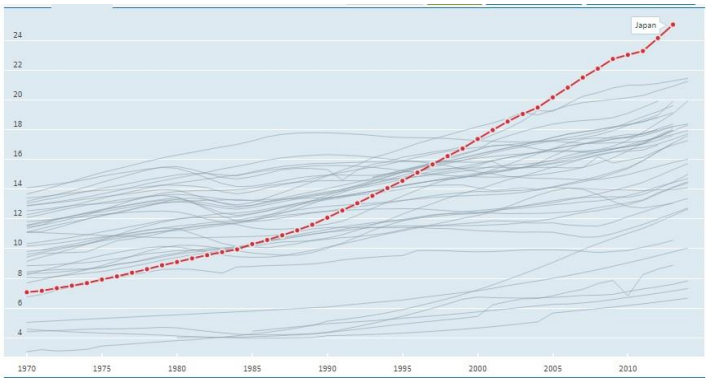


Figure 7 Elderly population (total, % of population) OECD, 2014, https://data.oecd.org/pop/elderly-population.htm#indicator-chart

[11] But not of labor

third arrow of Abenomics. The structural problems addressed in *ichiokusokatsuyaku* are the declining birth rate and the ageing society that have indeed contributed to growing inequality. In this policy, the main idea is that every person can 'follow their dreams'. The idea is that everyone, women and elderly included, play an active role in society and in order to achieve this eliminate policies that obstruct this. Two of the supporting pillars for *ichiokusokatsuyaku* are childcare support that should raise the birth-rate from 1.2 to 1.8 and the other is to provide more social security so instead of taking care of their elderly parents their children are able to remain employed(Prime Minister of Japan and His Cabinet, 2015). A more concrete plan is expected soon, so unfortunately we are unable to research the effects of *ichiokusokatsuyaku* on inequality but we can predict the possible effects.

Womenomics

As described in 'problems of the Japanese labor market', the Japanese society is ageing. Which means that the elderly make up an increasingly larger part of the population which results in a decrease in labor participation(Aoyagi, Ganelli & Murayama, 2015, p.7). Labor productivity in Japan has always been low compared to other OECD countries and a relatively high labor input used to compensate for the low productivity which can be seen in figure 8. However, this is no longer feasible since the labor input is decreasing because of the ageing society(OECD, 2014, pp.3-4). One way to increase labor participation without immigration is to boost the female labor participation (FLP) rate(Aoyagi & Ganelli, 2015, pp.112-114). Recently, Abe Shinzo's policies to boost the FLP have received more attention. One of the plans formulated in his policies are for women to hold 30% of the supervisory positions in all fields by 2020 and shine in their positions, calling it 'womenomics'. However at the current pace the plans are already 15 years behind schedule(Reynolds, Shimodoi and Taniguchi, 2016).

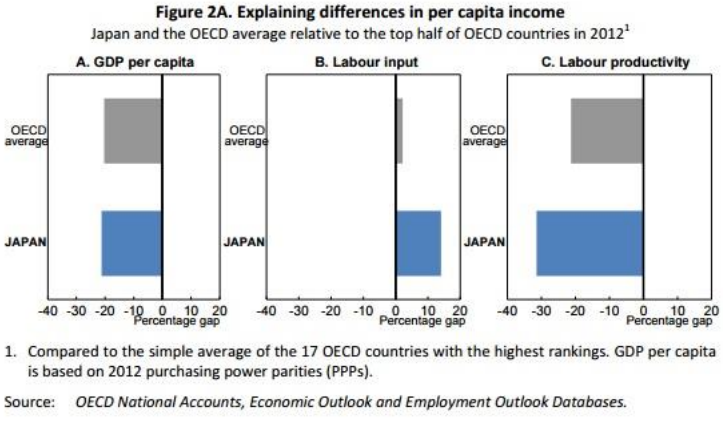


Figure 8 Labor input and productivity OECD, 2014, p.4

It remains difficult for women to advance in their careers in the primary sector after child-birth because of the seniority-based system and the rarity of mid-career hiring. Women in the private sector and national government employees employed in the regions do not get promoted as often as their male counterparts, especially after giving birth(Reynolds, Shimodoi and Taniguchi, 2016). Because women are thrown off their career path after giving birth, most women in the private sector work in (poorly paid) part-time jobs or stop working completely (60%) after childbirth(Aoyagi & Ganelli, 2015, p.113). The government has put emphasis on increasing the supply of child daycare. However demand still largely exceeds supply. Another barrier for fulltime female employment is the tax-system, which allows households that have an income below 1.03 million yen to claim dependent exemption. Females often work part-time even if they would want to work full-time in order not the cross the threshold. Because hourly pay is lower in part-time positions this results in a lower income for the household thereby creating income inequality(Aoyagi & Ganelli, 2015, p.230). However, *ichiokusokatsuyaku* contains a proposal that considers to raise the exemption tax for married couples from 1.03 to 1.30 million yen(Prime Minister of Japan and His Cabinet, 2015, pp.7-10). This might slightly remove the disincentive for women to find full-time employment as to not exceed the barrier of tax exemption.

Around 64% of the increase in inequality can be contributed to an ageing population and 25% to decreasing household sizes(Takanami, 2010, p.7). The solution is not to 'just have more babies'. In order to increase the birth-rate it is necessary to look at the structural causes thereof. If *ichiokusokatsuyaku* could successfully address the structural problems women face when they try to combine a job with childcare, it would address a significant part of the causes of the increased inequality. In order to stimulate the birth-rate, the policies seek to create 'favorable' situations for the youth to encourage them in marriage, child-birth etc. In order to do this the government says it will aim to help youth find employment 'smoothly' by promoting non-regular employees to regular positions, improving their working conditions and expanding the coverage of employment security(Prime Minister of Japan and His Cabinet, 2015, p.5). The government then elaborates on the improvement of working conditions, stating that it wishes to promote various forms of flexible working and an 'improvement of long working hours'. The government intends to encourage the private sectors to enact these policies and write reports about the development, but it does not state goals or standards that these businesses need to comply to (yet). Businesses are expected to invest in human

resources, R&D activities and equipment to stimulate productivity and promote health insurance in order for this to work. But again, no standards are set.

Another, and probably the vaguest and most important statement is that it hopes to promote a 'new mentality' for men to improve the working environment by for example promoting parental leave for fathers(Prime Minister of Japan and His Cabinet, 2015, p.5). This change in mentality is indeed very important to improve the working environment, because prejudices about women, childcare and the role of the father often obstruct FLP. How to construct this change in mentality is not addressed, except for the statement that the legal systems' response to disadvantageous treatment towards employees who leave work for childcare will be 'considered'(Prime Minister of Japan and His Cabinet, 2015, p.11). It is not possible to measure to what extent this changed mentality would influence FLP and thereby inequality but it is important to take into consideration that efforts are made to improve the working lives of women. The amount of female workers has increased with approximately 1 million women and the number of women who hold management positions in the private sector has increased from 6.9% in 2012 to 8.7% in 2015(Prime Minister of Japan and His Cabinet, 2016). This is far behind the plan to increase this to 30%, but progress is being made.

Ageing population

In addition to boost female participation and birth rate, *ichiokusokatsuyaku* also deals with the elderly. The policy advocates more social security aimed to provide better care for the elderly so their children are able to remain in the work force; about 101.000 people left the work-force between 2011-2012 in order to provide care(Prime Minister of Japan and His Cabinet, 2015, p.3). In order to get this number down *ichiokusokatsuyaku* states that the government will improve supply of nursing services, but also improve working conditions, facilities and productivity in the nursing business(Prime Minister of Japan and His Cabinet, 2015, p.6). In order to encourage the elderly to become more independent, the government seeks to offer them employment opportunities, promote the extension of healthy life expectancy and raise their overall incomes (including pensions)(Prime Minister of Japan and His Cabinet, 2015, p.6). These policy proposals remain rather vague as well. By increasing employment of the elderly and their children, labor supply would increase. However, productivity is not necessarily stimulated. It argues for the same 'improvement of working conditions' in the nursing sector as for the youth in order to improve productivity, but again the exact cause-effect is not explained and remains vague. If the elderly would enter the work-force again in

order to become more independent, this would possibly improve income inequality because the elderly would receive more income. It also means that jobs need to be created for both the youth and the elderly while simultaneously improve the hours and working conditions of these jobs and promote non-regular employees to regular positions in order to lower labor market duality which seems like a rigorous task for the government to do all at once. Especially since earlier in the crisis working elderly were offered early retirement in order to provide job opportunities for young people, the capacity of the government to create jobs for the elderly that also abide to favorable working conditions seems rather over-stated.

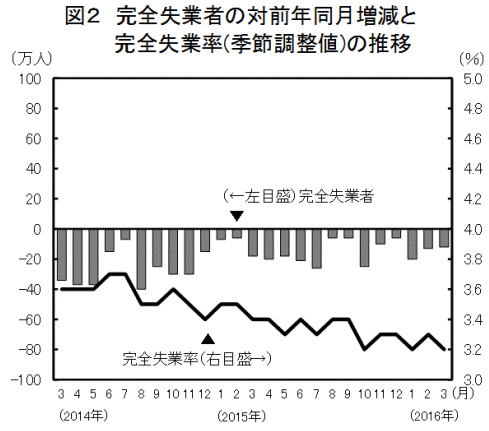


Figure 9 Unemployment Rate
Ministery of Health, Labour and Welfare

The effect on inequality

Since the installment of the Abe administration, unemployment levels have dropped, see figure 9, simultaneously part-time employment has risen. Even if employment has risen, inequality has not diminished because the sort of employment people get into is part-time employment which is non-regular, see figure 10. Most of the people who end up working in non-regular employment actually want to work full-time but are unable to do so because most of the new jobs created are non-regular, see figure 13. Since the wages of non-regular employees are lower than those in regular employment and because of the worse working conditions including the lack of opportunities to invest in the accumulation of human capital, there is an increase in income inequality.

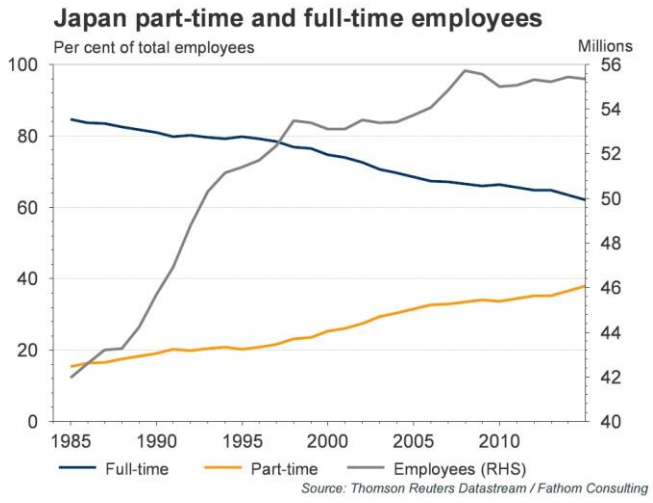


Figure 10 Part-time and full-time ratio
http://lipperalpha.financial.thomsonreuters.com/2014/09/news-charts-japans-hidden-unemployment-problem/

Figure 12 Part-time employment rate
http://www.tradingeconomics.com/japan/part-time-employment

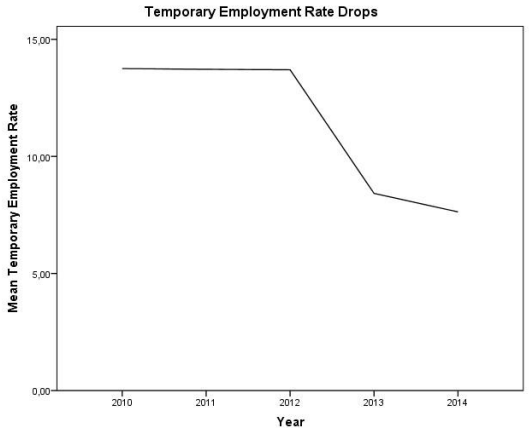


Figure 11 Temporary Employment Rate OECD.org

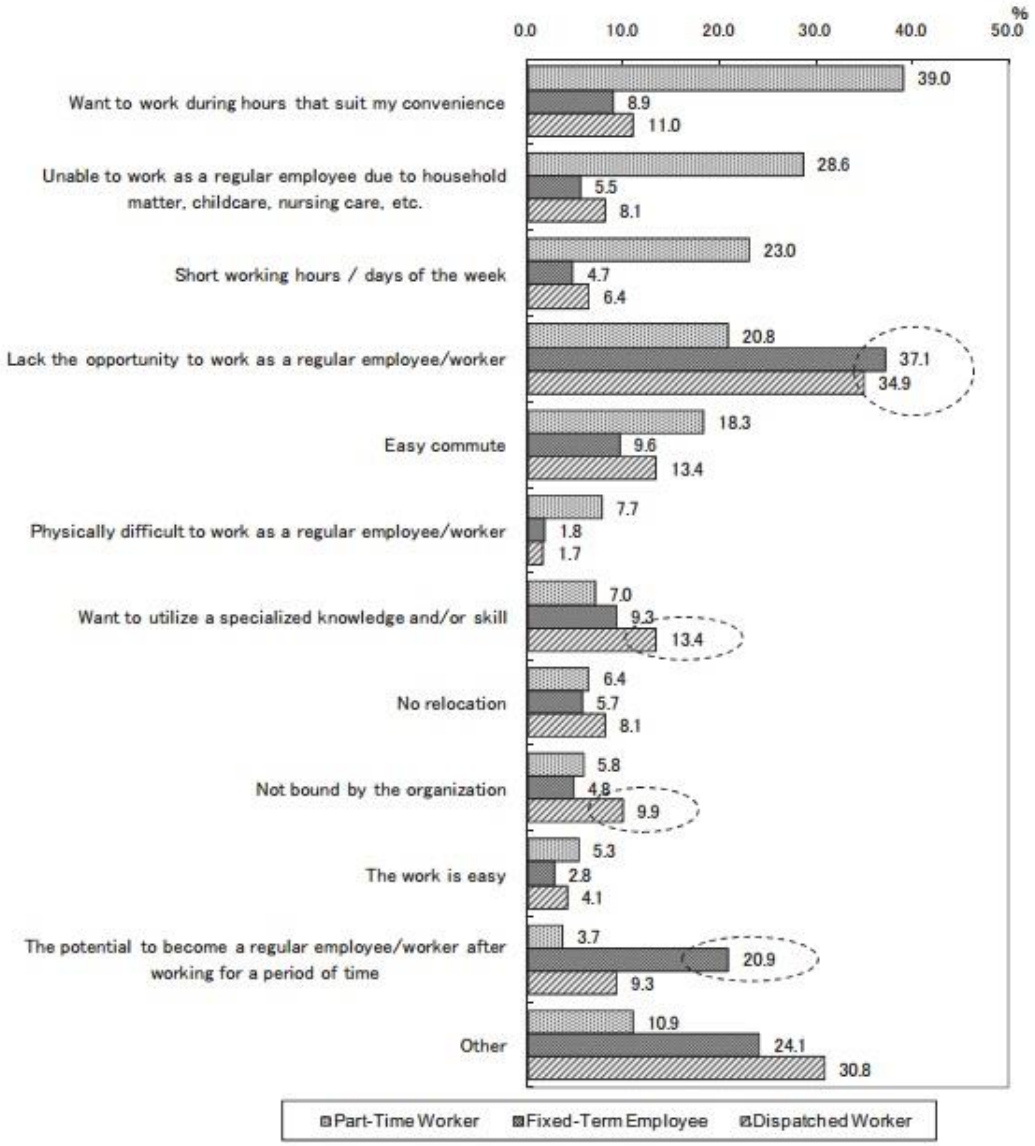
The female employment rate has risen from 60.73 in 2010 to 64.67 in 2015; and the FLP has risen from 63.2 in 2010 to 65.4 in 2015. These are the approximately one million women who have entered the workforce and fly the banner for 'womenomics'. The jobs these women usually get into are non-regular. Indeed female participation has risen simultaneously with part-time employment. The amount of women in leadership positions is far behind the goal of 30% and the barriers to full-time female employment have remained intact. The tax exemption law is still in place, and even if revised from 1.03 to 1.30 it is still there and will cause some women to work part-time instead of full-time where they will receive lower wages. During Abenomics, the wages have remained flat while at the same time GDP has risen. Even though there are plans to raise the wages and make the wages for non-regular and regular employment more equal, this has not been implemented yet. Even though the labor market duality seems to have increased, it must be mentioned that this is mainly due to an increase in part-time employment. Self-employment rates have remained steady while temporary employment rates have dropped from 13.75% in 2010 to 7.63% in 2014.

Conclusion

Under Abenomics unemployment has fallen and the employment rate has gone up. However, simultaneously there has been an increase in the amounts of part-time employment created as opposed to full-time employment. This is also called the hidden unemployment of Japan. Many people would wish to work fulltime but are unable to do so because the jobs created are non-regular, see figure 13. Part-time employment in percentage of total employment created (figure 10) has risen. The hourly wages of part-time employees are about 60% lower than that of full-time employees, indicating a high level of labor market duality which causes higher income inequality Thus we can see that the Japanese labor market is one of the causes of the higher income inequality in Japan.

The government has identified the labor market structure as problematic too. The new plan serves as a replacement for the third arrow that was never fully launched and wants to increase labor participation and productivity. In order to do this the Japanese government wants to address structural problems such as the long working hours, the minimum wage, the tax exemption ceiling and other working conditions. If these reforms were fully implemented they would indeed lower inequality by both tackling the working conditions in the dual labor market and increasing the birthrate. This would lead to less inequality since the ageing society is a cause of the rise in inequality. However, we should be skeptical about the capabilities of these 'Urgent Reforms'. To create jobs for both the elderly and youth that fulfill the improved working conditions would be very challenging. To have both a flexible workforce and simultaneously shift the youth from non-regular to regular employment seems contradictory. Furthermore, some newspapers already argue that the new plan might be used to regain voters' sympathy for the next general elections. Most of the voters have seen their economic condition worsen as a result of the higher consumption tax and flat wages. As we have seen, it is very difficult to implement reforms in Japan since they first have to be accepted in the Diet (the parliament). This is a difficult task since the LDP party members are not bound to a party ideology and some are against structural reforms. During this process, some of these reforms might be blocked or altered, so we cannot yet pass a judgment on the effects the new policies might have. However, that a policy is formulated and addresses the root of the problem is important and might have an effect over the longer term.

Figure 5 Reasons for Non-Regular Employees to Choose the Current Work Style (Multiple Answers)



Source: JILPT's "Survey on the Current Conditions of Employment of Workers with Diverse Employment Type" (Employee Survey) (Implemented in 2010).

Figure 13 Reasons for Non-Regular Employees to Choose the Current Work Style (Asao, 2011, p.12)

Conclusion

This thesis has investigated the relationship between labor market duality and inequality and applied it to the Japanese case of the third arrow of Abenomics. As a result of the economic crisis of the 1990s there has been a shift from the life-long employment system towards non-regular employment. An increase in the share of non-regular employment causes higher inequality because the working conditions and wages as well as the capacity to acquire human capital and intercompany mobility are significantly lower than in regular employment. This labor market duality has become increasingly segmented in Japanese society. In 2012 Abe Shinzo launched a plan to generate economic growth through the launch of three arrows; monetary expansion, fiscal stimulus and structural reforms. Saiki & Frost (2014) and Aoyagi, Ganelli & Murayama (2015) argued that it was only possible to generate inclusive economic growth if the third arrow of structural reforms was fully launched. From the beginning, the third arrow's contents were heavily debated and no structural reforms were implemented. Overall, the third arrow has not succeeded in addressing the causes of increased inequality; ageing society and labor market duality.

In fact, the amount of NSW has risen opposed to regular work since Abe came to power. Even though people perceive the inequalities between non-regular and regular employment as unfair and undesirable they have no choice but to enter non-regular positions thereby generating less income and lowering their productivity as well. The higher amount of people who work in non-regular jobs during the reign of Abe has increased income inequalities among Japanese.

The new plan *ichiokusokatsuyaku* is aimed to solve the structural problems. It proposes to raise the birth-rate in order to address the ageing society that causes higher levels of inequality. The causes of the low birth-rate such as the inability for young couples to generate enough income to pay the costs of raising a child would be solved by improving the working conditions creating a shift from non-regular to regular employment and increasing the amount of child-care facilities such as daycares. *Ichiokusokatsuyaku* has not been implemented yet and few goals have been defined clearly. However it is obvious that the *ichiokusokatsuyaku* is the replacement of the third arrow which has failed to address the inequalities caused by market duality.

Of course, we cannot know what would have happened to inequality in Japan had Abenomics not been implemented, so we do not know whether inequalities would have continued to grow without it. Neither can we now what would have happened if policies had been implemented to reduce the level of NSW. Companies might have created more regular jobs but they also might have decided not to hire, leading to increased levels of unemployment. Or, as was the case in Korea, wage and non-wage benefits of non-targeted non-regular workers and regular employees might have been cut in order to comply to the anti-discrimination law that protected targeted non-regular employees(Choi, 2016 pp.14-16). However, we know that the income of some non-regular workers are low compared to regular workers and almost the same for unemployed persons on benefits[12]. Moreover, we have seen that the probability of becoming a regular employee is the same for the unemployed and most non-regular employees. The high amounts of non-regular employment increase income inequality because of these conditions.

With both the *ichiokusokatsuyaku* and the limits of what we can research in the back of our minds, we can conclude that the effect of the third arrow on equality has been negative. It is not necessarily because of what it has done but more about what it did not do; the Abe administration has shot short of its goal to increase the amount of women in the work-force and in leading positions, it has not decreased the amount of NSW and they have not resolved the wage-gaps, lower mobility and human capital accumulation disparities and neither have they addressed the problems of the ageing society. Instead, we see that the amount of people in NSW has increased and created jobs are often non-regular. Because of this, inequality levels have not dropped. The amount of people working in NSW and the flat wages has influenced equality negatively. Because of the higher income inequality, people perceive the Japanese society as ‘increasingly unfair’.

[12] As described in Theoretical Framework: Labor market duality

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