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Priorities of Energy Policy of Japan under Abenomics

ABSTRACT

Since the 1990s, the energy policy of Japan has been driven by 3 main priorities: enhancing energy security, protecting environment, and improving energy efficiency. Balancing these 3 elements is not an easy matter. The Strategic Plan of Energy 2010 confirmed these objectives. Responsible for its establishment METI assumed promotion of nuclear power generation that covered building 9 new or additional nuclear plants. The accident at the Fukushima power plant opened discussion on the new Japan's energy policy. In April 2014, the LDP government of Prime Minister Shinzō Abe adopted an updated Strategic Energy Plan aimed at reducing reliance on nuclear power. This should be referred to "Abenomics," i.e. a term used to call an approach proposed by Shinzō Abe to end 20 years of creeping deflation and put Japan back on a path of economic growth. Due to the importance of energy sector for growth agenda combined with the energy problems of Japan Abenomics influences energy industry. The government must reconcile the fear of nuclear energy after Fukushima incident with economic situation of the country. Shinzō Abe has a plan in this respect.

KEYWORDS:

Japan, energy policy, Abenomics, nuclear energy, Fukushima

INTRODUCTION

In December 2014 snap election the Prime Minister of Japan Shinzō Abe and his party obtained another strong mandate to govern Japan. The Japanese have expressed their support for his programme, including Abe's economic agenda called "Abenomics." Due to the importance of energy sector for growth and the economic recovery of Japan combined with the energy problems of the country (Fukushima disaster, energy dependence, high energy prices, etc.) the energy industry is given a special interest by the government.

Seen in this light, the aim of this paper to provide a brief overview of the relevant energy policy issues of Japan. Because of the importance of Abenomics for the shape of Japanese policy agenda the paper presents comments on its definition as well as some observations on its results. As energy sector is a point of reference of this study, the paper juxtaposes the general approach of Abenomics with the energy situation of Japan as well as directions chosen by the Japanese government in terms of the energy policy.

Defining Abenomics

"Abenomics" is a term used to call an approach proposed by Shinzō Abe to end 20 years of creeping deflation and put Japan back on a path of economic growth. Its direct goal is to increase domestic demand and gross domestic product while raising inflation to 2% (McBride, 2015). This proposed in 2012 concept in based on 3 key assumptions: fiscal expansion, monetary easing, and structural reform, although in the long run government of Japan aims at increasing competition, reforming labour markets, and strengthening trade partnerships (McBride, 2015). Together these 3 priorities can be described as "3 arrows" which merge at one point – strong public involvement in the economy.

An important element of this approach is the joint action of government and the central bank. Abenomics covers a massive monetary stimulus programme of the Bank of Japan that go together with a fiscal boost done by the government (Harding, 2015). To sum up: "Abe's monetary policy consists of printing additional currency to make Japanese exports more attractive and generate modest inflation [while] … fiscal policy, entails new government spending programs to stimulate demand while the third approach, structural reforms, includes various regulations to make

Japanese industries more competitive" (Menton, 2014). Mentioned fiscal arrow is combined of the consumption tax and a stimulus program that in the short run has to offset the consumption tax (Menton, 2014).

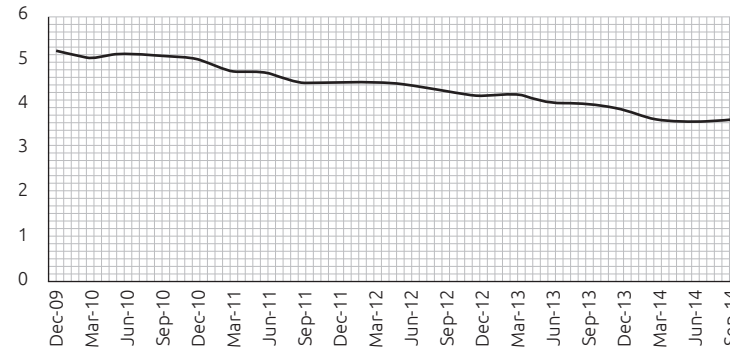
Proponents of Abenomics notice the Bank of Japan's gigantic purchases of government debt as the only method to tackle deflation and avoid more stagnation (Sharp, 2015). On the other hand, "[t]he International Monetary Fund warns that the scale of monetary expansion could roil the world's markets by causing a spike in government bond yields and rendering the nation's debt unsustainable" (Sharp, 2015).

Evaluation of Abenomics

Success of Abenomics should result in an increase in real GDP. However, to date, the effects on the real economy are rather mixed. Depreciation of Japanese currency, with the growth of foreign-denominated profits, strengthens Japanese corporate earnings (Diedrich, 2015). Among other outcomes of Abenomics one may find improvement of employment or small increases in export (Diedrich, 2015). On the other hand, as Sam Diedrich notices, the factors "observed so far are largely a reflection of a change in expectations priced into financial assets … [thereby] we have failed to see Abenomics ignite real GDP growth in Japan." (Diedrich, 2015). The following data confirms these circumstances:

Graph 1.

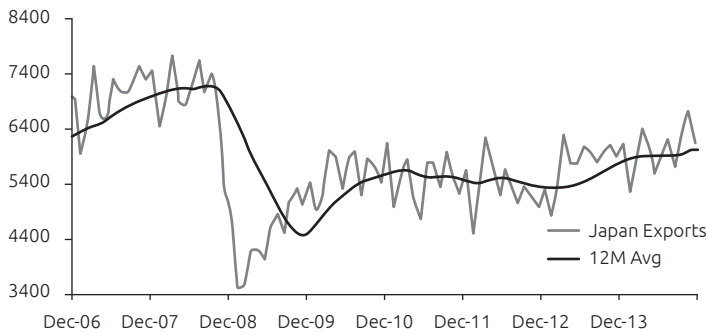
Japan's Unemployment Rate (%)



Source: Bloomberg (in Diedrich, 2015)

Graph 2.

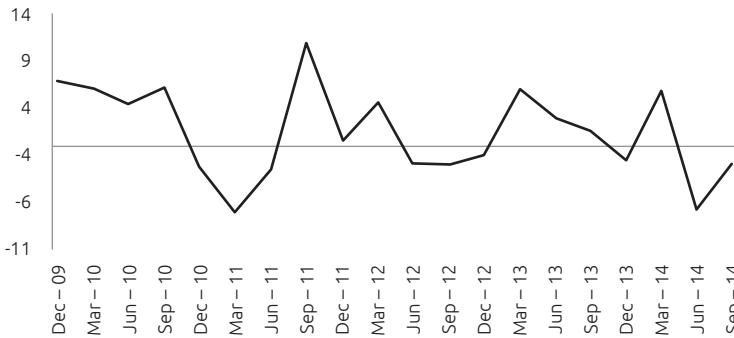
Japan's Export (JPY bln)



Source: Contingent Macro Advisors, LLC (in Diedrich, 2015)

Graph 3.

Japan's Real GDP Growth (Annualised %)



Source: Bloomberg (in Diedrich, 2015)

The real economy means also a situation of Japanese companies. Recently, Japan is struggling with problems which could weaken economic growth. In July this year, the Japanese electronics giant Toshiba announced that for years they have overestimated information about their revenues. The false accounting began in 2008 when instead of a real loss of ¥18.4 billion Toshiba announced an alleged profit of ¥500 million (Economist, 2015). Certainly, scandals as those in Toshiba do not improve Japanese economy, but reveals the weakness of corporate governance in Japan that creates new fields for the authorities' commitment to the recent reforms (Wakatabe, 2015).

On the other hand, the fallout from Toshiba's accounting issues may result in increased public regulation in Japanese corporate governance (O'Brien and Aboud, 2015). This fits in with the actions already taken by Japanese government (i.e. the new governance code requires publicly traded companies in Japan to appoint at least two independent outside directors), as the corporate governance among key targets of Abenomics' efforts to boost Japan's economy (Spitzer, 2015).

Among the reasons that stand behind false information about Toshiba's income are the company's decreasing earnings caused by the global financial crisis as well as the 2011 Fukushima nuclear disaster (Fuse, 2015). These circumstances (inefficient regulation of corporate governance, influence of the nuclear disaster on Japanese economy), juxtaposed with the government's actions included in the framework of Abenomics, make a field for remarks on the energy policy of Japan. The energy sector, as being "an engine of economy" is highly susceptible to the influence of public authorities. Seen in this light, the next part of the paper presents an analysis of Japan's energy mix. This will be the basis for further comments on the Japanese energy policy and impact of Abenomics on its shape.

Energy Insight of Japan

After World War II Japan rapidly expanded its industrial base relying mainly on fossil fuel imports, particularly oil from the Middle East (oil fuelled 66% of the electricity in 1974) that is why Japan was strongly hit by the oil shock in 1973 (World Nuclear Association, 2015). Thereby, "[a]t this time, Japan already had a growing nuclear industry, with 5 operating

reactors. A high priority was given to reducing the country's dependence on oil imports. A closed fuel cycle was adopted to gain maximum benefit from imported uranium" (World Nuclear Association, 2015).

In the twenty-first century Japan still maintained a high dependence on energy imports. According to U.S. Energy Information Administration (EIA) since 2012 Japan limited internal energy resources have met less than 9% of the country's total primary energy usage (EIA, 2015). In comparison to the pre-Fukushima level Japan has noted a drop of 11% (EIA, 2015). In quoted study of EIA, Japan ranks as the world's largest importer of liquefied natural gas (LNG), second-largest importer of coal (behind China), and the third largest oil consumer and net importer in the world (behind the United States and China) (EIA, 2015).

Before Fukushima an important element of Japanese energy mix was nuclear generation. In 2011, it represented about 27% of the power generation and was one of the country's cheapest energy sources (EIA, 2015). This significant loss of power generated from nuclear sources was fulfilled with imported natural gas, low-sulfur crude oil, fuel oil, and coal, although it resulted in higher electricity prices for consumers, higher government debt levels, and revenue losses for electric utilities, as the generation of electricity from fossil fuels was more expensive than those produced from nuclear fuel (EIA, 2015). However, higher dependency on fossil fuels causes outflow of national wealth and increase supply instability of resource prices (Ministry of Economy, Trade and Industry [METI], 2014a).

Before the 2011, Japan was the third-largest consumer of nuclear power in the world (after the United States and France), that accounted for about 13% of nuclear power in the country's total energy mix of 2010 (EIA 2015). As a result of Fukushima in following years (2012-2013) the nuclear energy share had fallen to less than 1% in total energy consumption (EIA, 2015). After Fukushima Japan altered its energy mix by increasing usage of natural gas, oil, and renewable energy as alternatives for the nuclear fuel. Nevertheless, as EIA notices "[h]ydroelectric power and other renewable energy sources comprise a relatively small percentage of total energy consumption in the country, although renewable energy is slowly growing as an alternative fuel source" (EIA, 2015).

In terms of other sources of energy as EIA indicates "[o]il remains the largest source of primary energy in Japan, although its share of total energy consumption has declined from about 80% in the 1970s to 44% in 2013 … as a result of increased energy efficiency and the increased use of other fuels" (EIA 2015). Apart from it "[c]oal continues to account for a significant share of total energy consumption, although natural gas is increasingly important as a fuel source and is currently the preferred fuel of choice to replace the nuclear shortfall" (EIA 2015).

The shape of the energy sector is created under the influence of the energy policy. Thereby, the following section of the paper reviews how government of Japan steers it.

Japanese Energy Policy

Since the 1990s, the energy policy of Japan has been driven by 3 main priorities: enhancing energy security, protecting environment, and improving energy efficiency. Balancing these 3 elements is not an easy matter. E.g. coal in energy mix may strengthen energy security but is in a conflict with the climate change agenda (Arima, 2011). On the other hand renewable energy sources support climate change mitigation but tends to be more costly (Arima, 2011). This resulted in promotion of the nuclear option as a key for achieving these 3 priorities in Japan (Arima, 2011).

The Strategic Plan of Energy 2010 confirmed these objectives. Responsible for its establishment METI assumed promotion of nuclear power generation that covered building 9 new or additional nuclear plants (with the overall plant capacity utilisation rate at about 85%) by 2020 and more than 14 (with the rate at about 90%) by 2030 (METI, 2010). Moreover, actions in the field of nuclear power included "[a]chieving long-term cycle operations and shortening operation suspensions for regular inspections, [i]mproving the power source location subsidy system (by considering measures to promote the construction and replacement of nuclear plants and place a greater weight on electricity output in calculating subsidies), [a]chieving the nuclear fuel cycle establishment including the development of 'pluthermal' and fast breeder reactors, [as well as] [i]nternational cooperation for nonproliferation and nuclear safety" (METI, 2010).

The accident at the Fukushima power plant opened discussion on the new Japan's energy policy. Hikaru Hiranuma in his paper "Japan's Energy Policy in a Post-3/11 World: Juggling Safety, Sustainability and Economics" provides a coherent description of the political process concerning energy sector, which in recent years took place in Japan. As he notices:

> [t]he pre-quake Strategic Energy Plan announced by the Democratic Party (DPJ) in 2010 put an emphasis on nuclear power as the mainstay of Japan's energy supply and offered little guidance for addressing these issues. The plan was subsequently rejected, and a new policy was announced by the DPJ to eliminate nuclear power from Japan's energy mix before 2040. The coalition agreement between the Liberal Democratic Party [LDP] and the New Komeito Party, which defeated the DPJ in the December 2012 general election, backtracked from the "zero nuclear power" policy, which constituted an important shift from the nuclear-dependent policies of the pre- Fukushima era (Hiranuma, 2014).

In April 2014, the LDP government of Prime Minister Shinzō Abe adopted an updated Strategic Energy Plan aimed at reducing reliance on nuclear power (Hiranuma, 2014). The Plan, assessed by the Japanese government as "the starting point for rebuilding Japan's energy policy" (METI, 2014b), in many sections refers to the use of nuclear energy. Under its provisions government of Japan assumes restoration and reconstruction of Fukushima as the very first steps towards rebuilding the country's energy policy. According to the Strategic Energy Plan "[a]s its top priority [government] must do its utmost to achieve the restoration and reconstruction of Fukushima through implementing the measures for decommissioning and contaminated water, ensuring compensation for the nuclear accident damage, decontamination, construction of an interim storage facility and control of damage caused by groundless rumors about the accident" (METI, 2014b). Apart from it, the Plan includes other actions in the field of nuclear industry. These covers, *inter alia*, security and safety of nuclear operations, spent fuel management, or dialog between different nuclear stakeholders (society, nuclear host municipalities, international community).

The Strategic Energy Plan reviews also the position of Japan on nuclear power in Japanese energy mix. As it is stated there:

> Nuclear power's energy output per amount of fuel is overwhelmingly large and it can continue producing power for several years only with domestic fuel stockpile. Nuclear power is an important base-load power source as a low carbon and quasi-domestic energy source, contributing to stability of energy supply-demand structure, on the major premise of ensuring of its safety, because of the perspectives; 1) superiority in stability of energy supply and efficiency, 2) low and stable operational cost and 3) free from GHG emissions during operation (METI 2014b).

With respect to existing nuclear power plants, as expressed in the Plan, the government of Japan leaves the assessment of whether nuclear installations meet the new regulatory requirements to the Nuclear Regulation Authority (NRA). A general rule is as follows: "in case that the NRA confirms the conformity of nuclear power plants with the new regulatory requirements,which are of the most stringent level in the world, [government] will follow NRA's judgment and will proceed with the restart of the nuclear power plants" (METI, 2014b).

Moreover, the Strategic Energy Plan provides a policy direction of Japanese government in the field of nuclear industry and its role in the future. Herein, the following quotation clearly presents the approach that will be implemented by Japan in terms of nuclear energy:

> [d]ependency on nuclear power generation will be lowered to the extent possible by energy saving and introducing renewable energy as well as improving the efficiency of thermal power generation, etc. Under this policy, [government of Japan] will carefully examine a volume of electricity to be secured by nuclear power generation, taking Japan's energy constraints into consideration, from the viewpoint of stable energy supply, cost reduction, global warming and maintaining nuclear technologies and human resources (METI, 2014b).

These statements evidently show that the government of Shinzō Abe intends to come back to nuclear energy as a baseload power with necessary safety measures (EIA, 2015). Current Japanese authorities considers that the use of nuclear energy is necessary. This is due to the strong dependence of Japan on external energy supplies and production needs of the Japanese economy whose competitive potential is constrained by high energy prices. Additional pressure on prices is also posed by consumers demanding rationalisation of the pricing of electricity.

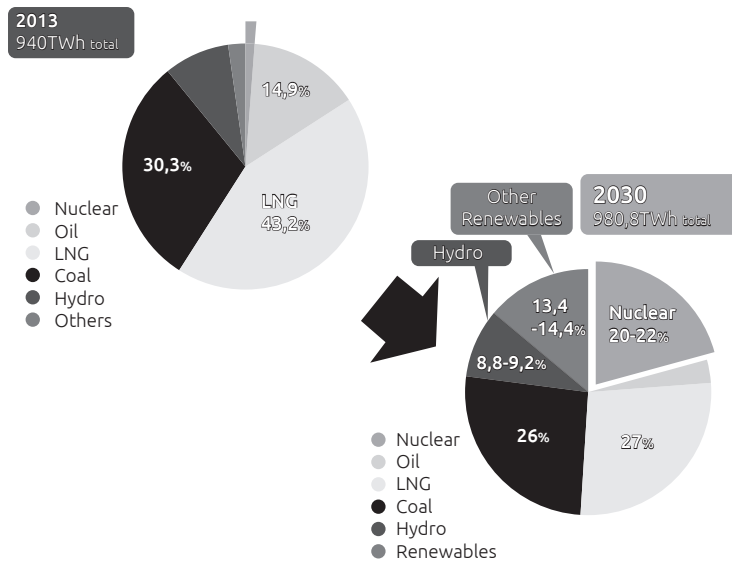
In this context, as EIA assesses Abe's actions in the field of energy in following way:

> [t]he government's new energy policy issued in 2014 emphasizes energy security, economic efficiency, and emissions reduction. Key goals and plans to balance the country's fuel portfolio include strengthening the share of renewable and alternative energy sources, diversifying away from oil to reduce dependency in the transportation sector, and developing the most advanced generation technologies using fossil fuels. These efforts occur in the context of the government's goal to reverse two decades of economic stagnation in Japan and to provide economic revitalization through public infrastructure spending, monetary easing, labor market reform, and business investment (EIA, 2015).

In 2015, the Japanese government continued the discussion on the shape of the country's energy policy. At the beginning of June, an advisory panel to Ministry of Economy, Trade and Industry of Japan (Advisory Committee for Natural Resources and Energy) agreed to endorse the proposal on future the Japanese energy policy. Naturally, the most contentious issue is the use of nuclear energy. Despite earlier opposition from some members, in Committee's proposal nuclear energy will cover 20-22% of Japan's energy needs by 2030 (Nikkei Asian Review, 2015). "The proposal, which calls for boosting the ratio of nuclear energy from the 1% in 2013, is based on the assumption that Japan will extend the operational lifespan of its nuclear reactors" (Nikkei Asian Review, 2015).

Graph 4.

Japan's Energy Mix 2013 and 2030



Source: JAIF (in World Nuclear News, 2015)

As shown above, Japanese government will follow a way towards increasing the usage of renewable energy sources. Seen in this light, recalled proposal also includes actions in terms of renewable energy sources that will account for 22-24% of the country's energy mix by 2030 (Nikkei Asian Review, 2015). Still a significant share in energy mix (although slightly smaller than 2013) will be covered by coal (26%). Government of Japan predicts also a changes in LNG and oil usage (large drops in usage). In terms of a total energy demand in Japan, METI forecasts that it will increase from 940 TWh in 2013 to 980.8 TWh in 2030 (World Nuclear News, 2015).

SUMMARY

Among proposed by Abenomics "3 arrows" one touches energy sector directly. It is structural reform (in a short run) and related with it long run aims like increasing competition. The challenges of energy prices and energy dependence (lack of natural resources) of Japan on external supply drive government's actions. After Fukushima, standing at the crossroads Japan had to take some measures to improve its energy security. The rising import of energy fuels (mainly LNG, but also fossil fuels – coal) could not be a permanent part of the energy mix of Japan.

These circumstances are certainly not conducive to economic development. The production capacity of energy sector create obvious competitive advantages. They are used successfully in the global market (e.g. U.S. shale gas boom). As a global manufacturer located in world production basin Japan grapples with the problem of the nearest competitors and their strengths also in terms of energy generation – China and South Korea (not to mention India). There is a danger that deprived of the possibility to buy cheap electricity Japanese factories will be forced to move to its production lines direct competitors.

Guided by the postulate the revival of the Japanese economy government of the Prime Minister Shinzō Abe cannot allow this to happen. Guided by theory of public interventionism Japanese authorities set up strengthening of the regulation as a tool for safe and secure re-use of nuclear energy. Energy produced in nuclear sources can be a basis for Japanese development for the nearest future. Apart from establishment of the highest standards it requires taking into account the Fukushima syndrome, which menace brings growing concern in society Japan. Open dialog on energy issues is necessary.

Moreover, Japan should not resign from the development of renewable energy sources. These technologies can complement the energy mix and in the future constitute its major part. Furthermore, they have a large social acceptance – and what is important for goals of Abenomics – they create new jobs ("green jobs"). Thereby, it is appropriate to consider their current role and gradually increase the share of renewable energy sources in the energy mix of Japan.

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