

Summary of presentation made by Dr Imrohoroglu
 “Headwinds and Turbulence since 1990:
 Japan’s Economic and Fiscal Performance over the Next Decade”

Dr Imrohoroglu began his presentation by referring to the current US economic situations as a benchmark for the economic status of Japan. Current macroeconomic outlook of the US is good; 1.5% of real GDP growth in the 4th quarter, less than 2% of inflation and below 6% of unemployment rate. Future prospect is also good with 2% of real GDP for a coming decade or two, and inflation and unemployment will be stable. Current debt-to-GDP ratio is about 74%, but is expected to rise to 100% over the next 15 to 20 years. The reason for this is an increase in spending especially healthcare expenditure. Dr Imrohoroglu showed a chart representing the timing and size of policy changes needed to keep or reduce the debt-to-GDP ratio (presentation slide page No.6). To keep the current debt-to-GDP ratio of 74% till 2039, the US needs to reduce noninterest spending or increase revenues by 1.2% of GDP every year from 2015 to 2039. If it does not take actions for 10 years and does so in 2025, it needs annual reductions in noninterest spending or increases in revenues equal to 2.1% of GDP every year. The later the policy change is made the more the US needs to cut spending or raise revenue. If the US wants to bring debt-to-GDP ratio down to 39% (the average of last 40 years), it needs 2.6% of GDP adjustments annually from 2015, and 4.5% of GDP from 2025. Three percent of GDP is equivalent to \$500 billion of increase in revenues or spending cuts. This should be done in the midst of aging population which requires more healthcare expenditure. He took social security as an example of policy change. According to the US Social Security Trustees Report in 2013, an additional 2.66% payroll tax on top of the current level of 12.4% or a 16.5% reduction in benefits starting with the 2014 eligibles is enough to achieve actuarial balance. However, according to the model including consequential reduction of labour supply due to tax increase, actuarial balance is achieved either by an 8.25% increase of payroll tax or a 38.8% reduction of benefits.

He turned to the situations of Japanese economy. He compared the economic situations in the early period between 1972 and 1990 to those in the later period after 1991 (which is called “lost decades”). In the early period Japan delivered fantastic results of 4.42% of average real GDP growth which mainly came from an increase in private capital stock and total factor productivity. Real GDP growth in the later period was 1.03%. Poorer results relative to the early period were caused by a decline in total hours worked and

lower productivity. So, Japan needs more work-force and an increase in productivity. This is all about the third arrow of Abenomics.

What are the reasons for the slowdown in the Japanese economy? He pointed out (1) policy mistakes or policy inaction, (2) delay in bank recapitalisation or zombie-lending and (3) lack of structural reform. He listed a lot of research which deals with these matters, and introduced three of them.

Caballero, Hoshi, and Kashyap (2008) *American Economic Review*ⁱ deals with zombie-lending which creates a lot of congestion by holding on to capital and labour in firms that should instead go bankrupt. Ever-greening prevented efficiency of market economy through misallocation of capital and labour.

Güner, Gustavo, and Xu (2008) *Review of Economic Dynamics*ⁱⁱ creates a model regarding an efficient size distribution of firms. According to the model, departure from the efficient size distribution leads to lower productivity.

Buera, Moll, and Shin (2013) *Review of Economic Dynamics*ⁱⁱⁱ deals with the issue that well-intended policies have sizable negative long-run effect on aggregate output and productivity. Although subsidised credit to productive entrepreneurs to alleviate credit constraint has the intended effect in the short term, the subsidies are often hard to alter once in place despite such entrepreneurs turn to unproductive. As a result, the entry of newly productive entrepreneurs into the market is prevented, and in the long run aggregate output and productivity are depressed.

Dr Imrohorglu again compared the current status of the US and Japan. While the US is doing well showing a growth rate of more than 2% in 2014, Japan's growth rate will be negative for 2014. Political situation in Japan is improved since the Abe government holds the majority in both houses of the Diet which enables it to take drastic deregulation measures in agriculture, healthcare and energy. However, it faces a lot of daunting tasks in the economy which include: the recession as a short-term problem; high debt to output in the medium term; the third arrow (industry revitalisation) as the most important issue; and the fourth arrow to be addressed for the aging related fiscal adjustments.

The necessity of structural reforms in Japan is proven by poor results of appraisal by OECD's "Doing Business" ranking: Overall ranking of Japan is 29th place; starting business is ranked 83rd and paying taxes is ranked 122nd.

Then, Dr Imrohorglu turned to what Japan should do. He emphasised the importance of the fourth arrow which addresses the high debt-to-output ratio of 150% and projected increases in government expenditures due to the aging population. Japan needs to create new annual revenues equal to 7% of GDP to meet an increase in pension and health expenditures due to aging. He showed a chart depicting changes in the population pyramid of 1990, 2010 and 2055 (presentation slide page No.29). A little more than one worker needs to pay high enough taxes to pay for one retiree's benefits in 2055.

One of the points raised by Mr Shirakawa, the former Governor of the Bank of Japan, to respond to the demographic changes is to increase the working age population by increasing fertility, more female workers participating in workforce, extending retirement age, and increasing immigrant workers.

Dr Imrohorglu has developed several models to measure how large fiscal adjustments Japan needs to do and what options can be taken. One model he developed with Dr Hansen^{iv} indicates that if Japan wants to achieve the fiscal balance only by the adjustment of consumption tax Japan needs to increase it to unprecedentedly high level of 40-60%. This is politically unbearable, so he developed another model^v involving three reforms. The first one concerns pension reform (raising pension age). This helps significantly to carve out the budget deficit related to pension. The second reform is the consumption tax. If it goes up to 20% it will completely wipe out the non-pension deficit. The third one is female labour force participation. Currently, while the male labour force participation rate is more than 90% at almost all working ages (including contingent (irregular) workers and self-employed) the female labour force participation rate ranges between more than 60% and less than 80%. Especially, participation rate of female regular workers is nearly a half of that of male regular workers. Concerning earnings male contingent workers make the least if compared to regular workers and self-employed. Female workers' earnings are significantly less than males' at all age. If the women participate in the work force more, the non-pension deficit is significantly eliminated. So, it is clear that some sort of combination of policy reforms in a very coordinated fashion is necessary to solve the Japan's fiscal problem in the aging population.

Dr Imrohorglu is now working on two additional projects: one concerns immigration (what amount of immigration can contribute to improve the fiscal position) and another concerns what kinds of policies the Japanese government may implement to encourage

women to participate in labour force, such as free or subsidized day-care.

He emphasised that as he indicated in the US case the earlier the Japanese government takes actions the less severe the difficulties to solve the fiscal problems. Otherwise the Japanese will leave more severe problems to their later generations.

ⁱRicardo J. Caballero, Takeo Hoshi, and Anil K Kashyap: Zombie Lending and Depressed Restructuring in Japan, *American Economic Review* 2008, 98:5, 1943-1977

ⁱⁱNezih Guner, Gustavo Ventura, and Yi Xu: Macroeconomic Implications of Size-dependent Policies, *Review of Economic Dynamics* 11(4), 721-744

ⁱⁱⁱFrancisco Buera, Benjamin Moll, and Yongseok Shin: Well-Intended Policies, *Review of Economic Dynamics* 16(1), 216-230

^{iv}Gary Hansen & Selo Imrohoroglu, 2013: "Fiscal Reform and Government Debt in Japan: A Neoclassical Perspective," NBER Working Papers 19431, National Bureau of Economic Research, Inc. <https://ideas.repec.org/p/nbr/nberwo/19431.html>

^vSagiri Kitao & Selahattin Imrohoroglu & Tomoaki Yamada, 2013: "Achieving Fiscal Balance in Japan," Economics Working Paper Archive at Hunter College 441, Hunter College Department of Economics. <http://econ.hunter.cuny.edu/wp-content/uploads/sites/6/RePEc/papers/HunterEconWP441.pdf>