

# IDE Research Bulletin

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Research Summary based on papers prepared for publication  
in academic journals with the aim of contributing to the academia

## **Fundamental Research on International Flow-of-Funds Analysis**

Project Organizer

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## Fundamental Research on International Flow-of-Funds Analysis

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- Outputs of the project

This research project produced three papers; “A structural analysis of Japanese economic development” by Tsujimura and Tsujimura, “Flow-of-Funds Analysis of the Brazilian Economy (2004-2014)” by Burkowski and Kim, and “Flow of Funds in Asia-Pacific Region” by Hagino, Kim and Inomata.

- Brief summary of the project

To get a brief overview of the world economy in recent years, savings glut causes public debt problem in developed economies. On the other hand, lack of investment undermines economic growth of underdeveloped countries. However, the discrepancy of financial systems between developed and developing countries hinders global redistribution of funds. This research project aims to comprehend and organize flow-of-funds accounts of

various countries of the world, especially case studies of Brazil, and Japan, and their analysis methods systemically in order to analyze the situation of global maldistribution of funds. Furthermore, the global financial input-output tables including Japan, Korea, the U.S. and Canada are created. The countermeasure for underdeveloped countries with inadequate statistics will be examined in the concrete.

### **“A structural analysis of Japanese economic development”**

Japan successfully escaped from poverty after the world war and attained prosperity in a matter of two decades. There were two keys for the success. One was the priority production system – the idea to develop the industries at the bottom of the triangulated input-output table first, and to climb the triangle step by step. The second key for the success was the country’s unique financial system; they deliberately grew both long-term financial institutions for large enterprises and local credit associations for small businesses. When Japanese exporting manufacturers fought the appreciation of yen at the end of the 20th century, their answer was the mass introduction of industrial robots. The exporters won the fight but the country did not. What went wrong; what lesson do we learn from it?

### **“Flow-of-Funds Analysis of the Brazilian Economy (2004-2014)”**

This paper applies the flow-of-funds (FOF) framework proposed by Tsujimura and Mizoshita (2004) to investigate the structure of financial system in the Brazilian economy. The study presents the compilation process of the asset–liability matrix (ALM) and then develops an ALM with six institutional sectors (households, non-financial firms, government, the rest of world, financial firms and the Central Bank of Brazil) for the

years 2004 to 2014. From the Brazilian ALM, FOF indexes are calculated (the power of dispersion, the sensitivity of dispersion and the discrepancy of dispersion). For selected years, the structural decomposition of change in the discrepancy index is calculated and an additional expansion presents an ALM with four additional financial firms: three government-sponsored banks—Banco do Brasil, Caixa Econômica Federal, and Banco Nacional de Desenvolvimento Econômico e Social —and one private bank—Itaú. The role of each institutional sector in the Brazilian financial system is illustrated and the discrepancy of dispersion is highlighted with a good indicator of economic problems showing that the origin of recessions in Brazilian economy was almost in the structure of the financial system.

#### **“Flow of Funds in Asia-Pacific Region”**

Flow of Funds Accounts (FFA hereafter) refer to the statistics that describe how funds are transferred and where assets and liabilities exist in or outside a country from a bird’s eye view. When it comes to global FFA, the bird raises the altitude to oversee the worlds as a whole so that cross-border transfer of funds and asset/liability relationship among countries. Although an original idea of global FFA had already been demonstrated by pioneers of FFA including Ishida (1993), recent currency and financial crises, in particular 2008 global financial crisis, has shed light on the usefulness of global FFA. Based on the that 2008 global financial crisis was caused by the inadequacy of statistical information on global financial economy, “The Financial Crisis and Information Gaps, IMF/FSB Report to the G-20” was published and it set the development of global FFA as a core in filling the gap between existing and necessary statistical information. The development of global FFA was push forward by the initiative of the International Monetary Fund (IMF

hereafter), which monitors the global financial system. For example, Errico *et al.* (2014) demonstrated the framework of global FFA using existing international statistics. The IMF has been working on the improvement of international statistics such as Coordinated Portfolio Investment Survey (CPIS) and Coordinated Direct Investment Survey (CDIS). Actual global FFA data, however, has not been produced yet mainly due to the absence of countries' Financial Input-Output (FIO) Tables or From-whom-to-whom FFAs, which are indispensable components of global FFA. It is expected that major countries will produce such tables in the near future to comply with IMF's Special Data Dissemination Standards plus. Under such circumstances, this paper tries to produce preliminary global FIO table focusing on Asia-Pacific region, which is a type of global FFA, and to identify its uses. The authors have exchanged the views with experts of the Bank of Japan, Bank of Korea, U.S. Federal Reserve Board and Statistics Canada, who are compilers of countries' FFA, as well as those of the IMF to discuss how to proceed. Based on such discussions, this paper discusses the method of converting countries' FFA into FIO and putting those FIOs, CPIS, CDIS and other international statistics into the framework of global FIO table. Then, it discusses the use of such table by applying the methods of input-output analysis.