

**International students in Japan:  
a new form of international labor migration**

**WORKING PAPER**

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**Abstract**

This paper argues that student migration in Japan is becoming a new form of international labor migration. Majority of international students in Japan originate from Asia. Evidence shows that many work in Japan during their studies and after graduation. For Japan, whose working population is expected to shrink dramatically in the following years, international student immigration is becoming a source of a required work force: both low-skilled (when students work during their studies) and highly-skilled (if students decide to stay after graduation). For origin countries with developing economies, that might create the desired new job places for highly-skilled young graduates both inside and outside of the country.

This paper investigates the connection between international student migration and immigration policy, as well as foreign direct investments. First section covers literature review. Second section draws on analysis of available data. The final section draws a preliminary conclusion and speculates on the role of international student migration in Japan.

**Keywords:** *international student, immigration policy, foreign direct investments*

**Introduction**

In the age of high mobility of students, more and more international student recipient countries consider foreign student migration not only as a chance to export their education services, but also as a source of labor migration (ADBI, OECD, IOM, 2014). Growing number of publications also consider international students as a form of skilled migration. Furthermore, international students' mobility is the main form of cross-border higher education and a precursor to further migrations (IOM, 2008).

In this context, the case of Japan requires a special consideration. Japan is one the relatively new players in international labor market and international education market. Immigration rates have been the lowest among OECD countries. At the same time, there have been many concerns regarding possible future labor force shortages in order to support present level of sustainable economic development. There are also many suggestions on how to avert the possible future difficulties: promoting birth rates, attracting women

and older people to labor market, and employing foreign labor force either by immigration or by FDI. Promoting birth rates at the very moment seems not to be the best solution, because it will increase the number of dependants (ratio of aged people and children to income-earners) and might complicate the situation even more<sup>1</sup>. Attracting women and older people to labor market takes considerable time to accomplish, because it is related to the necessity of changing work culture and traditions. Employment of foreign labor force appears to be a rational solution, but on the example of other developed countries, who had been supporting immigration of labor force to their countries and its consequences (having both positive and negative attributes), Japanese government is very careful in implementing this policy. Japan chose the policy of attracting highly-skilled labor force and internationalization of education as a part of its foreign immigration policy. However, Oishi (2012) observes that “Despite its open and lenient policies for highly skilled migrants, Japan has not been successful in attracting many professionals from overseas” (Oishi, 2012, p. 1080). In this context, foreign students can also become a source of highly-skilled foreign labor force after graduation. Internationalization of education is seen through accepting more international students for study in Japanese universities.

In Japan, “international students” are defined as foreign nationals who study at any Japanese educational institution (university, graduate school, junior college, college of technology, professional training college or university preparatory course) on a “college student” visa (WES, 2007, p. 8). Two main stages are differentiated in Japanese government policy towards international students:

- 1) Year of 1983 - Announcement of “Plan to accept 100,000 international students” by the beginning of 21st century (achieved in 2003);
- 2) Year of 2008 - Announcement of “Plan to accept 300,000 international student” by 2020.

For Japan, on the initial stage, the rationales for accepting foreign students appeared to be as follows: “expected improvement of education and research in Japanese universities [...], promotion of international understanding between the Japanese and foreign peoples [...], development of human resources”<sup>2</sup>. It was also important for creation of “more open Japan” image in international arena. However, at the later stage, the reasons for accepting more labor migrants transformed. The purpose changed from “foreign aid model” into “education export model”. Furthermore, conditions for international students are being improved, so that international students can reside in Japan after their graduation to contribute to social and economic prosperity of Japan<sup>3</sup>. One of the examples of such privilege is the possibility to obtain special visa called

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<sup>1</sup> See Goto. Ageing Society and the choice of Japan: migration, FDI and trade liberalization, p. 121-157 in Koichi Hama and Hiromi Kato (ed.) (2007)

<sup>2</sup> Shigeto Kawano (Director General of Association of International Education, Japan) “Policy trends and issues regarding foreign students in Japan” in: “Foreign Students and Internationalization of Higher Education” (1989)

<sup>3</sup> Chun-Fen Shao. Japanese Policies and International Students in Japan. Conference Proceedings of 17<sup>th</sup> Biennial Conference of the Asian Studies Association of Australia, 2008. Available online at <http://arts.monash.edu.au/mai/asaa/chunfenshao.pdf>

“Designated Activities” (特定活動) to stay in Japan for job-hunting after graduation for the period up to one year.

On the example of Japan, this paper argues that student migration in Pacific Rim region is becoming a new form of international labor migration. Japanese law allows foreign students to work up to 28 hours a week during study period and up to 8 hours a day during school holidays (JASSO, Part-time work, 2014). JASSO (2014) survey shows that 76 % of international students with “College Student” visa are involved in part-time job. Along with jobs of part-time teaching and translating, many foreign students engage in low-skilled labor market (just as Japanese students do). After graduation though, they acquire a status of skilled worker and can engage in labor market, where they can use the specific skills and knowledge they possess or obtained during their study.

Majority of international students in Japan originate from Asian countries. Table 1 shows that in 2013 almost 90% of foreign students in Japan came from some part of Asia.

**Table 1. Number of International Students in Japan by Nationality, as of May 1, 2013 (persons)**

Country/region	Number of students		% of total		Country/region	Number of students		% of total	
China	81,884	(86,324)	60.4%	(62.7)	Philippines	507	(497)	0.4%	(0.4)
Republic of Korea	15,304	(16,651)	11.3%	(12.1)	Saudi Arabia	472	(413)	0.3%	(0.3)
Vietnam	6,290	( 4,373)	4.6%	(3.2)	United Kingdom	452	(429)	0.3%	(0.3)
Taiwan	4,719	(4,617)	3.5%	(3.4)	Russia	339	(333)	0.3%	(0.2)
Nepal	3,188	(2,451)	2.4%	(1.8)	Cambodia	338	(311)	0.2%	(0.2)
Indonesia	2,410	(2,276)	1.8%	(1.7)	Australia	312	(338)	0.2%	(0.2)
Thailand	2,383	(2,167)	1.8%	(1.6)	Canada	308	(302)	0.2%	(0.2)
Malaysia	2,293	(2,319)	1.7%	(1.7)	Brazil	275	(272)	0.2%	(0.2)
U.S.A.	2,083	(2,133)	1.5%	(1.5)	Sweden	254	(244)	0.2%	(0.2)
Myanmar	1,193	(1,151)	0.9%	(0.8)	Egypt	229	(213)	0.2%	(0.2)
Mongolia	1,138	(1,114)	0.8%	(0.8)	Uzbekistan	227	(203)	0.2%	(0.1)
Bangladesh	875	(1,052)	0.6%	(0.8)	Laos	218	(223)	0.2%	(0.2)

Sri Lanka	794	(670)	0.6%	(0.5)	Italy	217	(182)	0.2%	(0.1)
France	793	(740)	0.6%	(0.5)	Singapore	209	(211)	0.2%	(0.2)
Germany	599	(566)	0.4%	(0.4)	Others	4,656	(4,440)	3.4%	(3.2)
India	560	(541)	0.4%	(0.4)	Total	135,519	(137,756)	100.0%	(100.0)

( ) indicates figures as of May 1, 2012

Source: (JASSO, 2014)

For Japan, whose working population is expected to shrink dramatically in the following years, international student immigration might become a source of a required work force: both low-skilled (if students work during their studies) and highly-skilled (if students decide to stay after graduation).

As for the international students, who decide to stay in Japan after graduation, according to the data from MOJ, 11698 students applied for visa status change permission in 2013, out of which 10969 were approved (MOJ, 2013). It shows that about 8 % of total students in Japan in the given year decided to stay on in Japan upon graduation. Also, in 2013, 83 % of all approvals were given to the students from following 4 Asian countries: China (7032 persons), Korea (1417), Taiwan (352), Vietnam (302) (MOJ, 2013). 76.8% of students were the ones with high level of education: university graduates (4620) and those, who finished graduate school (3805).

Although non-return of students from their study abroad countries has been often considered as a “brain drain”, recently there has been another view on the topic. For origin countries with developing economies, sending students to Japan to study might create the desired new job places for highly-skilled young graduates both inside and outside of the country. Although there is a lack of empirical evidence on this issue, anecdotal evidence shows that those students, who graduate from Japanese universities often work for Japanese companies in Japan or back home and become a “bridge” for improving the cooperation between two countries. In this context, increasing number of international students in Japan might also account for some part of growth of foreign direct investment (FDI) from Japan to students’ countries of origin. This is explained in a way that international students provide a channel to gather information about local business and situation in their respective countries of origin, which makes FDI more probable.

This paper investigates the connection between international student migration and immigration policy, as well as foreign direct investments. First section is dedicated to literature review. Second section draws on analysis of empirical data. The final section draws a preliminary conclusion and speculates on the role of international student migration in Japan.

## Literature review

The relation between flows of international students and FDI is one of the understudied topics. Therefore, the cause and effect relationship between them is also not very clear. Theoretically, growth in student migration might cause the growth of FDI, as students help companies gather information about potential new market and further potential developments. At the same time there could be adverse relationship as well, as increasing number of FDI from one country could be a stimulus for students to go to study to that country, so they find good employment at home when they return to their home country after graduation. In fact, relationship between these 2 factors can be bidirectional and therefore either could be an explaining factor for the other.

Only a handful of scholars consider international students as specific type of human capital and they look at foreign-educated labor as one of the determinants of FDI. Kim and Park (2013) investigate the relationship between bilateral FDI and foreign student data for 63 developed and developing countries over the period 1963-1998 and their results strongly suggest that an increase in country-specific foreign-educated labor will raise FDI inflow from the foreign country where the labor was educated. In their previous work, Kim and Park (2010) give theoretical model to back-up their empirical evidence. They conclude that “Foreign education of domestic labor accumulates country-specific human capital which facilitates the foreign-firm-specific production in the host country whereas general human capital does not” (Kim & Park, 2010, p. 24).

Although there is a lack of literature on the topic of linkage between international student flow and FDI, the number of works on relation between FDI and migration, particularly skilled migration and network effects, has been investigated by the number of scholars.

Kugler and Rapoport (2007) investigate if international labor and capital flows are complements or supplements to each other. Traditionally considered as substitutes of one another (either capital moves to where the labor is, or labor moves to where the capital is), recently complementarity between two production factors has started to draw attention among the scholarship. Especially in the case of highly-skilled migrants, who can provide necessary cultural knowledge and information about their countries of origin, the companies can minimize their risk related to local business knowledge. Kugler and Rapoport find that “evidence from the US data is consistent with contemporaneous sustainability and dynamic complementarity between migration and FDI”, suggesting that complementarity should be viewed with a time lag.

Javorcik et al (2010) suggest that unlike a well-documented positive relationship between international trade and the presence of ethnic networks, “the link between migration and FDI remains

relatively unexplored”. Analyzing the data of US, they find that “US FDI abroad is positively correlated with the presence of migrants from the host country. The data further indicate that the relationship between FDI and migration is stronger for migrants with tertiary education”. Their result show that 1-percent increase in the migrant stock in the US increases the volume of US FDI in their country of origin by 0.35-0.42 % (for tertiary educated by 0.41-52%).

Naidoo (2007) identifies some of the key factors, which influence international student mobility on the example of the UK. His key socio-economic factors appear to be access to higher education at home (negative correlation), the level of tuition fees in host country (negative correlation) and the level of involvement of the source country in the global economy (positive correlation). Although he includes export, import, inward FDI and outward FDI (all summed up and divided by GDP) in his “level of involvement” index, this also might be an indication of complementarity between international student mobility and capital and good flows.

Analysis of previous literature shows that there is a considerable evidence of the link between FDI and human capital movement, including mobility of international students. There also might be reverse causality between these movements: having more international students from one country of origin might cause more investment into that country due to better understanding of that country’s business environment and traditions; but it could also be the case that because there are more foreign companies from particular country, students also decide to go abroad to that country to get country-specific knowledge (language, culture, etc).

In this context, student migration policy also makes the difference. “Developed countries may selectively admit student from a particular developing country in order to improve political and economical relationship with the developing country, which may result in greater trade and greater FDI flows” (Kim & Park, 2010, p. 3). Researching about Chinese students in Japan, Liu-Farrer also points out this possibility (Liu-Farrer, 2011). Countries encourage the acceptance of foreign students from particular country through different programs and scholarships in order to improve relationships in that particular country as well.

### **Analysis of empirical data**

For our analysis, we tried to use a combination of variables used in previous literature. Our main reference was the work of Kim and Park (2013).

### **Description of data**

For our econometric analysis we chose top 30 origin countries of international students in Japan, for which the data was available on Japan Student Services Organization web-site. The countries are as follows: China, Republic of Korea, Taiwan, Vietnam, Nepal, Malaysia, Indonesia, Thailand, USA, Myanmar, Mongolia, Bangladesh, France, Sri Lanka, Germany, India, Philippines, United Kingdom, Saudi Arabia,

Australia, Russia, Cambodia, Canada, Brazil, Sweden, Laos, Iran, Egypt, Singapore and Uzbekistan. Our consideration period is from 2000 to 2011.

This way, our main variables are as follows:

**Table 2. List of variables used for analysis:**

Name of variable	Description	Source
FDI (also divided to manufacturing and nonmanufacturing)	We use data for FDI (in JP yen) Manufacturing FDI* Non-manufacturing FDI**	For 2000-2004: Ministry of Finance For 2005-2011: Bank of Japan
International student number	Stock of international students in Japan	JASSO: annual report
Visa change of international students	Number of students changing their visa status from college student to another status	MoJ: annual report
GDP	Real Gross Domestic Product	WB World Development Index
CPI_JP as an instrumental variable	Consumer Price Index (Japan), 2005=100	IMF IFS statistics
PE	Political Stability, Scale 0-25 (higher more stable)	Euromoney Country Risk Rating

**Note:** As defined by sources, *manufacturing* contains food, textile, lumber&pulp, chemical, metal, machinery, electrical, transport and others; *non-manufacturing* contains farming&forestry, fishery, mining, construction, trade, finance&insurance, service, transportation, real estate and others.

Taking into account possible endogeneity problem, we decided to use Two-Stage Least Squares Model with fixed terms. We used log of most of the variables, except the indexes. Also, for international student and visa change numbers we used 3 year moving average with a one year lag. Because majority of the students study at undergraduate level, the effects on FDI might be observed only after their graduation, i.e. average of 4 years. This explains our choice to use 3 year moving average with one year lag. We also ran a regression excluding China, so that its impact to total trend could be neutralized.

### **Speculation and further analysis**

However, our results were not significant for all equations. The only significant factor, as expected, was real GDP. There might be several reasons for such a result: First of all, the effect of international students on FDI might have just started to appear and it is yet too early to point out the clear and significant relation. Second, our period of consideration could be too short. Upon availability, it is recommended to

make another analysis with data starting from 1983 (when Japanese policy on accepting more international students had launched). Thirdly, more explanatory and instrumental variables should be added in order to be able to see the better general picture.

Research based on anecdotal evidence had been highlighting the increasing importance of international students in Japanese labor market. Quantitative analysis to prove this recent trend is still required to be performed, which is further goal of this working paper.

Above-mentioned issues are planned to be addressed further in the course of this research.

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