

## **SOUTH KOREA DEALSWITH BRAIN DRAIN: BRAIN CIRCULATIONROLES INKNOWLEDGE BASED ECONOMY**

**Fitri Rofiyarti\***

Universitas Narotama

### ***Abstract***

*Globalization makes the world borderless. As consequence, the movement of individuals from one country to another can't be avoided. Not only displacement of blue-collar worker that becomes very massive, more qualified people migrated both for education and employment (as a white-collar worker). This leads to the phenomenon of brain drain for a country, as experienced by South Korea. However, South Korea managed to change the perspective and didn't regard this phenomenon as a brain drain, but a brain circulation that becomes an important element for economic growth through reverse the brain drain (RBD) efforts. This paper will discuss how South Korea deals with brain drain and how brain circulation becomes very important for South Korea's economic growth that based on knowledge.*

**Keywords:** *brain drain, brain circulation, reverse brain drain, South Korea, knowledge based-economy*

### ***Abstrak***

### ***Brain Drain in South Korea***

The 21st century into an era competition for *of global talent*. Economic globalization facilitates the movement of workers which led to demand *foreign talent* has also become to very high have an impact on countries 'abandoned' by the human resources and gave birth to the concept of *brain drain* to *home country* and *brain gain* the *host country*, which in turn impact on economic growth and progress of a country. Wächter (2006) defines *brain drain* as the outflow of a person from one country to another takes place in a massive and sustained. term *Brain drain* coined by the *British Royal Society* and was first used in the discussion of the immigration conducted by British researchers to the United States there is the beginning of 1960. In the late 1970s and early 1980s, the term is widely known, especially in the context of *development policy*.

phenomenon *brain drain* can occur in developed countries and developing countries. *Brain drain* in developed countries occurred because of the number of low birth in these countries so that the numbers of existing productive forces are not on a secure point even if the number of immigration conducted by the human resources are not too massive. Berbeda case with developed countries, a factor unstable economy into a major factor in the *brain drain* in developing countries. The problem of *brain drain* is due to 'lure' of developed countries that become a magnet for the labor force in developing countries. This phenomenon is similar to urbanization (the transition from rural to urban areas) where rural areas will lose not only productive populations but the 'sons of the regions' best of them. Many workers from developing countries are flocking to mobilize the hope of getting a better life. Not only collar workers, white-collar worker displacement figures also higher. This phenomenon makes the competition between countries and corporations to attract human resources of high quality are becoming increasingly powerful.

The phenomenon of *brain drain* continues to be a scourge for many countries, including South Korea, which became one of the countries with economic growth that shot and got the nickname as Macan Asia. Kang (2014) points out, "*It's no secret that South Korea has long had a brain drain problem.*" The phenomenon of *brain drain* is happening in South Korea are more prevalent due to the return of students, scientists, and researchers studying abroad when compared to the amount of labor emigration. This problem is already begun since post-war 1950s where many residents of South Korean immigration to the rest of the world. South Korea's Ministry of Education, as quoted Yoon (1992) states that in 1953, there is a number 10.512 permintaan permission to use education in the United States. As a result,

in the mid-1960s the number of South Korean scientists and researchers who are abroad, mainly in the United States is very high. In 1967 the number of engineers who are abroad amounted to 87.1%, 96.7% exact sciences scientists, and social scientists as much as 90.5% of the existing number.

As quoted from the site [www.workpermit.com](http://www.workpermit.com), the phenomenon of *brain drain* in South Korea can be seen at *The Swiss-based IMD's Annual Brain Drain 1995* in which South Korea ranks fourth after the United States, Norway, and France. Nevertheless, this situation gradually decreased better where Korea is at rank 37 out of 60 countries in 2008. A survey of *the Institute for International Trade (IIT)* in 2008 also showed that 71.5% of respondents stated that they would return to Korea after completing his education abroad (Kang, 2014). Nonetheless, Korea Radio Data show that international students with doctorates in science or engineering who left South Korea from 2006 to 2016 increased to 170%. This is compounded by the low birth rate in South Korea which only reached 1:21 (Statistics World Bank, 2014). The problem which then becomes important, "How can South Korea overcome the problems *brain* of this *drain*?"

### **Change of Perspective and Reverse Brain Drain (RBD) South Korea**

South Korea is one country that is very *aware* of the phenomenon of *brain drain* experienced. This heightened awareness comes as South Korea using a *knowledge based-economy* so that the number of mobilization that occurs in human resources in education and employment provides a very significant impact on economic growth of Korea Selatan. Sejak 1970s, South Korea has been trying to anticipate the Me- made several attempts to *reverse brain* the drain. South Korea set up various research institutes (marked by the establishment of the *Korea Institute of Science & Technology* in 1966), with different specificities research fields to help absorb and apply the technology industry. Birth of the research centers of the (now no less than 22 research institutions work in synergy) to re-invite scientists scattered in various other countries to contribute ideas and energy to help the industry in implementing new technology in addition to develop capabilities in technology South Korea ( Palgunadi, 2011). Yoon (1992) states that South Korea also give deeper attention on important issues such as increasing autonomy in research, repatriation of technical experts and industry in greater numbers than the Ph.D., and provide subsidies to businesses to industries of small and medium mainly for research purposes. Efforts were made to South Korea in an effort to face the *brain drain* is known as policy *Reverse Brain Drain (RBD)*.

Reverse *Brain Drain* conducted by South Korea is not a spontaneous phenomenon but rather stems from the activity of the government. Massey and Taylor (2004) mentioned that RBD performed South Korea is one example where there is a good intervention from the government. In doing so, President Park quoted Yoon (1992) mentions that efforts *reverse Brain Drain* includes

"... (1) creation of a conducive domestic environment (ie, government-sponsored strategic R & D institution-building, legal, and administrative reforms), and importantly, the empowerment of returnees (via, ie, exceptionally good maternal benefits, guarantees of research autonomy). (2) Empowering repatriates at the expense of his own civil bureaucracy, and his capacity for such patronage derived from Korea's bureaucratic-authoritarian political system. Returning scientists and engineers directly benefitted from this political system as well as Park's personal Guardianship. (3) Empowerment of returning "brains" was Necessary to Accomplish his national industrialization plan, thereby enhancing his political legitimacy in domestic politics. An alliance with the R & D cadre was functionally Necessary to successfully Consolidate strong presidential power, and politically non-threatening due to the particular form of "pact of domination" in Korea's power structure. RBD in Korea will continue in the near future given Korea's drive for high technology, and the remarkable expansion of local industrial and educational sectors.

"As stated by Kim Tae-hyung, *the Ministry of Education's Office of Planning and coordination*, as quoted from Kang (2014), in the field of education South Korea has its own way of dealing with the many people who decide to continue their education abroad and fears that the student does not return to South Korea after the completion of the study. Efforts were made to South Korea including: (1) to motivate students to offer *language camps* during the holidays in order to prevent that students do not learn a language abroad (2) apply several different policies to attract *foreign talent* to South Korea in the hope of reducing *brain drain* (3) attract educational institutions alien to open a university branch in South Korea as it has been conducted by the *State University of New York (SUNY)* and *George Mason University* (4) facilitate visa requirements for foreign students who want to continue their education in South Korea, such as lowering the level of the requirements of the Korean language (Korean language Test) which must be controlled, and (5) simplifies the process of screening students who want to study in South Korea.

Most of the efforts made by South Korea does not focus on the population policy to prohibit emigration but by trying to attract residents of other countries in order to go to South Korea, both with the aim of studying or working. This is done because of their beliefs about *brain circulation*, where residents who decide to study or work abroad will bring new knowledge to improve the progress countries. With prohibit its citizens to leave South Korea, as well as hinder the progress of the State. In addition, South Korean attempt to attract as much *qualified human capital* from other countries is also a vital step.

Thus, South Korea to change perspectives irrespective of displacement performed by *qualified people* and *brain drain* as a 'disaster'. Mobilization that occurred no longer give birth to two options *the trade-off* for the State between the *brain drain* or *brain gain*, but rather allow for other alternative is to view it as a *brain circulation*. In other words, *the brain drain* is no longer regarded as a social problem by policy makers. This is in line with the statement of Hunger (2002), "*Nowadays the concept of brain drain is used less Often and is being replaced by brain circulation as a phenomenon possibly having a positive impact on the sending as well as the receiving countries. Following the brain gain hypothesis, every brain drain is a potential brain gain.*

"The concept of *brain circulation* does not emphasize the negative effects of migration such as the concept of brain drain. In contrast, *brain circulation* considers that international mobility of people who have the skills and knowledge will bring many benefits, not only for *the host* country but also for the *home* country. *Brain circulation* allows the transfer of technology where it will have an impact on the competitiveness of the State(*country competitiveness*), especially in *knowledge-based-economy*. If there is no *brain circulation*, then the likelihood of transfer of technology tend to be smaller so that progress hampered state and competitiveness are also low. Technology is able to create things that are not likely to be possible. Not limited to the transfer of technology, and *brain circulation* making ideas will grow in line with the experience gained. Kasnauskiene in his journal, entitled *Economic Challenges of Brain Circulation: The Small Country Case*(2013) says, "*If a person decides to return back home, he or she usually comes back with a greater experience and brings new ideas. So basically brain circulation is a positive phenomenon might help roommates use of human resources in a most efficient way.*" Thus, through efforts to reverse *brain drain*, South Korea will not suffer any loss or *brain drain*.

### **Role of *Brain Circulation* Roles of the *Knowledge-Based Economy***

*growth* South Korea's economic since independence and after severe damage as a result of the Korean War is an example of the success of the national economic development exceptional in the world. Various macro and micro economic indicators showed growth of more than 10% per year. As quoted from Bedeski (1994), after the end of the Korean War in 1953, *income* per capita was only 67 dollars, lower than before the war and is one of the lowest incomes in the world. Some 40% of infrastructure was also destroyed where the 2/3 form of the industrial sector. In addition, South Korea's agricultural production was also 27% lower than the period before the war that without outside help many Koreans were starving. Since the start of economic development in 1962, South Korea has managed to rise and economic growth to be one of the fastest in the world. In less than 30 years South Korea developed rapidly from an agricultural country into a state of industry and commerce. This makes South Korea is considered as an ideal economic model for developing countries to another.

Awesomeness South Korea's economic growth commonly called the *miracle of the Han River*(Miracle of the Han River) where *knowledge based-economy* is key. It is also supported by an education system that is not only held by the government but also private parties. *"South Korea give close attention to social capital, especially skilled workers' role as" international bridges "in today's global economy. The value of global talent networks lies in international individuals as much as in their skills and experiences.*

"The success of South Korea's economy is also inseparable from the role of President Park Chung Hee through the introduction of five-year development. In addition, the South Korean government openness towards other countries after the civil war and the increasingly strong currents of globalization have become one of the vital elements. Brian quoted Ismail and Kunasegaran (2012) suggests *"Korea itself is a role model for the world, becoming one of the most advanced democratic societies in the span of little more than a generation. Korea can play a unique role in building a bridge to the emerging nations and their stronger engagement in development partnership*

"In a functioning *knowledge-based economy* such as South Korea, human capital becomes a vital element of economic growth. As noted by *"The success of a nation in today's economy Significantly depends upon how many highly skilled professionals it can secure and retain. Countries with more intellectual resources Achieve a higher rate of economic growth and faster development in science and technology."***Diagram 1**The link between *brain circulation* with human resources and economic development of South Korea-based knowledge(*knowledgebasedeconomy*)

In the diagram above we can see that can not be denied international mobilization will bring up the *brain drain*, however with a change in perspective, their migration is done it will allow the *brain circulation*. *Brain circulation* is important because of a positive impact on the quality of *human capital* (human resources). Brain circulation that occurs due to the interaction between the human capital skills and knowledge make human capital will be increased primarily in terms of technology transfer. *The human capital* which is the key actor in the system of *knowledge-based-economy* (knowledge economy). If the human resources, there will be an increase in economic growth. Not only that, the resources of international became the bridge of 'representing the state in economic competition at the international level.

The concept of *knowledge-based economy* believes that science is the key to the production process as well as a *driving factor* in economic development. If in the past century the land and the factory became the most valuable economic assets as well as the main source of wealth and prosperity, then now is the science is the most important economic assets and the determinant factors in creating prosperity and welfare. Science is a vital component to build capacity and improve productivity, beyond the power of capital and labor (Alhumami, 2006). Leadbeater (1999) states "*The idea of the knowledge driven economy is not just a description of high-tech industries. It describes a set of new sources of competitive advantage in the which can apply to all sectors, all companies, and all regions, from agriculture and retailing to software and biotechnology*". Thus, the absence of *brain circulation* can make economic growth is hampered. This happens because the market is evolving as the strong currents of globalization. By having a qualified human capital, then knowledge based economy can thrive even though on the other hand the occurrence of *brain circulation* must be 'paid' to lose. This success can be seen in the progress of industrialization of South Korea, especially in automotive and electronics products. Hyundai, Kia, LG, Samsung where these companies have R & D institutes (*Research&Development*) separately.

## Conclusion

The quality of the resource is the man who becomes the main focus of South Korea. This quality can be increased if constantly gaining *knowledge inputs* from other countries are more advanced. This makes South Korea later 'allow' the number of scientists and researchers to study abroad while the *brain drain* caused by the phenomenon seen as a natural consequence of globalization is unavoidable. On the other hand, it is this which will enable

the *brain circulation* which had a positive impact on the quality of its human resources. *highly-skilled human capital* This will bring progress for the South Korean economy and increase its competitiveness in the global market economy based on knowledge. To that end, the right policy for *Me-reverse brain drain* into *brain circulation* was the one who became an important element. This policy is not in the form of prohibition to perform the *migration*, but to give permission to the prerequisite and efforts to encourage scientists who are abroad to return to South Korea. In addition, South Korea is also trying to attract as many *highly skilled human capital* to go to Korea so much a part of the increase in South Korea's economic growth through the knowledge and skills they have.

## BLIBIOGRAPHY

- Alhumami, Amich. (2006). *Knowledge-Based Economy*.Republika. 30 November 2007.
- Bedeski, Robert E. (1994). *The transformation of South Korea. Reform and Reconstruction in the sixth republic under Roh Tae Woo 1987-1992*. London:Routledge.
- Ismail, Maimunah dan Mageswari Kunasegaran. (2012). *Reverse Brain Drain: Evidence In Selected Developing Countries And Implications For Human Resource Development*. Diakses dari <http://www.ufhrd.co.uk/wordpress/wp-content/uploads/2013/09/Ismail-Kunasegaran-Rasdi-full-paper.pdf>
- Kang, Tae Jun. (2014). *South Korea's War on Brain Drain*. Diakses dari <http://thediplomat.com/2014/09/south-koreas-war-on-brain-drain/>
- Kasnauskiene, Gindra. (2013). *Economic Challenges of Brain Circulation: The Small Country Case*. Mediterranean Journal of Social Sciences MCSER Publishing Rome-Italy Vol 4 No. 9 October.
- Leadbeater,Charles. (1999). *New measures for the New Economy*. London: International Symposium. Centre for Performance of the Institut of Chartered Accountans in England.
- Massey, Douglas S dan J Edward Taylor. (2004). *International Migration: Prospects and Policies in a Global Market*. New York: Oxford University Press.
- Palgunadi, Jelliarko. (2011). *Melirik Dinamika Evolusi Inovasi Teknologi Korea Selatan*.
- Shin, Gi-Wook. (2014). *Can we use skilled foreign labor as social capital?* Nikkei Asian review.
- The World Bank. (2014). *Fertility Rate*. Diakses dari <http://data.worldbank.org/indicator/SP.DYN.TFRT.IN?end=2014&locations=KR&start=2014&view=bar>



Wächter, Bernd. (2006). *Brain drain: what we know and what we do not know*. Belgium: Portland Press Ltd

Yoon, Bang-Soon L. (1992). *Reverse Brain Drain South Korea: State-led model*. Studies in Comparative National Development. Vol. 27 No. 1. Diakses dari [https://www.researchgate.net/publication/11134775 Reverse brain drain in South Korea state-led model](https://www.researchgate.net/publication/11134775_Reverse_brain_drain_in_South_Korea_state-led_model)