Title: The impact of misalignment of an education reform and industrial cluster shift – A case study of the Taiwanese low wage issue

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Abstract

This paper offers a case study of a human resource supply and demand issue. While an industry is shifting its core focus to another geographical area, the remaining labor pool is affected, and, if not done appropriately, the long term planning can cause an incompatible education structure for the labor pool. This article examines the background and the relations between the shifting industrial cluster networks and Taiwan's education reform since the 1990s, which have caused the misalignment of the labor pool supply two decades later, and consequently, led to a high unemployment rate and a low wage as their side effects.

Keywords: industrial cluster network, incompatible education policy, misalignment of labor pool supply

Taiwan plays a major role in Information and Communication Technology (ICT) industry. An ICT industrial cluster network was formed when International Business Machines Corporation (IBM), in 1980, decided to design its personal computer (PC) with an open system architecture and outsourced its PC building components to gain speed to market in order to compete with its rival, Apple Computer. Taiwan's monitor was chosen as one of components along with Japanese printer as IBM's original equipment manufacturers (OEM) to offer an "off-the-shelf" solution for IBM's timely product. Taiwan has since enjoyed a fast economic growth, making OEM productions in the 1980s and 1990s but soon facing strong competitions from its neighboring countries, and consequently, causing businesses to shift its production labor pool to a lower cost area. The purpose of this paper is to identify the factors which may have caused unemployment and low wage issues for Taiwan's young college graduates who have faced the implications of the industrial cluster shift.

Taiwan, with limited natural resources, depends heavily on export income for its vitality and by participating in the ICT cluster network. In the meantime, the world has become computerized with the leadership of Silicon Valley technology expansion. Personal computers and internet connections have sped up the rate of globalization and the pace of lifestyle changes has also accelerated. This opens up to a whole new world of technology explosion that people are demanding for better, faster and cheaper products. The fast and hot market demands have attracted neighboring countries like Korea and China in the Northeast Asia to enter the cluster network in the 1990s to compete for the fast changing market. China, especially with a large population and a low GDP, has become an attractive labor pool for its neighboring countries.

Indeed, Taiwanese companies, with an ease of communication and with similar language and culture background, were attracted to the cheap labor pool offered by China. Business expansion and migration soon took place when the demand and competition intensified, but the migration has caused a number of side effects in Taiwan's labor pool and wages. This is especially true for entry level college graduates with incompatible training and low pay. Negative sentiments from the young graduates have even led to Taiwan's Sunflower Movement in April 2014, which was initiated by elite students to protest the government being carelessly negotiating with China on trade agreements[1]. It is understood in this research that, although the government is to be blamed for the rising unemployment and the low wages particularly for the younger generation, it is important to know the reasons why, so that the issues can be resolved.

This paper aims to present a comprehensive analysis on the cause of high unemployment rate of college graduates and their low wages. Thus in the following sections, Taiwan's economic backdrop from the 1980s to its education reform in 1994 is detailed. Particular attention is given in the long term drawbacks which, as is argued, have been caused by a decades of misalignment in education and industrial policy as well as a resultant drop in birthrate. This research brings up two frameworks to account for the existing phenomena: Hollowing out and Magnetizing effect. This paper then offers a policy analysis and recommendation in the hope of providing further guidelines to alleviate the side effects of the economic bottleneck Taiwan seems to going through. Then we end the paper with a general conclusion.

The importance of this undertaking is obvious. Taiwan is a small economy and has been successfully participating in regional industrial clusters. Economic stability is crucial for the lifeline of Taiwan, especially when Taiwan is politically marginalized by Mainland China that

[1] Kuan (2014), "Generational Differences in Attitudes towards Cross-Straits Trade", a conference paper presented at Stanford University on Oct. 17-18, 2014.

has for decades attracted businesses with its cheap labor and big market potentials. In the face of this severe competition within the industrial cluster, Taiwan are required to dynamically monitor the changes which reflect the current supply and market demand to balance the labor pool and to eliminate any economic drawbacks. After all, economics is an important factor for the well-being of the Taiwanese people. This research, therefore, finds the twenty years of education reform without a clear economic direction created the misalignment of jobs and labor pool, which led to the stagnation of salary levels, unemployment for young graduates, or worse yet, reduced salary payments for advanced academic degree workers. Any policy recommendation needs to start from such understanding of the present conditions and their historical background.

As for the proposed policy adjustments, the obvious question is whether it is possible to find a feasible solution after the damage has already been done given that there are many college graduates who can only earn high school wages? As is argued in this paper, perhaps the immediate step would be setting up training programs and facilitate cooperation between enterprises and schools to speed up the current undesirable labor force. As far as the implementation of the new radical reforms is concerned, the underlying fact is that the bureaucratic government process often prevents progress from quick society solutions. The lack of interdepartmental interaction also adds to the problem on top of a hard issue. Within a democratic society, everything takes votes to move on a policy. It will be lengthy discussions and political voting influences to even start to address this issue. Even presidential power is not enough at this point to address the interdepartmental communication issues in Taiwan when the election is running but then he really should take measures to correct the non-communication problem within the government. This is also the side-effect of a fledgling democratic society learning from a big growing pain. Nonetheless, Taiwan is not without hope; strategies need to be

set on a macro level as well as the micro level dynamically, and from an economic standpoint to the political limitations strategically.

Furthermore, measuring tools can be used to reflect the dynamism of all industries and the supporting services. A Ministry alone cannot solve the economic setback issue. The entire government and society need to cooperate and find the best direction for generations to come. The primary contribution of this research is therefore to urge Taiwan's decision makers to prioritize realistic needs in general living demands and set education guidelines closely to the market demand before the luxury of a liberalized education reform. In this respect, this paper visits the Magnetize theory which suggests that within an industrial cluster a small economy suffers from low resistance to a big and strong developing economy.

Taiwan has a small population compared to its neighbors, and there is not much room for mistakes. Democracy is a majority vote, not a blind decision for political manipulation. In this case, it was a blind decision for an ideological reason to reform the education system and ignoring the real impacting factors, and Taiwan needs to get back on a dynamic track with a synchronized system facing the real world to catch up for lost time. Taiwan is not likely to make any quantum leap, but it can carefully start to pick up where it left off and get back on the right track, which is to focus on the real strategy in training the qualified labor force for the market demand, whether they are high-tech designers or qualified skilled workers. This paper, in this regard, hopes to make a meaningful contribution to the existing economic problems Taiwan has been facing by offering a realistic and analytical outlook on one of the most important aspects of its historical industrial development.