

Analysis on Mergers in Higher Education in China

Huijuan Lin*

School of Accounting and Finance
Beijing Institute of Technology Zhuhai Campus
Zhuhai, China

Abstract—The wave of merger has brought a dramatic change to the entire higher education sector that covers almost all levels of Chinese higher education institutions. Because the higher education in China plays a significant role in promoting the development of the domestic economy, the strategic measure of the large-scale merger will undoubtedly create a great influence on the entire society of China. Nevertheless, the researchers of China higher education have only paid little attention to this wave of the merger. Among the limited number of studies on the merger in the past, they mainly focused on the role that the government played in carrying out reforms at the level of laws and policies, while few focused on mergers at the level of institution, and this research aims at filling in the gap. This paper is for the purpose of discussing the achievements of the merger of China higher education and uncovering the key elements that restrict the progress and achievements of the merger activity. What is more important is that there is the necessity for us to make an analysis on the achievements that the merger activity has obtained from an objective perspective after it has experienced a development period of more than ten years.

Keywords—*Mergers, Higher Education, Academic and Non Academic*

I. INTRODUCTION

In the last twenty years, China has experienced an age of unparalleled reforms and changes in terms of its higher education, which has been reshaped by various factors related to society, politics, economy and technology during this period. A variety of reform measures have been introduced by the governments in China since the 90s of the last century so as to conduct readjustment on the system of the higher education sector, among which merger is one significant method that has been taken by Chinese governments and institutions of higher education during this period. The wave of merger has brought a dramatic change to the entire higher education sector that covers almost all levels of Chinese higher education institutions. Because the higher education in China plays a significant role in promoting the development of the domestic economy, the strategic measure of the large-scale merger will undoubtedly create a great influence on the entire society of China. Nevertheless, the researchers of China higher education have only paid little attention to this wave of the merger. Among the limited number of studies on the merger in the past, they mainly focused on the role that the government played in carrying out reforms at the level of laws and policies, while few focused on mergers at the level of institution, and this research aims at filling in the gap. This paper is for the purpose of discussing the achievements of the merger of China higher education and uncovering the key elements that restrict the

progress and achievements of the merger activity. What is more important is that there is the necessity for us to make an analysis on the achievements that the merger activity has obtained from an objective perspective after it has experienced a development period of more than ten years..

II. RESULTS OF MERGERS

In general, the results of the merger of universities and colleges are mainly reflected in the efficiency of management and academic results these two aspects. I will conduct illustration on the important result of the merger including academic and non-academic results.

A. Academic results

When discussing the academic results, it involves the contents like productive capacity, ranking and complementarity of knowledge. However, the development of the higher education institution is symbolized in the improvement of the productive capacity of knowledge and transfer capability, and its performance is directly reflected in the enhancement of the capacity for scientific research. From the outcomes of mergers implemented in China higher education institutions, it's found that great differences exist in the merged universities and colleges because of the different regions where they are located and different school-running properties of them. For example, relevant studies conducted by China higher education institutions showed that the merger efficiency of institutions located at regions along the coast was much higher than that at inland areas, while the efficiency of specialized institutions was lower than that of integrated institutions (Johnes and Yu, 2008 [13]; Ng and Li, 2000). Besides, it's found by Johnes and Yu (2008)[13] that the integrated institutions in China do better than those of specialized faculties in terms of the achievement effect of scientific research; therefore, if these two kinds of institutions are merged, the performance should be improved. In 2000, Hu and Liang (2007)[11] selected twenty-five China higher education institutions that were merged as samples to conduct the investigation, the results showed that the merged institutions were much more efficient than previously independent universities. The research findings of Yuan and other researchers (2013) [23] showed that it could increase the knowledge conversion of China higher education institutions after being merged, while other scholars like Mao (2009)[16] found that the efficiency of merged institutions in terms of scientific research was improved within two years, followed by a declining trend afterwards. Thus, it should be said that mergers helped to improve the performance of scientific research under some circumstances. After China higher

education institutions were merged, the growth rate of articles was significantly increased in the following years, but this kind of significant increase only occurred in institutions that didn't belong to project 985 (top universities in China). At the same time, the rate of growth of articles was not significantly increased in the merged institutions that were members of project 985. What's more, it is also one of the common objectives to improve the rank mechanism. Besides, researchers also studied how mergers influenced the ranking of universities and the findings showed that several rank mechanisms were more favorable to large universities compared to small universities. For instance, Docampo and other researchers (2015)[6] conducted a "hypothesis study" and found that when powerful institutions were merged, the ranking of the merged institution would be improved based on Academic World Ranking of Universities (AWRU). These synergies will be pulled together when the research-oriented hospitals are integrated with the higher education institutions with comprehensiveness so that the merger efficiency will be improved and more research achievements will be manifested. As found in the documents about the scale of the merged universities and the common points of them in the academic respect, these findings are consistent with the speculation that the merger of higher education institutions is successful.

B. Non-academic results

When discussing the non-academic results, it often involves such aspects as costs and benefits, complementary property, scale and scope economy. Though there are differences in the fundamental principles and incentives, it is consistently believed that the scale and scope economy will be produced after the merger is implemented (Martin and Samels, 1994) [15], but there is no evidence that has proved this belief (Fielden, 1991 [7]; Rowley, 1997 [20]). It's found from other research that the scale economy has led to a variety of outcomes. From the research conducted by higher education institutions in the United States with a Quadratic Cost Function of one input (teachers' salary) and three outputs (undergraduate education, graduate education, and study), it can be found that they indeed exit scale economy (Cohn et al., 1989 [4]; De Groot et al. [5], 1991). When reviewing the references, Brinkman and Leslie (1986) [2] discovered that the scale economy existed in the universities that had been running for two and four years, but they were mostly in favor of the institutions with the smaller scale. Relatively unclear outcomes were achieved from the research-oriented institutions. It is thought that the existence of scale economy is for the teaching and research outputs of universities like the number of degrees that have been conferred (Privot et al., 2015b) [18]. Although there is no research that directly proves the "what-if" of scale economy, people usually refer to the critical material as an advantage arising from the merger of universities. It's inferred by Johnston (1994) [12] from a paper review that as revealed by most research, an invariable scale benefit was achieved for research, and the scale economy was found in a small quantity of studies but it is only with the smallest scale of institutions. It's found by Bonaccorsi and Daraio(2005) [3] that the efficiency of scientific research that has been measured by the publication of each researcher and the scale of institutions are not positively correlated, which are probably negatively

correlated. In addition, it may help the merged universities to become competitive for the reward to be mutually complementary (Skodvin, 1999) [21]. The combined effect arising from the integration of courses would hypothetically lead to this kind of synergies. It is expected that the mergers of universities with various disciplines will contribute to the improvement of research performance by virtue of the diversification of disciplines (Georgiou and Harper, 2015) [8]. Microscopically, researchers are in favor of this instinct, and it's found by Ali and Gittelmann (2016)[1] that greater innovation outcomes can be created for the academic & medical institutions in the case of the combination of clinical application specialists and resourceologists. Additionally, the merger of universities of various scales leads to several amusing results regarding the cost-effectiveness. From the intuitive perspective, although it can bring both benefits and disadvantages when the institutions with almost the same scales are merged, it is relatively unsuccessful in improving the efficiency (Harmon and Harmon, 2003) [10]. Generally speaking, earlier studies showed that there is a greater possibility of success for the acquisition-merger of universities with different scales than that for the consolidation merger (Pinheiro et al., 2016: 7; Skodvin, 1999) [19]. The cost-effectiveness may account for this situation. It is expected that the costs arising from the merger of two institutions with almost the same scales be largely for the elimination of superabundance that is probably produced in the process of this kind of merger. Furthermore, as is emphasized by Harman (2002)[9], it often takes more time and energy to conduct organization when the universities with almost the same scales are merged or consolidated compared to that of the universities with different scales. When the universities with almost the same scales are merged, it may bring about such a limited advantage as scale economy because there is a great possibility that this kind of universities has the same type of courses and thus, it won't achieve a combined effect. As is mentioned in the educational literature, the costs arising from the consolidation merger are larger than the advantages it has brought. Nevertheless, it is to be regretted that it is very hard to conduct quantification on the costs saved and other financial income and it shows a trend of overestimation (Patterson, 2000) [17]. However, we explain the costs arising from consolidation merger are over its benefit in a different way. Though the integration of institutions resulted in the expansion of the operation, it was not certainly conducive to the improvement of its efficiency. Costs need to be paid for any reform that is to be conducted, and it has proved that there is a great difficulty in reducing the costs because of a variety of reasons. In order to implement merger, lots of time needs to be spent in negotiating with various levels of governments, and each side participates in the process of a merger on the condition of taking their own costs and interests into consideration. After the institutions are merged, lots of discussions about the integration will be started, which will cost a great amount of manpower and money, especially in the case of the emergence of clashes. Besides, the transport expenses between the two campuses are also a major cost to be considered, particularly in the case of a far distance and substantial transfer of personnel and supplies between them. In addition, the clashes in cultures between previously independent universities may also lead to costs. There may also

be some potential impacts that cannot be seen within a short term. If these clashes cannot be solved in a proper way, it may lead to a serious influence on the integration of merged institutions in a long run. Particularly, there is lower management efficiency in China state-run higher education institutions where the schools are deficient in academic self-governance, and thus, it's expected that the schools should be granted with more rights. It was specially considered that the budget system was so intensive that the schools couldn't be provided with motivation and elasticity. It's suggested that they should develop some innovative administrative models considering that the number of enrolled students was greatly expanded in the previous ten years because the merged university was so large in the scale that the previous administrative framework couldn't be as efficient as before.

III. CONCLUSION

In the process of Chinese economy's change from central management to a new condition emphasizing on the force of market, there's also a revolution in education field since 1990s, during which universities merged with each other to build a better education system suitable for the new social background, which ensured a perfectly-designed and well-formed transformation benefiting the socio-economic development. Through the development of education system and emphasis on institutional entities, it aimed to promote institutional performance following administrative orders directly made by the central government. In this course, the system rebuilt and improved itself, innovated current methodology in higher education management which was supposed to promote the education system by providing higher efficiency in operation and better quality in education effects. This revolution was motivated by views from overseas which laid great importance to efficiency and warned that there wasn't enough efficiency in the current higher education sector, which was also weak at that time. Institutions were endowed with more rights to make their own decisions rather than just follow the state's direct order. Besides, the interests of particular government departments, regions and institutions have also successfully called for more attention. It is widely believed that education should take the role of serving the local economy. However, there were some drawbacks to this merger process which led to negative judgments. In these reforms, most attention was paid to the institutional merger, while various histories and features of the participating institutions, as well as particular conditions which hampered their development were nearly ignored. Some merger processes took the decrease in a number of institutions as the most important thing in this revolution. The ultimate goal of this reform was supposed to be decreasing China's too much reliance on the Soviet model by making 'comprehensive universities'. However, policymakers failed to understand that this goal could not be realized by an institutional merger which only stressed the reduction in a number of universities. They chose to merge several specialized institutes to deal with the fact that there wasn't a truly comprehensive university, rather than let these universities make an organic merger by themselves, which meant that they would not produce real comprehensive universities. This reform also aimed to give birth to some excellent universities that could compete with top international universities. However, difficulties in successful

integration after the merger made it hard to realize the high ambitions which the platform was firstly built for. Influences from domestic and overseas put the merger of universities on a more international track. Both local and national background would make a difference in its real impact. Besides, some domestic institutions had superiorities in several academic fields than foreign institutions, and in this process, they would benefit from this higher education institutions' reform. In the end, there are some highly comprehensive universities made in this process, which provides a better environment for interdisciplinary and multidisciplinary education and study, motivating students to have diversified perspectives with larger dimension and more information. Different universities have experienced different impacts in these reforms, among which relatively weaker universities tend to become more competitive after these mergers. There are also several universities becoming stronger ones through amalgamation. In these cases above, these universities benefit a lot from this merger as they can attract more students with better quality and raise more research funding from the society as well (Xu 2003) [22]. Cooperation takes place of competition when it comes to the relations among universities compared with the conditions before the merger. Theoretically speaking, cross-disciplinary cooperation in education and study will benefit from this reform. At the same time, there would be lower costs as a result of higher efficiency in using manpower and financial capital (Min 1991) [14].

REFERENCES

- [1] Ali, A., Gittelman, M., Research paradigms and useful inventions in medicine: patents and licensing by teams of clinical and basic scientists in *Academic Medical*, 2016.
- [2] Brinkman, P.T., Leslie, L.L., Economies of scale in higher education: sixty years of research. *Rev. Higher Educ.* 10 (1), 1986. pp. 1-28.
- [3] Bonaccorsi, A., Daraio, C., Exploring size and agglomeration effects on public research productivity. *Scientometrics* 63 (1), 2005. pp. 87-120.
- [4] Cohn, E., Rhine, S.L.W., Santos, M.C., Institutions of higher education as multiproduct firms: economies of scale and scope. *Rev. Econ. Stat.* 71 (2), 1989. pp. 284-290.
- [5] De Groot, H., McMahon, W.W., Volkwein, J.F., The cost structure of American research universities. *Rev. Econ. Stat.* 73 (3), 1991. pp. 424-431.
- [6] Docampo, D., Egret, D., Cram, L., The effect of university mergers on the Shanghai ranking. *Scientometrics* 104, 2015. pp. 175-191.
- [7] Fielden, J., Resource implications of mergers: are there any economies?, *Higher Educ. Q.* 45 (2), 1991. pp. 158-166.
- [8] Georgiou, L., Harper, J.C., Mergers and alliances in context. In: Curaj, A. 2015. *Education: International Practice and Emerging Opportunities*. Springer, Heidelberg, pp. 1-14.
- [9] Harman, K., "Merging divergent campus cultures into coherent educational communities: challenges for higher education leaders", *Higher Education*, Vol. 44, 2002, pp. 91-114.
- [10] Harman, G., Harman, K., 2003. Institutional mergers in higher education: lessons from international experience. *Tertiary Education and Management*. 9 (1), pp. 29-44.
- [11] Hu, Y., Liang, W., The impact of institutional merge in scientific research productivity in higher education: a Malmquist index analysis. *Tsinghua J. Educ.* 28 (1), 2007. pp. 62-70 (in Chinese)
- [12] Johnston, R., Effects of resource concentration on research performance. *Higher Educ.* 28 (1), 1994. pp. 25-37.

- [13] Johnes, J., Yu, L., Measuring the research performance of Chinese higher education institutions using data envelopment analysis. *China Econ. Rev.* 19, 2008. pp. 679-696.
- [14] Min, W., Higher education finance in China: current constraints and strategies for the 1990s. *Higher Education* 21 (2), 1991. pp. 151-161.
- [15] Martin, J., Samels, J.E., *Merging Colleges for Mutual Growth*. The Johns Hopkins University Press, Baltimore, 1994.
- [16] Mao, Y.-q., Du, Y., Liu, J.-j., The effects of university mergers in China since 1990: From the perspective of knowledge production. *Int. J. Educ. Manage.* 23 (1), 2009. pp. 19-33.
- [17] Patterson, G., Findings on economies of scale in higher education: implications for strategies of merger and alliance. *Tert. Educ. Manage.* 6, 2000. pp. 259-269
- [18] Pruvot, E.B., Estermann, T., Mason, P., *Define Thematic Report: University Mergers in Europe*. European University Association, Brussels, Belgium, 2015b.
- [19] Pinheiro, R., Geschwind, L., Aarrevaara, T., A world full of mergers: the Nordic countries in a global context. In: Pinheiro, R., Geschwind, L., Aarrevaara, T. (Eds.), *Mergers in Higher Education: The Experience from Northern Europe*. Springer, Heidelberg, 2016. pp. 3-25.
- [20] Rowley, G., Mergers in higher education: a strategic analysis. *Higher Education Quarterly* 51 (3), 1997. pp. 251-263.
- [21] Skodvin, O.-J., Mergers in higher education—success or failure? *Tertiary Education and Management* 5 (1), 1999. pp. 65-80
- [22] Xu, L., University merger in China: An economic analysis. *Theory Monthly* 9, 2003. pp. 143-151.
- [23] Yuan, C., Sun, H., Fang, K., The effects of institutional change on university knowledge transfer during the transition period: evidence from the university mergers in China. *Chin. J. Management.* 10 (3), 2013. pp. 451-457 (in Chinese).