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Accounting Reforms and Foreign Portfolio Investment in China: An Empirical Investigation

Muhammad Umar Draz (Corresponding author)

Department of Management and Humanities

Universiti Teknologi PETRONAS

32610 Bandar Seri Iskandar, Perak Darul Ridzuan, Malaysia

Tel: 60-5-368-7732 E-mail: umardraz2626@gmail.com

Fayyaz Ahmad

School of Economics, Lanzhou University

Lanzhou, Gansu, China

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Abstract

The relationship between foreign portfolio investment (FPI) and various macroeconomic variables of China has been discussed in the existing literature. However, the link between China's accounting reforms and FPI is yet to be explored. This study intends to discover the impact of changes in China's accounting system and convergence of its domestic accounting standards (henceforth referred to as accounting reforms) on FPI. We have used Binary Choice Model in Eviews for two decades' data. In our analyses, FPI has been taken as dependent variable, whereas accounting reforms, annual increase in listed companies, GDP growth of China and financial crises are taken as explanatory variables. The results of our model reveal a significant relationship between accounting reforms and FPI; moreover, Granger causality test shows a significant causal relationship between yearly increase in listed companies and FPI. Our findings are theoretically rational and can be useful for both investors and the policymakers.

Keywords: accounting reforms, accounting standards, China, financial crises, FPI, GDP

1. Introduction

Foreign investment is normally a foreign direct investment (FDI) or a foreign portfolio investment (FPI); the former is made for long term purpose e.g. joint ventures and sharing the technology, etc. while the latter is a short term investment. Overseas investments are highly linked with the rising level of globalization; by using the wide range of updated information and efficient means of communication, the investors can easily figure out when and where to invest their funds worldwide. For making investment decisions, financial disclosures of the relevant entity are one of the vital categories of information. Without having sufficient know-how of the operating results, cash flows and financial position of an organization, investing funds can lead towards negative returns; and when that organization to be invested in is a foreign company, even more refined details are required for making an investment decision.

China is one of the countries having its own accounting standards and it has an extensive and distinguished vestige of accounting as well. Aiken & Lu (1998) described that …*"the first complete single entry bookkeeping system was almost certainly invented during the West Zhou Dynasty (1100-771 B.C.)"*… Archaeological facts prove that people of ancient Asia used to carve their financial details on the stones more than one thousand years ago (Kumarasinghe, 2011); it shows that accounting was probably being used in other parts of Asia as well during that time. The accounting archives of salt-mining companies in Zigong city, Sichuan province show that Chinese companies were using double-entry bookkeeping during the early Twentieth (20^{th}) century (Auyeung et al., 2005) (Note 1).

China introduced major economic reforms in 1978 by opening its economy to the rest of the world. The first delegation of International Accounting Standards Committee came to China in 1992; China became its member in 1997 (Cairns, 1998). Another important event in China's recent accounting history took place during 1992 when first B-share Company, Shanghai Vacuum Electron Devices, was listed at Shanghai Stock Exchange (SSE) (Note 2). Furthermore, in order to harmonize the domestic accounting standards with the International Accounting Standards (IAS), the Chinese government issue a regulation in 1998 (Chen et al., 2002).

The main assumption behind studying the relationship of accounting reforms and FPI is that uniformity of financial statements enhances the confidence of foreign investors, and consequently increases the level of FPI. If every country uses its own accounting standards, format and native language for preparing the financial statements, the accounting disclosures will be difficult to understand. Complexities in financial reporting will discourage the foreign investors to invest in other countries, because they will be unable to understand those financial disclosures. Another premise of studying the relationship of accounting reforms and FPI, as mentioned by Chen et al. (2011), is the reduction in *'information processing cost for foreign investors'*.

It is logical to assume that accounting reforms in terms of convergence of Chinese GAAP with IAS will facilitate the foreign investors; they can easily understand the financial

reporting for different categories of shares issued by the Chinese companies, their operating results, financial condition and investing activities of the desired firms. Consequently, the better understanding of financial statements and financial system can attract investors. But FPI depends on many other variables as well, e.g. level of economic growth in the country to be invested in, returns and other strengths of the companies, better law and order situation and less systematic and regulatory complications for foreign investors etc. Despite all of these variables and their importance, accounting reforms for improving the understandability of financial records has its prime and unique worth.

Our study is aimed to find out the linkage between accounting reforms and FPI in China. While finding the interrelation of accounting reforms and FPI, we intend to observe whether accounting reforms brought about a change in the level of FPI or there is no significant relationship between these variables.

2. Literature review

To study the relationship of accounting standards' convergence and FDI, the work of Akisik (2008) deals with the association of accounting standards, corportate governance and FDI; the results of this study, which analyzed the data of twenty seven emerging nations, indicated a significant relationship between increase in the quality of accounting standards and increase in FDI. Chen et al. (2011) used the sample of thirty member countries of Organization for Economic Co-operation and Development (OECD) and found that such convergence is positively linked with the level of FDI. On the other hand, Wang (2004) (Note 3) asserted that local as well as foreign investors were less attracted to invest in China due to its state-owned enterprises (SOEs).

During 1990s, the SOEs of China started to go public through stock exchange listings. Once a company goes public, obviously it has to publish the books of accounts as well; hence, accounting reforms were required to provide the appropriate guidelines to these newly listed SOEs. On the other hand, such accounting reforms are also linked with the level of FPI. The publically available financial statements of SOEs enabled the local and foreign investors to analyze the data of these companies and to draw their investment decisions thereof. If these enterprises were not listed and remained entirely state owned, foreign as well as local investment in their shares was not possible.

It is an evident fact that facilitates for overseas investors result into more investment by them. Since uniform financial statements make it easy and cost effective for the foreign investors to access the required information, they can make their investment decisions more effectively and efficiently; as a result, the level of FDI and FPI increase. The former chairman of the IASB, Sir David Tweedie, has also stated this linkage (Note 4) (Deloitte, 2006). On the other hand, Peng and Bewley (2010) have noted the decreases in cost of capital for the IFRS adopting nations. Moreover, before the introduction of the Chinese accounting standards of 2006, the experts of Earnst & Young suggested the European investors to observe due diligence before investing for the mergers and acquisitions in China (Haagmans and Partridge, 2005). It shows that foreign investors were in a state of distrust about the Chinese accounting

disclosures before the convergence of 2006; it also serves as a basis for studying the linkage between foreign investment and the accounting reforms of a country.

China's financial links with the world in 1978, and the incorporation of its first B-share Company (Note 5) in 1992 are another reason of studying the link of China's accounting reforms with FPI for the post-1992 period. Saudagaran (2001) noted that, along with other determinants, the level of FDI in a country has robust relationship with the standardization and convergence of accounting standards. Gao & Handley-Schachler (2003) have asserted that the main aim of abandonment of the increase-decrease system of accounting in China and adopting the debit-credit system of accounting was to attract more foreign capital.

The amount of FDI in China reached USD 1.63 trillion by the end of September 2011 (China Daily, 2012); on the other hand, the level of FPI was recorded at USD 231.8 billion during the same month of 2011. Obviously, in case of continuing the local system of accounting, overseas investors would not have become aware of the Chinese financial disclosures in depth, which might have resulted into low levels of FDI and FPI; hence, accounting reforms played an important role in accumulating such a huge level of FDI. Though some of the foreign investors in the Chinese listed companies sold their stocks (The Economist, 2010), still there was no decrease in the level of FPI in China during 2010.

In a study on accounting change and its connection with the equity incentive and performance of the Chinese listed companies, Zhang et al. (2009) used factor analysis to the changes in the Chinese accounting standard number 11, i.e. Share-based Payment, and its impact on the equity incentive and performance of listed companies. However, this study only consists of one accounting standard and its impact. Among the recent studies, Ahmad et al. (2015) found external debts to be the most important determinant of FPI in China; the authors also agreed with Garg & Dua (2014) on the other significant factors affecting the level of FPI in China. In another study concerning FPI and economic growth of ASEAN5 nations, Ahmad et al. (2016) confirmed a significant relationship betweeen economic growth and FPI for Indonesia, Malaysia, the Philippines and Thailand.

The number of listed companies, especially those who are authorized to issue B-shares, can cause variations in the FPI level. When the number of listed companies increases, the chances of FPI will also increase. As mentioned earlier, the first Chinese company with B-shares was listed at SSE in 1992, whereas number of listed companies at SSE has increased every year since its inception in 1990 till 2008 (Note 6) On the other hand, the number of listed companies at Shenzhen Stock Exchange (SZSE), from its establishment in 1990 till 2010, decreased during 2001 and 2003 (Note 7). The details of China's accounting reforms and its possbile linkage with the level of FPI reveals that accounting reforms is not the only variable affecting FPI in China; financial crises, economic growth and number of listed companies are also very vital in this regard. Therefore, we will include these variables in our statistical analysis.

2.1 Research Gap

The available literature mostly deals with the impact of accounting reforms on the level of FDI in China. To the best of our knowledge, the impact of China's accounting reforms on its FPI is yet to be studied. Our study is aimed to fill this research gap by evaluating the relationship of China's accounting reforms and FPI.

2.2 Contribution of the Paper

This paper contributes to the current literature by evaluating the relationship of China's accounting reforms and FPI.

3. Methodology and results

3.1 Data and Variables

In the statistical analysis, five variables are used to study the relationship of FPI and China's accounting reforms. FPI is used as dependent variable; while Chinese accounting reforms, annual increase in listed companies of China, China's GDP growth and financial crises are used as explanatory variables. The explanation of including those variables is as follows: when listed companies increase in a country, there is possibility of increase in FPI as well; foreign investors might be attracted by the economic growth of their investment destination, so they will pay attention to the GDP growth; the financial crises can decrease the level of FPI due to the impact of crisis on country's economy and companies, etc.

The data of accounting reforms introduced by the international accounting bodies has been obtained from the official website of IASB; while the data of Chinese accounting reforms has been taken from literature on Chinese accounting history and the accounting standards issued and revised by the Ministry of Finance, China. The GDP growth figures have been taken from the National Bureau of Statistics, China. We have collected the data of FPI from the World Bank website and the State Administration of Foreign Exchange, China; the data about listed companies of China is obtained from the fact books of SSE and SZSE. Our statistical analysis consists of data from 1992 to 2011. Since first B-share Company of China was listed on SSE in 1992 and there was no possibility of FPI in China before this year; therefore, we have selected this year as our starting point for the analysis.

Following are the details of variables, their abbreviation during statistical analysis and the hypothesis to be tested by using the binary choice model and other statistical analysis:

FPI = Foreign Portfolio Investment	(Dependent variable)
CH_ACRF = China's Accounting Reforms	(Explanatory variable # 1)
LIST_CO = Annual Increase in Listed Companies	(Explanatory variable # 2)
GDP_GR = GDP Growth of China	(Explanatory variable # 3)
FIN_CR = Financial Crises	(Explanatory variable # 4)

Moreover:

$$FPI = \begin{cases} 1, \text{ Increase in FPI} \\ 0, \text{ otherwise} \end{cases} \qquad CH\_ACRF = \begin{cases} 1, \text{ Accounting Reforms in China} \\ 0, \text{ otherwise} \end{cases}$$

$$FIN\_CR = \begin{cases} 1, \text{ Crisis} \\ 0, \text{ otherwise} \end{cases}$$

The FPI, CH_ACRF and FIN_CR are dummy variables that represent the presence or absence of foreign portfolio investment, China's accounting reforms and financial crises respectively; whereas GDP growth is used with the real figures because its data is available in yearly form. Following hypothesis has been tested at 10% level of significance (i.e. $\alpha = 0.10$):

H_0: There is no significant relationship between FPI in China and the Chinese accounting reforms

H_1: There is significant relationship between FPI in China and the Chinese accounting reforms

3.2 Statistical Analysis

In our statistical analysis, we have used binary choice model and Granger causality test. The reason of selecting binary choice model is the nature of our data and variables; accounting reforms and financial crises, which are to be used during the statistical analysis, are not time series variables and their data entirely depends on the occurrence or non-occurrence. For instance, financial crises do not occur every year and same is the case with accounting reforms. The use of binary choice model will enable us to record the presence of absence of these variables in certain years and we can make our required analysis. On the other hand, the use of Granger causality test in our statistical analysis is due to its primary logic i.e. *"future cannot cause the past"* (Granger, 1969); so we can know the causal impact of one or more variables towards another variable. Since we want to know the causal relationship between our variables i.e. accounting reforms and FPI, that's why Granger causality test best fits our needs.

4. Findings and Discussion

The outcome of binary choice model, given in table 1, shows that the probability of z-Statistic for the first explanatory variable (i.e. CH_ACRF) is 0.0685, 0.0817 and 0.0971 by using Probit, Logit and Extreme Value methods respectively. In all of these cases, the probability of z-Statistic is less than the level of significance; therefore, we reject the null hypothesis (H_0), which states that the FPI and the Chinese accounting reforms have no significant relationship. We accept the alternative hypothesis (H_1) i.e. there is significant relationship between FPI and the Chinese accounting reforms. It must be noted that we have

used 10% level of significance for the ease of observing the relationship between variables; even if we use the 5% level of significance, the relationship of FPI and the Chinese accounting reforms is not totally insignificant, rather it will be considered as less significant._

Table 1: Output of Binary Choice Model

Method	Variables	Coefficient	Standard Error	z-Statistic	Probability
Binary (Probit)	CH_ACRF	-1.459662	0.801189	-1.821870	0.0685
	LIST_CO	0.001311	0.004479	0.292588	0.7698
	GDP_GR	-0.249985	0.250618	-0.997474	0.3185
	FIN_CR	0.255622	0.409523	0.624195	0.5325
Binary (Logit)	CH_ACRF	-2.427205	1.394144	-1.741000	0.0817
	LIST_CO	0.002707	0.007783	0.347801	0.7280
	GDP_GR	-0.372090	0.418680	-0.888723	0.3742
	FIN_CR	0.490469	0.745909	0.657545	0.5108
Binary (Extreme Value)	CH_ACRF	-1.812787	1.092602	-1.659147	0.0971
	LIST_CO	0.002961	0.006048	0.489655	0.6244
	GDP_GR	-0.267601	0.309839	-0.863676	0.3878
	FIN_CR	0.459960	0.534803	0.860055	0.3898

Source: Authors' analysis by using Eviews

For all other explanatory variables, the probability of z-Statistic is more than the 10% level of significance by using the Probit, Logit and Extreme Value methods of binary choice model; hence these results suggest that the annual number of listed companies in China, GDP growth of China and financial crises have statistically insignificant relationship with FPI. It is worth mentioning that the relationship of GDP_GR with FPI is not insignificant like other explanatory variables; the probability of z-Statistic for GDP_GR is 0.3185, 0.3742 and 0.3878 by using the Binary Probit, Logit and Extreme Value methods respectively; while other explanatory variables are far beyond as compared to GDP_GR. Though these values can't be considered as having statistically significant relationship with FPI, but it obviously shows that GDP_GR has less insignificant relationship than rest of the insignificant explanatory variables.

We have used four explanatory variables for the statistical analysis of our research question; however in Granger causality test, only one of those variables, i.e. LIST_CO (annual increase in the listed companies), has shown its significant relationship with the level of FPI. Following are its details:

Table 2. Granger Causality Test for China

Pairs for Causality Test	F-Statistic	Probability	Causal Relationship
LIST_CO → FPI	2.7814	(0.0987)	Yes
FPI → LIST_CO	0.2083	(0.8146)	No

Source: Authors' analyses in Eviews

This extract from the Granger causality test shows that the probability of F-Statistic is 0.0987 while studying the causal relationship of LIST_CO towards FPI. Since this probability is less than the level of significance, that's why it suggests that the yearly increase in listed companies have significant causal relationship with the level of foreign investment in the listed companies of China. This result is theoretically understandable because the foreign investors will get more opportunities to invest their funds if the number of listed companies is increasing; in case of no or few listed companies, even if willing to invest, investors can make investment in another country.

5. Conclusion

The aim of this study was to observe the impact of China's accounting reforms on FPI. The results of binary choice model illustrate that the Chinese accounting reforms have statistically significant relationship with the level of FPI; moreover, the GDP growth of China is also linked with the foreign investment somehow but its relationship is statistically insignificant. On the other hand, the Granger causality test showed the significant causal relationship of number of listed companies with the level of foreign investment in the Chinese listed companies.

These results of binary choice model and Granger causality test are theoretically acceptable, because GDP growth shows the strength of economy and it can attract the overseas investors to bring their funds into a country; moreover, the number of listed companies can also enhance the level of foreign investment by providing a chance of investment to the prospective overseas investors. Financial crises did not show any significant relationship with FPI in our statistical analysis. Our findings suggest that China's accounting reforms and increase in the listed companies have statistically significant impact on the level of FPI.

An important implication of our study is that China should further develop its corporate sector and introduce accounting reforms, because both of the variables are significantly related to the level of FPI. The results of our study should not be generalized for other countries because the statistical analysis are purely based on China's data; hence, conclusions drawn thereof are also meant for China. To obtain more refined and wide-ranging results, the data set must be expanded to regional or continental level.

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Endnotes

Note 1. According to Auyeung et al. (2005) …'Chinese accounting scholars adopted fundamental equations that required an equality of variables in an exchange transaction, which is the basis of Littleton's concept of duality. The Chinese system allowed gains or losses from ventured capital to be more easily calculated, thus enabling businesses to determine their income-earning power. Furthermore, before these archival records were made available, most historians believed that certain features of nineteenth-century Western accounting, such as depreciation and the treatment of unexpired costs, were not being used in late Qing China.' …

Note 2. The details are available in the Shanghai Stock Exchange Fact book 2009.

Note 3. The author stated that …'Due to the absence of liberal ownership ideology and effective institutional operation, China's stock market is suffering from over-reaching

regulations, under-enforcement of laws, a swaying regulatory culture, massive market manipulation and insider trading, as well as poor corporate governance and little minority investor protection – with the root of all these problems being the SOEs (i.e. state-owned enterprises). The predominance of state shareholders in listed companies, coupled with an undefined role of the state as shareholder and regulatory, provide the source for flaws in the market – and with these flaws, China faces difficulty in attracting international and even domestic investors.'…

Note 4. Sir David Tweedie stated that …"The new Chinese standards that incorporate accounting principles familiar to investors worldwide will encourage investor confidence in China's capital markets and financial reporting and will be an additional spur for investment from both domestic and foreign sources of capital."

Note 5. Since A-share companies were allowed to issue shares to the local investors only, FPI started in China after the incorporation of B-share companies.

Note 6. The details are available in the Shanghai Stock Exchange Fact book 2009.

Note 7. The details are available in the Shenzhen Stock Exchange Fact book 2005.