



ROLE OF FINANCIAL CAPABILITY IN MANAGING IMPACTS OF FOREX FLUCTUATIONS ON CONSTRUCTION BUSINESS

MOHD AMIZAN BIN MOHAMED^{1,2}, MELISSA TEO², STEPHEN KAJEWSKI², and
BAMBANG TRIGUNARSYAH²

¹*Faculty of Civil Engineering, UiTM, Shah Alam, Malaysia*

²*School of Civil Engineering and Built Environment, Science and Engineering Faculty
Queensland University of Technology, Brisbane, Australia*

Many reasons have led construction organizations to venture into international projects in the past years. Despite offering opportunities for business expansion, risks from foreign exchange (FOREX) fluctuations are some of the challenges that need addressing. These fluctuations have affected the construction business at company level and project levels. Most of the impacts are related to financial issues. Thus, coordinating strategic plans to deal and mitigate the impacts of FOREX fluctuations is crucial. A qualitative research was conducted in response to this. Data collection for this research involved interviewing 14 respondents who represented Malaysian construction organizations and actively involves in international construction projects. The respondents ranged from Chief Executive Officer (CEO), Chief Financial Officer (CFO), financial and project managers. NVivo Version 11.0 was used in managing the transcribed interview data. The data were analyzed via content analysis. Results revealed that FOREX fluctuations give impacts on the financial performance of construction businesses. This study also suggested mitigation actions that could be implemented to manage these issues. The most important finding is that Financial Capability (FC) is relevant and essential to overcome those issues. Finally, a framework of FC in managing impacts of FOREX fluctuations on construction business is proposed.

Keywords: Foreign exchange (FOREX), Financial capabilities (FC), Business performance.

1 INTRODUCTION

The Foreign exchange (FOREX) is a decentralised market and is considered to be the world's leading trading area for currencies and for investors, consequently, it is important for them to predict any trends and fluctuations in the world currencies (Talebi *et al.* 2014). The same concept also can be applied to the companies that are involved in foreign exchange trading. Foreign Exchange Trading (FX) has been around for over four decades, but it started when the first 'paper' money in the world was used (Fabian *et al.* 2017). When there are any fluctuations in the foreign exchange, the risk will rise which may cause a disturbance in a business's operation (Ehrlich *et al.* 2012). Based on this unpredictability, FOREX may have a huge impact on world activities.

An international construction business will also face some difficulties due to the FOREX fluctuations (Mohamed *et al.* 2015). If the FOREX fluctuates, the financial condition of the construction company might be affected (Yean *et al.* 2006). Previous studies on the FOREX fluctuations only focused at the project level but not at the construction company level (Mohamed *et al.* 2015). Consequently, the construction company may face dire consequences if they have poor management skills in dealing with the impact of FOREX fluctuations (Ehrlich *et al.* 2012). Based on the above research, it shows that any fluctuations of FOREX may cause disturbance and major problems to a construction business. Thus, it is a significant benefit to the construction companies if they can manage the FOREX fluctuations to sustain their business performance.

2 LITERATURE REVIEW

The questions are: what are the impacts of FOREX fluctuations on construction businesses? How can these companies manage the impacts of FOREX fluctuation in their business? And how can the financial capability within the business be used to manage those impacts?

2.1 Impacts of Forex Fluctuations on Construction Business

A company dealing with FOREX maybe trading with several foreign currencies, so when any fluctuations happen a risk may arise (Ehrlich *et al.* 2012). Any construction companies that operate their business overseas may also be affected. For example, the costs overrun in a project may happen because the price of raw materials increases due to the FOREX fluctuations (Fidan *et al.* 2011). In addition, other problems may arise in an international construction business such as a delay in projects, confusion in financial management, lack of competitiveness, critical abandonment and ultimately, insolvency and bankruptcy. Hence, it is important for construction companies to manage the impact of FOREX fluctuations to protect their profit margins and sustainability and also their business performance.

2.2 Managing the Impacts of Forex Fluctuations

FOREX fluctuations are most likely the cause for the most common problems at project level such as cost overruns and delay. However, these fluctuations may also have an effect at the company level such as the financial stability and performance. In other words, fluctuations of the market can affect the profit and losses (P & L) of the company so it can be seen as an impact at company level too. Hence, it is not appropriate to just only manage the impacts at the project level because the effects are also felt at the company level. The appropriate actions need to be taken in order to mitigate the impacts of FOREX fluctuations to guarantee the sustainability of a construction business performance (Ehrlich *et al.* 2012, Mohamed *et al.* 2015). This study will focus only on one capability which is Financial Capability (FC).

2.3 Financial Capability

‘Financial Capability’ term was used by Xiao and O’Neill (2016) where some important elements in finance that need to be considered by an international construction company such as bonds, cash flow, and the transaction of money (Jung *et al.* 2012), which can be affected and directly related to FOREX fluctuations.

The financial capability of a construction company can be used to improve its current business and to also mitigate the impacts of FOREX fluctuations (Jung *et al.* 2012). Financial capability is an important aspect where it helps construction companies to maintain the expected cash flow and profit margin (Ahn *et al.* 2009). There are many aspects of financial capability,

and one of the main ones being able to negotiate a loan with a bank to lock in a fixed rate for the required currency or borrowing in order to purchase the materials early before their projects start.

3 METHODOLOGY

The data for this study was collected through face to face interviews with 14 respondents from Malaysian construction companies. These companies fulfilled the study criteria before interview. The criteria were: (a) The company has some overseas projects, (b) The company is an active construction business and (c) The company has 3 years experienced in the field.

The interviews were conducted on the top management of the company including; Chief Executive Officer (CEO), Chief Financial Officer (CFO), and financial and project managers. The data was then analysed by using a software that supports qualitative research called 'NVivo version 11'.

4 RESULTS

The impacts of FOREX fluctuations on the business performance is divided into 2 categories which are; project level and company level.

4.1 Impacts of FOREX Fluctuations Toward Financial Capability

The study identified several impacts of FOREX fluctuations that related to the financial capability of a construction company. The next stage of the research was to categorise the findings into 6 sub-factors (As Table 1). The ref value in Table 1 means that the subfactor was mentioned by a respondent in the interviews.

Table 1. Impacts of FOREX fluctuations towards financial capability.

Factor	Sub-Factors	Ref	% of ref	Ranking
Impacts of FOREX fluctuations	Translation	119	20.20	1
	Transaction	118	20.03	2
	Profit	113	19.19	3
	Economic	88	14.94	4
	Cash Loss	81	13.75	5
	Non Profit	70	11.88	6
Total		589	100	

4.2 Mitigation Action in Term of Financial Capability

The study uncovered a lot of actions that can mitigate a lack of financial capability as mentioned by interviewees stated in Table 2.

One of them is by a hedging method. According to Ahn *et al.* (2009), it is possible to mitigate the exchange rate and currency conversion risk by having dual currency contracts and hedging tools, these were found to be effective in China. The best way to understand hedging is to think of it as insurance. Researchers such as Ehrlich *et al.* (2012) state that the hedging method

can provide a level of protection by limiting the possibility of financial repercussions on the business. Hence, the construction company can usually have an agreement or negotiate a contract with the parties they are involved with. The construction companies can hedge with their suppliers or clients with an agreement related to FOREX fluctuations.

In addition, some construction companies mitigate the impacts of FOREX fluctuations by buying a property in the foreign country; this is sometimes seen as a flexible option. The company will buy the property in the foreign country because the price of the property can often increase and alleviate the impact of FOREX fluctuations. Nonetheless, this method depends on the regulations and rules of the foreign government of the construction that they are involved in.

Table 2. Mitigation actions in term of financial capability.

Method	Description
Hedging	<ul style="list-style-type: none"> Make an agreement with the suppliers or the banks to lock the price of the materials or loan. Companies can make an agreement on fixed rate loan contract with lending banks in order to reduce the impacts of FOREX fluctuations (Wang et al., 2008).
Buying property	<ul style="list-style-type: none"> Instead of bring back the money to the origin country, the construction companies can buy a property at the foreign country, and make a profit out of it and overcome the shortfall. Some investors are relying on sales of property to overcome their shortfall (Atkinson et al., 2007).
Open separate account	<ul style="list-style-type: none"> Open separate account is considered as a strategic investment in the foreign market. By having a separated account the FOREX involved in the future will be reduce hence reduce the risk of FOREX fluctuations. Cash and investment policy; match sources and utilization of funding; and reserved cash (retained earnings) is considered as one of the risk management in term of financial capability at the international markets (Wethyavivorn et al., 2009)

4.3 Financial Capability

However, the mitigating actions in term of financial capability are unable to be utilized by the construction business companies. Hence it is important to study the financial capability of the construction company. Financial capability is considered a conversion factor necessary for an individual or even organization to use a resource, money, into various financial goods (Allmark and Machaczek 2015).

Table 3 is the list of subfactors of financial capability. Based on the interviews, the financial capability of the construction company can be divided into several sub-factors, which are financial management, asset, material, labour and loan.

Financial management was observed as the most important and crucial aspect of the financial capability of the construction company. It scored the highest ranking followed by asset, materials, labor and loan.

These findings can help the construction company in managing their finances in the future. However, the interviewees also mentioned several other aspects related to financial capabilities such as assets, material, labor and the loan associated with the project.

Table 3. Subfactors of the Financial Capability.

Factor	Sub-Factors	Ref	% of ref	Ranking
Financial Capability	Financial Management	488	44.00	1
	Asset	219	19.75	2
	Material	160	14.43	3
	Labour	147	13.26	4
	Loan	95	8.57	5
Total		1109	100	

4.4 Proposed Framework of Financial Capability

A framework to manage the impacts of FOREX fluctuations is proposed in Figure 1. The proposed framework shows that the impact of the fluctuations of FOREX could be seen at two (2) different level in the construction industry; namely, project and company level, both contributing to the overall company.

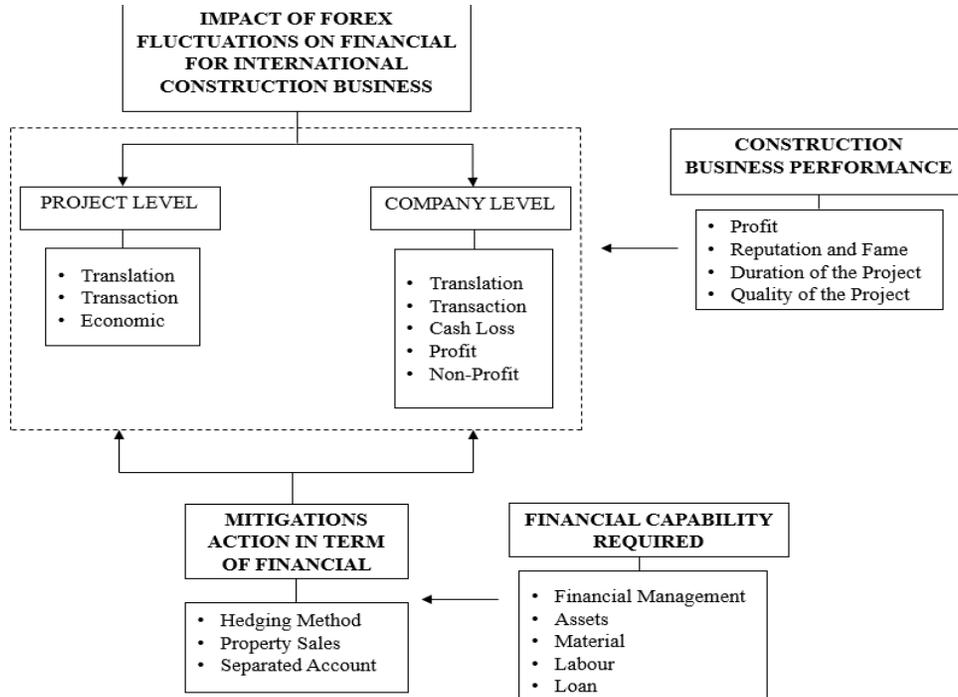


Figure 1. Proposed framework of the financial capability towards the impacts of FOREX fluctuations on construction business performance.

The important part of this proposed framework is highlighting the mitigation actions that need to be carried out to resolve the issues raised from the FOREX fluctuations. This framework strongly addresses the role of financial capability in applying the mitigation actions to manage those impacts of FOREX fluctuations.

The proposed framework is developed based on the perspective of Malaysian construction companies who were involved with projects overseas. This framework can be a guide for the construction companies from different countries as well. However, it might be different in terms of impacts and mitigation actions locally, but the key point is that financial capability has a role in implementing the mitigation actions.

5 CONCLUSIONS

The objective and aim of the study were achieved. The impacts of FOREX fluctuations on a construction business performance from a financial capability perspective were identified. The mitigating actions in term of financial capability were also identified. Based on the literature review and analysis from the respondents a financial capability framework was proposed and can be used as a guideline for a construction company when they are involved with the overseas market. Moreover, the important capabilities for the construction business company when they are in an international market have also been discussed. This study has focused on the financial capability of construction companies. The literature reviews and data analysis were conducted for a deep discussion on this capability. Thus, the objectives and aims of the study were achieved.

References

- Ackermann, F., Pohl, W., and Schmedders, K., Optimal and Naive Diversification in Currency Markets. *Management Science* 63(10):3347-3360. <https://doi.org/10.1287/mnsc.2016.2497>, 2017.
- Ahn, Y. H., Holley, P., and Kang, J. S., Risk Management of Exchange Rates in International Construction, *International Journal of Construction Education and Research*, 5(1), 24-44. <https://doi.org/10.1080/15578770902717550>, 2009.
- Allmark, P., and Machaczek, K., Financial Capability, Health and Disability. *BMC Public Health*, 15(1), 243. <https://doi.org/10.1186/s12889-015-1589-5>, 2015.
- Ehrlich, M., Woodward, D., and Tiong, R., A State- of- Practice Survey on Managing FX Exposure in Project Companies, Construction Companies and SMEs, *Journal of Financial Management of Property and Construction*, 17(1), 29-48. <https://doi.org/10.1108/13664381211211037>, 2012.
- Fidan, G., Dikmen, I., Tanyer, A. M., and Birgonul, M. T., Ontology for Relating Risk and Vulnerability to Cost Overrun in International Projects, *Journal of Computing in Civil Engineering*, 25(4), 302-315. [https://doi.org/10.1061/\(ASCE\)CP.1943-5487.0000090](https://doi.org/10.1061/(ASCE)CP.1943-5487.0000090), 2011.
- Jung, W., Han, S. H., Asce, M., Koo, B. and Jang, W., Which Strategies are More Effective for International Contractors during Boom and Recession Periods?, 28(3), 281-290. [https://doi.org/10.1061/\(ASCE\)ME.1943-5479.0000087](https://doi.org/10.1061/(ASCE)ME.1943-5479.0000087), 2012.
- Mohamed, M. A., Bin, Teo, M., Kajewski, S., and Trigunaryah, B., A Relationship of Managing Impacts of FOREX Fluctuations and Organizational Capabilities in Construction Business. Proceedings of the 6th International Conference on Construction Engineering and Project Management 11-14 October 2015, Busan, Korea, (October), 477-480, 2015.
- Talebi, H., Hoang, W., and Gavrilova, M. L., Multi-Scale Foreign Exchange Rates Ensemble for Classification of Trends in Forex Market, *Procedia Computer Science*, 29, 2065-2075. <https://doi.org/10.1016/i.procs.2014.05.190>, 2014.
- Xiao, J. J., and O'Neill, B., Consumer Financial Education and Financial Capability, *International Journal of Consumer Studies*, 40(6), 712-721, 2016.