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MANAGING FINANCIAL RISK BY USING DERIVATIVES: A STUDY OF HONG KONG LISTED COMPANIES

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ABSTRACT

This paper attempts to identify the ways that the Hong Kong companies in the Hang Seng Index Constituent Stocks manage their financial risk with derivatives. By analyzing the companies' annual reports and financial reviews, it is found that 82.6% of these companies used derivatives in 2010. Specifically, 58.7% of them used swaps to hedge interest rate risk, and 54.3% of them used forward contracts to hedge foreign exchange risk. The results are largely consistent with the prediction that companies using derivatives to manage their financial risk.

Keywords: Financial risk, derivatives, interest rate risk, foreign exchange risk, Hong Kong listed companies.

Introduction

Change in the international business environment and the increased volatility of interest rates and foreign exchange rate movements have profound implications on the way in which international companies deal with their financial risks. These risks cannot only affect quarterly profits, but it can determine a company's survival. The management of these risks has become paramount for the survival of companies in today's volatile financial markets.

In the new millennium, the financial markets have become more volatile than before. Even in some advanced economies like Hong Kong, companies face wild fluctuation of interest rates and exchange rates during the past decade. From the firm perspective, financial risk is a crucial threat to its profitability. In particular for Hong Kong firms, foreign exchange risk and interest rate risk need to be properly managed. For that reason, it is common to find local companies to use derivatives, such as forwards, futures, options and swaps, to hedge these risks.

As reported by Bank for International Settlements (BIS), after contracting by 4% in the first half of 2010, total notional amounts outstanding of over-the-counter (OTC) derivatives rose by 3% in the second half, reaching US\$601 trillion by the end of 2010. In the largest risk category (i.e., interest rate and foreign exchange derivatives) in the OTC derivatives market by any measure, notional amounts outstanding increased by 3% in the second half of 2010. According to the International Swaps and Derivatives Association (ISDA) 2009 derivative usage survey report, 94%



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of the world's largest corporations used derivative instruments to manage and hedge their business and macroeconomic risks. Foreign exchange and interest rate derivatives were the most widely used instruments among large global corporations.

For firms, there are a wide variety of financial risk, including market risk, credit risk, insurance risk, and liquidity risk in their daily business. As discussed above, an obvious trend for firms in various geographic regions and industrial sectors to hedge their financial risk is through the derivatives. In the present study, we attempt to find out, among the major companies in Hong Kong, what derivatives instruments are used and the purposes of using them.

This paper is organized as follows. Section 2 provides the background of the study. Section 3 review the relevant literature, followed by section 4 that states out the research questions. Section 5 explains the methodology of the present study. Section 6 reports the research findings, and the last section contains the conclusion.

Study background

As business becomes more global, more and more companies are finding themselves increasingly exposed to increased risks with exchange rate fluctuations and interest rate fluctuations being just some of the financial risks they face; therefore the management of these risks has become paramount for Hong Kong listed companies. The primary objective of this study is to examine the ways that the Hong Kong listed companies in the Hang Seng Index Constituent Stocks manage their financial risk with derivatives in the year of 2010. Among the various categories of financial risk, there are market risk (i.e., the risk of loss from adverse movements in the value of assets, interest rates, and foreign exchange rates), credit risk (i.e., the failure of third parties to meet their obligations to a company when falling due), insurance risk (i.e., the potential loss resulting from inappropriate underwriting, mispricing, adverse expense, lapse, mortality, and morbidity experiences) and liquidity risk (i.e., the risk of having insufficient cash available to meet the payment obligations to counterparties when they become due).

The market risk arises from the possibility of financial loss caused by changes in financial instruments' fair value or future cash flows due to fluctuations in key variables such as interest rates, foreign exchange rates, equity market prices, and real estate property market prices. For example, the banks' or insurance companies' exposure to interest rate risk predominantly arises from its duration gap between the liabilities and assets for interest rate sensitive products. Besides, foreign exchange risk arises from the company's operations in multiple jurisdictions in the Asia Pacific region or the rest of the world. Foreign currency risk associated with assets and liabilities denominated in non-functional currencies results in gains and losses being recognized in the consolidated income statement. In view of the recent global financial crisis and its tremendous impacts, the focus of this paper is on interest rate risk and exchange rate risk for the Hong Kong companies.



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The Hang Seng Index (HSI) in Hong Kong has four sub-indexes which are finance, utilities, properties, and commerce and industry, and there are 46 constituent stocks in the Index. The commerce and industry sector has 23 constituent stocks, which is half of the HSI. Different from finance (with 12 constituent stocks), utilities (with 4 constituent stocks) and properties (with 7 constituent stocks) sectors, the commerce and industry sector involves various industries that run different businesses, such as energy, materials, industrial goods, consumer goods, services, telecommunication, information technology, and conglomerates.

The Hong Kong Monetary Authority (HKMA 2010) reported that the main derivative instruments in Hong Kong are the outright forwards and the foreign exchange (FX) swaps. From 2007 to 2010, average daily net turnover of outright forwards increased by 117.6% to US\$32 billion, while that of FX swaps increased by 20.5% to US\$147 billion. Around 60% of the total outright forwards transactions lie in the band of seven days and up to one year. In April 2010, the share of FX swap transactions with a maturity up to seven days increased to 77.6% from 73.7% in April 2007. Average daily net turnover of OTC interest-rate derivatives in Hong Kong had increased by \$1.2 billion or 6.8% during the period of 2007-2010. Interest-rate swaps remained the most highly traded product, even though their turnover decreased by 1.0% to \$15.8 billion between 2007 and 2010. In the OTC interest-rate derivatives market, business with non-financial customers increased, rising from 1.7% in 2007 to 2.2% in 2010.

Literature Review

Effective risk management is a critical success factor for delivering projects in predefined cost, time, and quality. Bartram et.al.(2011) provided strong evidence that the use of financial derivatives reduces both total risk and systematic risk. In analysis of the purposes of using derivatives, Nguyen and Faff (2010) pointed out that despite the public concern about the use of financial derivatives to increase firm risk, the evidence shows that in most cases, financial derivatives are used for hedging purposes. As argued by Clark and Judge (2008), hedging instruments depend on the type of exposure. Short-term instruments such as foreign currency forwards and/or options are used to hedge short-term exposure generated from export activities, while foreign currency debt and foreign currency swaps into foreign currency (but not into domestic currency) are used to hedge long-term exposure arising from assets located in foreign locations.

Papaioannou (2006) reported that the larger the size of a firm, the more likely it is to use derivative instruments in hedging its exchange rate risk exposure. The primary goal of US firms' exchange rate risk hedging operations is to minimize the variability in firms' cash flow and earning accounts (mainly related to payables, receivables, and repatriations). The choice of foreign exchange derivatives instruments is concentrated in OTC currency forwards (over 50% of all foreign exchange derivatives used), OTC currency options (around 20%), and OTC currency swaps (around 10%). El-Masry (2006) highlighted that the most important reason for using derivative for hedging purposes is managing the volatility in cash flows, and the market value of the firm is



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considered to be the second most important reason. According to Stulz (2005), 28 percent of firms use derivatives to reduce earnings volatility. Adedeji and Baker (2002) pointed out that the motivation of using interest rate derivatives may be due to the risk of financial distress and economies of scale. Yu et.al. (2001) noted that it is a common practice for the Hong Kong firms using derivatives for risk management to engage in foreign exchange and interest rate derivatives.

Research Questions

The theories and concepts written on managing risk using derivatives are relatively new. Whether or not they can be applied to the real setting is still controversial. More theoretical development and empirical studies are needed, particularly in Asian setting. We try to fill this research gap. To explain how the Hong Kong companies in the Hang Seng Index Constituent Stocks manage their financial risks with derivatives, we attend to set several research questions based on theories and concepts that discussed in the previous section. The following questions are to be addressed in the present study.

1. Do the Hong Kong listed companies use derivatives to hedge the risks?
2. What are the risks that the derivatives are hedging?
3. What are the types of derivative instruments that the companies are using?
4. What are the objectives of using such kinds of derivatives?

Data

The markets for OTC instruments and exchange-traded derivative financial instruments (options, futures, forwards, swaps, etc.) on foreign exchange rates and interest rates have exhibited exponential growth over the past 20 years. Along with increased use, regulation for the disclosure of derivative has developed, requiring companies in many countries to include information about their derivatives' positions in their annual reports. For example, the following are recent standards (and effective dates) adopted by so-called G4+1 countries and International Accounting Standards Board (IASB) as part of the movement toward common reported standards: United States, FAS 133 (effective June 15, 1999); United Kingdom, FRS 13 (effective March 23, 1999); Australia, AAS 33 (effective January 1, 2000); Canada, AcSB Handbook Section 3860 (Financial Instruments – Disclosure and Presentation, effective January 1, 1996); New Zealand, FRS-31 (effective December 31, 1993). The resulting availability of data makes the empirical analysis of the use of derivatives by nonfinancial firms in different countries possible.

In this study, we collected and analyzed firm-level data. The data come from different sources. First are annual reports and financial reviews, which are released under the Hong Kong Accounting Standard 32 (HKAS 32), Hong Kong Accounting Standard 39 (HKAS 39), Hong Kong Financial Reporting Standard 7 (HKFRS 7) and Hong Kong (IFRIC) Interpretation 9. Additionally, we also collected data from different website, such as Hong Kong Monetary Authority (HKMA),



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Hang Seng Indexes (HSI) and Global Reports. A group of undergraduate students helped to collect and code the data.

From the recent HSI constituent stocks' annual reports, the information about derivative instruments was searched and extracted. We first counted and found out whether or not the companies use derivatives to hedge their financial risks. We then identified what types of derivative instruments these companies used and what types of risks they hedge. Lastly, we looked for the objectives of these companies in using such kinds of derivatives. The information was then tabulated, so that comparison across sectors can be made. We also used some cases to illustrate.

Companies are classified as users or nonusers of derivatives based on a search of their annual reports and financial reviews for information about these of derivatives. Even careful examination of the annual reports does not always give clear evidence whether a company uses derivatives or not, because some companies make very general statements about their risk management policy or accounting practices without specifically addressing the particular year in question. Given the systematic way of classifying companies and the fact that users appear to be misclassified about as often as nonusers, the results should at worst suffer from some noise with little effect on the results across the sample of companies.

Results

Table 1 displays the derivatives usage of Hong Kong companies in the HSI constituent stocks. To compare the pattern across sectors, we provide the information of derivatives usage in each sector.

Table 1: Derivatives Usage by Hong Kong companies in Hang Seng Index (HSI) Constituent Stocks

HSI	Code	Company Name	User of Derivatives	Nonuser of Derivatives
Finance	5	HSBC Holdings PLC	1	
	11	Hang Seng Bank Ltd	1	
	23	Bank of East Asia Ltd	1	
	388	Hong Kong Exchanges and Clearing Ltd	1	
	939	China Construction Bank Corp	1	
	1299	AIA Group Ltd	1	
	1389	Industrial & Commercial Bank of China	1	
	2318	Ping An Insurance Group Co	1	
	2388	BOC Hong Kong Holdings	1	
	3988	China Life Insurance Co Ltd	1	
	3328	Bank of Communications Co Ltd	1	
	3988	Bank of China Ltd	1	



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		Sub-total (%)	12 (100%)	0 (0%)
Utilities	2	CLP Holdings Ltd	1	
	3	Hong Kong & China Gas Co Ltd	1	
	6	Power Assets Holdings Ltd	1	
	836	China Resources Power Holdings Co Ltd	1	
		Sub-total (%)	4 (100%)	0 (0%)
Properties	1	Cheung Kong Holdings Ltd	1	
	12	Henderson Land Development Co Ltd	1	
	16	Sun Hung Kai Properties Ltd	1	
	83	Sino Land Co Ltd		1
	101	Hang Lung Properties Ltd		1
	688	China Overseas Land & Investment Ltd		1
	1109	China Resources Land Ltd	1	
		Sub-total (%)	4 (57.1%)	3 (42.9%)

HSI	Code	Company Name	User of Derivatives	Nonuser of Derivatives
Commerce & Industry	4	Wharf Holdings Ltd	1	
	13	Hutchison Whampoa Ltd	1	
	17	New World Development Co Ltd	1	
	19	Swire Pacific Ltd	1	
	66	MTR Corporation Ltd	1	
	144	China Merchants Holdings International Co Ltd		1
	267	Citic Pacific Ltd	1	
	291	China Resources Enterprise Ltd	1	
	293	Cathay Pacific Airways Ltd	1	
	330	Esprit Holdings Ltd	1	
	386	China Petroleum & Chemical Corp (Sinopec)	1	
	494	Li & Fung Ltd	1	
	700	Tencent Holdings Ltd	1	
	762	China Unicom Hong Kong Ltd		1
	857	PetroChina Co Ltd	1	
	883	CNOOC Ltd	1	
	941	China Mobile Ltd		1
	1044	Hengan International Group Co Ltd	1	
1088	China Shenhua Energy Co Ltd	1		



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	1199	COSCO Pacific Ltd	1	
	1880	Belle International Holdings Ltd		1
	1898	China Coal Energy Co Ltd		1
	2600	Aluminum Corp of China Ltd	1	
		Sub-total	18 (78.3%)	5 (21.7%)
		Grand total	38 (82.6%)	8 (17.4%)

Of all the 46 companies in the HSI, 38 of them (or 82.6%) reported that they used at least one derivative if and when the need arises. Specifically, in the finance and utilities sectors, 100% of the companies reported that they used derivatives. The figures for the commerce and industry sector and properties sector are 78.3% and 57.1%, respectively. It is interesting to note that 17.4% of the companies did not use any derivatives. In the properties sector, the percentage is the highest (42.9%). Here are some examples.

Case 1: Sino Land Co. Ltd. (Code: 83) mainly relied on monitoring the change of foreign exchange risk to manage the exchange rate risk.

Case 2: Hang Lung Properties Ltd. (Code: 101) maintained a large amount of bank deposit of US\$189 million, and hence the resulting currency risk is insignificant.

Case 3: China Overseas Land & Investment Ltd.'s (Code: 688) part of the transactions are denominated in foreign currencies, including Hong Kong dollar and US dollar. Because of the link exchange rate system, the currency risk is low.

Moreover, in the commerce and industry sector, 21.7% of the companies reported that they did not use derivatives. Below is an example.

Case 4: China Mobile Ltd. (Code: 941) used Renminbi (RMB) in the major business operations. The company's foreign currency represented 1.3% of the total cash and deposits, thus the company did not expect a high currency risk.

Table 2 shows the results of the companies using derivatives by types of instrument and interest rate risk.

Table 2: Companies use of derivatives by type of instrument and interest rate risks

HSI	Code	Futures	Options	Swaps	FRA*
Finance	5			1	
	11			1	
	23			1	
	388				1
	939			1	1



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	1299				
	1398		1	1	1
	2318		1	1	
	2388	1		1	
	2628		1		
	3328		1	1	1
	3988	1	1	1	
	Sub-total	2 (16.6%)	5 (41.7%)	9 (75%)	4 (33.3%)
Utilities	2			1	
	3				
	6			1	
	836			1	
	Sub-total	0 (0%)	0 (0%)	3 (75%)	0 (0%)
Properties	1			1	
	12			1	
	16			1	
	83				
	101				
	688				
	1109			1	
	Sub-total	0 (0%)	0 (0%)	4 (57.1%)	0 (0%)

HSI	Code	Futures	Options	Swaps	FRA*
Commerce & Industry	4			1	
	13			1	1
	17			1	
	19			1	
	66			1	
	144				
	267			1	
	291			1	
	293			1	
	330				
	386				
	494				
	700				



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	762				
	857			1	
	883				
	941				
	1044				
	1088			1	
	1199			1	
	1880				
	1898				
	2600	1			
	Sub-total	1 (4.3%)	0 (0%)	11 (48%)	1 (4.3%)
	Grand total	3 (6.5%)	5 (10.9%)	27 (58.7%)	5 (10.9%)

*FRA denotes Forward Rate Agreement.

Overall, 58.7% of the companies reported that they used interest rate swaps, 10.9% of them used options, 10.9% of them used forward rate agreements (FRA), and 6.5% of them used interest rate futures in hedging the interest rate risk. The percentage of using interest rate swaps is particularly high in finance sector (75%) and in utilities sector (75%). In the properties sector (57.1%), interest rate swaps is the only type of derivatives used by companies. It is also the main type for companies in the commerce and industry sector, with 47.8% companies using it. Here are some examples.

Case 5: China Resources Power Holdings Co. Ltd. (Code: 836) needed tremendous capital for its operation and expansion. Actually, there was a 32.6% increase on loans in 2010 towards 2009. It used interest rate swaps with net quarterly settlement to hedge its exposure against changes in interest rate on bank borrowing, so that its interest risk expenses would be minimized by swapping floating interest rates to fixed interest rates. As at 31 December 2010, loans of HK\$6,619 million which were provided using floating rates were swapped to fixed interest rates at a range from 2.075% to 4.52% per annum.

Case 6: Henderson Land Development Co. Ltd. (Code: 12) had an outstanding bank loan of HK\$7,100 million on 31 December 2010, which was on a floating rate basis. It then used interest rate swap to convert the floating rate basis loan into fixed rate basis loan, which means to convert the floating interest rate into fixed interest rate. This helps to reduce the interest rate risk arises during the repayment period.

Case 7: Citic Pacific Ltd. (Code: 267) borrowed by using the variable rate which made the company suffer to the interest rate risk. To deal with the issue, the company was using the interest rate swap and borrowed by the fixed rate. During the first half of 2011, the company used about HK\$1.4 billion interest rate swaps to lock the fixed rate to borrow the fund. The fixed rate of the



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interest rate swap was in the range of 0.60% to 5.24%, and the floating rate was mainly calculated by the HIBOR and LIBOR.

Case 8: COSCO Pacific Ltd. (Code: 1199): As at 30th June 2011, outstanding interest rate swap contracts comprised nominal principal amounting to US\$200 million in total whereby the company agreed to pay the banks interest at floating rates ranging from 105 basis points to 116 basis points above 6-month LIBOR in return for receiving interests from the banks at a fixed interest rate of 5.875% per annum.

Table 3 reveals the companies’ use of derivatives by type of instrument and exchange rate risk.

Altogether, among the 46 HSI companies, 56.5% of them used forward contracts, 43.5% used swaps, 13% used options, 6.5% used futures, and 2.2% used non-deliverable forwards (NDF). The following cases are some examples that illustrate how they used derivatives to deal with exchange rate risk.

Case 9: Hong Kong Exchange and Clearing Ltd. (Code: 388) invested in non-HKD securities in an attempt to maximize its return. The company used forward foreign exchange contracts and foreign currency bank deposits to hedge the currency exposure of its non-HKD investments and liabilities arising from fluctuations in exchange rates. At as 31 December 2010, the company hedged cash and cash equivalents of JPY and USD, as well as financial assets of AUD, EUR, GBP, JPY and USD. The amount of money used to hedge cash and cash equivalents of JPY and USD are \$96 million and \$969 million, respectively. For hedging financial assets of AUD, EUR, GBP, JPY, and USD, the company used \$215 million, \$379 million, \$74 million, \$12 million,

Table 3: Companies use of derivatives by type of instrument and exchange rate risks

HSI	Code	Forwards	Futures	Options	Swaps	NDF*
Finance	5	1				
	11	1				
	23	1				
	388	1				
	939					
	1299	1	1		1	
	1398	1			1	
	2318	1			1	
	2388	1			1	
	2628			1		1
	3328	1		1	1	1
	3988	1			1	1



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	Sub-total	10(83.3%)	3 (25%)	4 (33.3%)	7 (58.3%)	0 (0%)
Utilities	2	1			1	
	3	1			1	
	6	1			1	
	836					
	Sub-total	3 (75%)	0 (0%)	0 (0%)	3 (75%)	0 (0%)
Properties	1	1			1	
	12				1	
	16				1	
	83					
	101					
	688					
	1109					
	Sub-total	1 (14.3%)	0 (0%)	0 (0%)	3 (42.8%)	0 (0%)

HSI	Code	Forwards	Futures	Options	Swaps	NDF*
Commerce & Industry	4	1			1	
	13	1			1	
	17					
	19	1			1	
	66	1			1	
	144					
	267	1			1	
	291					
	293	1			1	
	330	1				
	386	1				
	494	1				
	700	1			1	
	762					
	857					1
	883	1				
	941					
	1044				1	1
1088						
1199						



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	1880					
	1898					
	2600	1				
Sub-total	12 (52.2%)	0 (0%)	2 (8.7%)	7 (30.4%)	1 (4.3%)	
Grand total	26 (56.5%)	3 (6.5%)	6 (13%)	20 (43.5%)	1 (2.2%)	

*NDF denotes Non-Deliverable Forward.

and \$480 million, respectively. The details of using which instruments to hedge the above foreign currency assets have not been shown in the annual report and financial review. The company only mentioned that forward foreign exchange contracts have been used as economic hedges for the currency exposures of its investments by external fund managers.

Case 10: Bank of East Asia Ltd. (Code: 23) managed currency risk by setting limits for foreign currency position and using forward contract. Its annual report revealed that in 2010 the company used HK\$136,496 million and HK\$156,605 million for forward purchases and forward sales to hedge the currency risk of USD, and HK\$94,932 million and HK\$96,540 million were used for forward purchases and forward sales to hedge the currency risk of CNY. The company also used HK\$ 12,559 million and HK\$ 8,196 million for forward purchases and forward sales to hedge other foreign currencies' risk.

Case 11: Hong Kong & China Gas Company Ltd. (Code: 3) operates in Hong Kong and Mainland China and was exposed to foreign exchange risk arising from various currency exposures, primarily with respect to the United States dollars and Renminbi. To manage the foreign exchange risk, the company used forward contracts. The company had also entered into cross currency swap contracts to manage its exposure to foreign exchange risk from recognized liabilities.

Case 12: Esprit Holdings Ltd. (Code: 330) suffered the exchange rate risks due to its international business and primarily from commercial transactions and recognized assets and liabilities. As the merchandise is mainly produced in Europe, Euro is the currency that mainly causes the risk, which when there is 1% strengthening in Euro towards US Dollars, company's profit attributable to shareholders would decrease by approximately HK\$3 million and total equity would decrease by approximately HK\$ 33 million. This caused the attention of the management to use foreign currency forward contract to hedge the foreign exchange rate risk. In the year of 2010, Esprit's profit attributable to shareholders has decreased by HK\$4 million and the total equity has decreased by HK\$4 million due to the 1% strengthening in Euro towards US Dollars on monetary items.

Case 13: CNOOC Ltd. (Code: 883) used the foreign exchange forward contracts to manage the foreign exchange rate risk. The foreign exchange forward contracts had been considered as liabilities at fair value of RMB 80,054,000 for the year ended 2010, and RMB 125,000 for the year ended 2009. This showed that the company was consistent in using foreign exchange forward contracts to hedge the foreign exchange risk. The company has made the decision according to the



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management's assessment that an expectable change in foreign exchange rate of the USD for 5% in 2010. As a result, the company only suffered from the foreign exchange risk from its subsidiaries that was less than 0.77% of the profit and 0.83% of the equity due to the change of USD currency rate.

As showed in Table 4, for the foreign exchange objectives, 69.6% of the companies reported that they have managed transaction risk, 63% of the companies reported that they have managed the translation risk, and 23.9% of the companies reported that they have managed economic risk. However, 8.7% reported that they did not manage foreign exchange risk or have any stated objectives.

For interest rate objectives, 63% of the companies reported that they have reduced borrowing costs, particularly for those in the finance sector. 60.9% of the companies reported that they have protected group's earnings or cash flows, particularly for those in utilities sector. That may be the reason why these firms can stably pay dividends to shareholders. Besides, 19.6% of the companies reported that they have protected key financial ratio, and 10.9% reported that they did not manage interest exposure or have any stated objectives. Below are two examples.

Table 4: Financial risk management objectives

Types of objective	Number of companies (%)
(A) Foreign exchange objectives	
Management of transaction risk	32 (69.6%)
Management of translation risk	29 (63%)
Management of economic risk	11 (23.9%)
No stated objectives/ do not manage foreign exchange exposure	4 (8.7%)
(B) Interest rate objectives	
Reduce borrowing costs	29 (63%)
Protect group's earnings/ cash flow	28 (60.9%)
Protect key financial ratio	9 (19.6%)
No stated objectives/ do not manage interest exposure	5 (10.9%)

Case 14: Hutchison Whampoa Ltd. (Code: 13) aimed at reducing the borrowing cost since the interest payment affected the net income of the company when it involved large amount.

Case 15: HSBC Holdings PLC. (Code: 5) managed the foreign exchange risk to protect the consolidated capital ratios and the capital ratios of individual banking subsidiaries from the effect of changes in exchange rates.

Conclusion



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The primary objective of this study was to identify the ways the Hong Kong companies in the Hang Seng Index Constituent Stocks manage their financial risks with derivatives. Among the 46 companies that we studied, 38 of them (or 82.6%) reported that they used at least one derivative if and when the need arises. Obviously, it was popular for these Hong Kong large companies to manage their financial risks using derivatives. It is worthy to note the variation in the use of derivatives among different sectors. For example, in the finance and utilities sectors, 100% of the companies reported that they used at least one derivative. The corresponding figures for the commerce and industry sector and properties sector are 78.3% and 57.1% respectively.

In view of the global financial crisis, the Hong Kong companies have been concerning about interest rate risk and foreign exchange risk. To deal with the former, 58.7% of the companies reported that they used interest rate swaps, followed by options (10.9%), forward rate agreements (FRA) (10.9%) and interest rate futures (6.5%). To deal with the latter, 56.5% of the companies used forward contracts, followed by swaps (43.5%), options (13%), futures (6.5%), and non-deliverable forward (NDF) (2.2%). Obviously, the companies preferred using interest rate swaps to hedge interest rate risk and using forward contracts to hedge foreign exchange rate. In general, there is a trend for large firms in Hong Kong to use derivatives for managing the financial risks. Some of them even have written policies on using derivatives. The majority of these companies also have clear objectives, including foreign exchange objectives and interest rate objectives.

Our study has provided some initial information about the purposes and the use of derivatives among large Hong Kong companies. Some interesting patterns have been revealed. In the future, more research should be conducted to examine the trend by using time-series data or propensity score-matching methods. In addition, comparison can be made between Hong Kong and some financial centers in Asia, such as Singapore and Shanghai. If firm-level data are available, it is desirable to study the financial decisions regarding the use of derivatives and the outcomes of these decisions.

References

1. Adedeji, A. and Baker, C. R.(2002). Why firms in the UK use interest rate derivatives. *Managerial Finance*, Vol. 28, No. 11, pp. 53-74.
2. Bartram, S. M., Brown G. W. and Conrad J. (2011). The effects of derivatives on firm risk and value. *Journal of Financial & Quantitative Analysis*, Vol. 46, No. 4, pp. 967-999.
3. Clark, E. and Judge, A. (2008). Foreign currency derivatives versus foreign currency debt and the hedging premium. *European Financial Management*, Vol. 15, No.3, pp. 606-642.
4. El-Masry A. A. (2006). Derivatives use and risk management practices by UK non-financial companies. *Managerial Finance*, Vol. 32, No. 2, pp.137-159.
5. Financial Accounting Standards Board, 1998. Statement of Financial Accounting Standards No. 133 Accounting for derivative instruments and hedging activities. June.
[Online] Available at:



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<http://www.fasb.org/cs/BlobServer?blobcol=urldata&blobtable=MungoBlobs&blobkey=id&blobwhere=1175820927915&blobheader=application%2Fpdf>
[Accessed 1 February 2012]

6. Global reports.
[Online] Available at: <http://www.global-report.com>
[Accessed 1 February 2012]
7. Hang Seng Bank, Hang Seng Index 2001-2012.
[Online] Available at:
<http://www.hsi.com.hk/HSI-Net/>
[Accessed 2 February 2012]
8. Hong Kong Institute of Certified Public Accountants, 2010. Financial instruments: recognition and measurement.
[Online] Available at:
http://app1.hkicpa.org.hk/ebook/HKSA_Members_Handbook_Master/volumeII/hkas39.pdf
[Accessed 4 February, 2012]
9. Hong Kong Institute of Certified Public Accountants, 2010. Reassessment of embedded derivatives.
[Online] Available at:
http://app1.hkicpa.org.hk/ebook/HKSA_Members_Handbook_Master/volumeII/hkfrs-int9.pdf
[Accessed 5 February 2012]
10. Hong Kong Institute of Certified Public Accountants, 2011. Financial instruments: disclosures.
[Online] Available at:
http://app1.hkicpa.org.hk/ebook/HKSA_Members_Handbook_Master/volumeII/hkfrs7.pdf
[Accessed 4 February 2012]
11. Hong Kong Institute of Certified Public Accountants, 2011. Financial instruments: presentation.
[Online] Available at:
http://app1.hkicpa.org.hk/ebook/HKSA_Members_Handbook_Master/volumeII/hkas32.pdf
[Accessed 3 February 2012]
12. Hong Kong Monetary Authority, 2010. The foreign-exchange and derivatives markets in Hong Kong. Quarterly Bulletin, by the Banking Policy Department, September.
[Online] Available at:



www.elkjournals.com

<http://www.hkma.gov.hk/eng/index.shtml>

[Accessed 5 February 2012]

13. Karsten von Kleist and Mallo C. (2011). OTC derivatives market activity in the second half of 2010. Bank for International Settlements, Monetary and Economic Department, May.
14. Mengle D, Kuprianov A. and Pachos J. (2009). ISDA research notes. International Swaps and Derivatives Association, No. 2, 1-10, Spring.
[Online] Available at:
<http://www.isda.org/researchnotes/pdf/ISDA-Research-Notes2.pdf>
[Accessed 6 February]
15. Nguyen H. and Faff R. (2010). Are firms hedging or speculating? The relationship between financial derivatives and firm risk. *Applied Financial Economics*, Vol. 20, pp.827-843.
16. Papaioannou M. G. (2006). Exchange rate risk measurement and management: issues and approaches for firms. *South-Eastern Europe Journal of Economics*, Vol. 2, pp. 129-146.
17. Stulz, R. M. (2005). Financial derivatives. *The Milken Institute Review*, pp. 20-31, Third Quarter.
[Online] Available at:
http://www.cob.ohio-state.edu/fin/faculty/stulz/publishedpapers/milkeninstitute_pubpaper.pdf
[Accessed 10 February 2012]
18. Yu, S.H., Chan H. C., Fu Y.H. and Lo C.W. (2001). Managing risk by using derivatives: the case of Hong Kong firms. *Review of Pacific Basin Financial Markets and Policies*, Vol. 4, No. 4, pp. 417-425.