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FINAL QUALIFYING PAPER

on the topic:

"CURRENCY EXCHANGE RISK HEDGING OF FOREIGN ECONOMIC ACTIVITY ENTITY"

(based on the materials of LLC "Integral Capital Management Sàrl", Kyiv)

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INTRODUCTION

Problem statement. The current competitiveness of the business world means that expanding globally is necessary for sustained growth. Increase of population and consumer spending of emerging economies as well as advanced present extraordinary growth opportunities for business expansion and diversification. However, the success of an international company is highly dependent on exchange rate volatility risk that any global business may encounter. Accordingly, the most fundamental debate among academics is on whether corporations should hedge foreign exchange risk.

Most individual and corporate investors use currency derivatives for effectively managing their foreign exchange exposures. Our research focuses mainly on the various alternatives available to the chosen company, Integral Capital Management Sàrl, for hedging financial risks and the perceptions, apprehensions and expectations of potential investors who are investing or would be investing in the currency derivatives market.

Foreign exchange hedging allows internationally operated companies to reduce their exposure to exchange rate variations. This paper assumes the discussion of exchange rate exposure in terms of:

- transaction risk, that means the risk of variations of the value of committed future cash flows;
- translation risk – the risk of variations of the value of assets and liabilities denominated in foreign currency;
- broader economic risk, which takes into account the impact of exchange rate variations on competitiveness.

The promotion of the currency risk hedging mechanism for corporate customers, especially in the period of unstable exchange rate fluctuations, shocks in the exchange market and economic sanctions becomes one of the directions of their enhancement within an innovative profile.

The necessity and logical reasons for hedging foreign exchange rate risk are obvious. However, the effectiveness of hedging strategies in current markets is not as clear cut. The possible problems that might arise from attempts to hedge using different financial instruments are being tested in our study.

Among foreign scholars and practitioners who have made some progress in investigating the issues of currency risk hedging, should be highlighted such experts as A. Damodaran, R. Brealey, S. Myers, F. Allen, S. Ross, F. Modigliani, B. Danielsen, L. Bachelier, S. Kassouf, E. Thorp, F. Black, M. Scholes, J. Pinto, T. Robinson, D. Stowe, E. Henry, R. Kasilingam, M. Massari, G. Gianfrate, L. Zanetti and others. Methodical aspects of the implementation of hedging currency risk exposure in the area of increasing the effectiveness of companies' operating activity and its economic substantiation have been reflected and have received significant development in the scientific works of such national personalities as V. Avdeyenko, S. Boyko, A. Voronkova, O. Gonchar, L. Petrenko, A. Oliinyk, L. Radchenko, Z. Bozhaeva, I. Dakhno, V. Goncharenko, D. Gorelov, A. Cherep, M. Shvetsova and many others. All the scientists were providing researches of different aspects of hedging potential for different types of activities. However, the aspect of the increasing potential capability of hedging of foreign exchange risks particularly in the foreign economic activity companies was not developed in such a detailed way. That was the main reason for providing this research.

The purpose of this study is to explore the strategies used by Integral Capital Management Sàrl to mitigate risks of fluctuating exchange rates and to provide recommendations on improving currency exchange risk hedging to ensure the effectiveness of LLC “Integral Capital Management Sàrl” foreign economic activity. To achieve this goal, it is necessary to solve the following tasks:

- to analyze financial and economic activity of ICM;
- to highlight main characteristics of foreign economic activity of the company;

- to evaluate LLC “Integral Capital Management Sàrl” risk hedging operations efficiency in the stock market;
- to develop and improve risks hedging strategies of the subject company;
- to enhance the set of measures for optimal foreign exchange risks hedging;
- to assess risk hedging efficiency and to appraise the impact of the proposed measures on the international economic activity of LLC “Integral Capital Management Sàrl”.

The implications of this study include a contribution to positive change by helping LLC “Integral Capital Management Sàrl” to recognize the significance of effective hedging strategies, to mitigate risks of fluctuating exchange rates, and to enhance the likelihood of profitability. The study can improve, to a certain degree, the company's current financial position and recognize the real needs of foreign exchange hedging tools.

The object of our research is the mitigation of currency exposure in terms of providing the foreign economic activity of LLC “Integral Capital Management Sàrl”.

The subject of our study is the reasons, issues, aspects and ways of improvement, which apply to foreign exchange risk hedging of LLC “Integral Capital Management Sàrl”.

Research methods. The theoretical basis of the study is the synthesis of the fundamental and technical analysis of the modern theory of market economy, scientific works of foreign and domestic scientists, who have studied the problems of managing the potential risks of the hedging. In order to achieve the goal of the research and solving problems in the study, modern scientific and special methods of research were used, namely: analysis and synthesis, system approach (when establishing the essence of the concept of "foreign economic activity", "currency risk hedging", "derivatives", "risk exposure", clarification of the components of the currency risk hedging potential, justification of the scientific and methodical tools of the components, development of the mechanism for increasing hedging efficiency), the decomposition method (when constructing the modern concept of increasing the hedging potential of the company), methods of statistical processing of data, comparison, graphical data processing methods (in the construction of schemes, graphs, diagrams), methods of computer processing of received financial, statistical and economic data.

Significance of the study. In some cases, what the corporation determines to be a profitable asset turns out to be a loss generating activity due to the large fluctuations that are possible in the currency market. Therefore, the company should always try reducing currency risk so that they are able to focus on the activities of which they provide to customers. This, in turn, reduces the odds of expected financial distress; allows hedgers to pay lower interest spreads, and thus these corporations have more opportunities for capital expenditure.

There is a vital difference between corporations choosing to hedge always or in some cases, and electing not to hedge by default. Electing to hedge due to the problems that will be mentioned further in this paperwork is justified and understandable while choosing not to hedge by default is a consequence of management's irresponsibility. Selecting the appropriate hedging program for a company exposed to currency risk is therefore crucial. This study proves that hedging without proper knowledge of the implemented hedging strategies likely effectiveness often incur unnecessary costs, loss of market competitiveness if prices move in favour of the industry and put pressure on the firm's cash flow.

Theoretical and informational basis of the research consists of financial statements of LLC "Integral Capital Management Sàrl", inside information of the company, periodical and monographic editions, legislative base, fundamental provisions of economic theory, materials of international and Ukrainian scientific conferences, statistical materials of the State Statistics Committee of Ukraine and other international databases.

The results of the study were published in the collection of scientific articles of students of the Master's degree program, specializing in Management of Foreign Economic Activity.

Contribution of the study. This study contributes to effective business practices and solutions regarding foreign exchange hedging strategies. The hedge derivatives contracts are essential to mitigate economic, political, credit, market, liquidity, and operational risks in both domestic and foreign markets. Financial and commodity investments imply the derivatives as effective hedging strategies against risk exposure of unfavourable exchange rate fluctuations in the foreign exchange markets to varying degrees. Thus, we recommend effective hedging strategies to reduce potential operational risks and foreign exchange exposure on investments and to improve the company financial condition and performance. This study contributed knowledge to those who effectively hedge foreign exchange fluctuating risks of local (UAH), or international currencies (USD, EUR, GBP, JPY, CNY, HKD etc.). The results of this study give the information how to mitigate exchange rate risks in order to enhance cash flows, liquidity, and profitability for rewarding of shareholders or principals, compensating the management as well as improving the fair market value of holdings.

Practical value: the results obtained during the research can be used to improve the currency exchange hedge effectiveness of companies of the Ukrainian financial industry as well as in the formulation of recommendations for the enterprise LLC "Integral Capital Management Sàrl".

The final qualifying paper consists of two parts. The first part covers the historical financial indicators of LLC “Integral Capital Management Sàrl” which are evaluated in order to understand the overall performance of the enterprise as well as the effectiveness of current hedging strategies. In the second part, ways to improve the effectiveness of the currency risk hedging of the Integral Capital Management Sàrl in the investment industry are considered.

CHAPTER 1. RESEARCH ON INTERNATIONAL ECONOMIC ACTIVITY OF LLC "INTEGRAL CAPITAL MANAGEMENT SÀRL"

1.1 Analysis of Financial and Economic Activity of LLC "Integral Capital Management Sàrl"

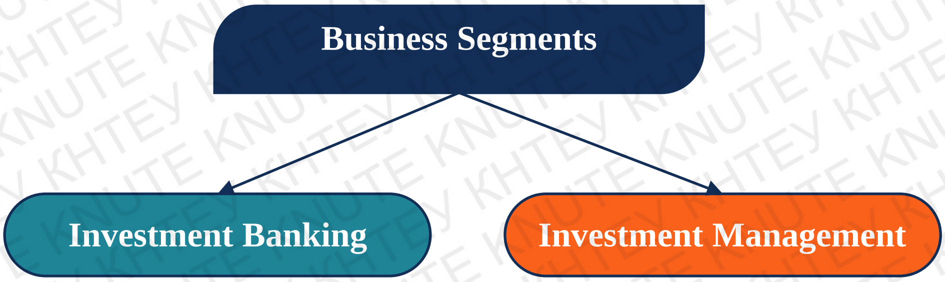
The global financial services industry encompasses many types of business operations involved in managing money and plays an essential role in the world's economy. The industry comprises complex networks of organizations, which primarily deal with the management of money and create conditions for investors and corporations to flourish in the market. The growth of other sectors is closely dependent on this industry as it is a prime source of liquidity and thereby ensures the overall prosperity and economic stability.

This topic remains popular and gets more publicity precisely in the field of individual investing, for this reason, we'd like to shed more light on the operational activity of LLC "Integral Capital Management Sàrl" as a case study.

LLC "Integral Capital Management Sàrl" (shortened forms Integral Capital Management or ICM) is a full-service investment banking and asset management firm that provide financial services through investment advisory departments. Founded in 2014, it provides brokerage services to individual, corporate and institutional clients. The company is engaged in a broad range of activities in the financial services industry, including retail securities brokerage, institutional sales and trading, investment banking (both corporate and public finance), equity & fixed income research, market-making, investment advisory, and asset management services.

LLC "Integral Capital Management Sàrl" operates through two major business segments (see Figure 1.1):

- investment banking; and



- investment management.

Figure 1.1 Core Business Segments of LLC "Integral Capital Management Sàrl"

Source: based on the author analysis of the information provided by LLC "Integral Capital Management Sàrl".

We suggest to dive deeper and to receive more comprehensive information about each division. **Investment Banking segment** includes advisory business through which company delivers strategic corporate advisory, capital markets advisory and institutional equities services. ICM provides corporate finance and investment banking services. Investment banking services of the company require a short-term commitment to capital. When we are speaking about corporate finance operations, ICM provides a wide range of financial and corporate advisory services, including capital structure and specific financing opportunities. Corporate finance revenues are generated from capital raising transactions of equity, debt securities, and fees for strategic advisory services.

For the full year of 2018, Investment Banking segment generated $12.58 million or 61% of revenues, excluding other revenue, ($9.49 million or 58% in FY2017, and $7.56 million or 53% in FY2016). It is necessary to mention that calendar and financial years of the company coincide with each other. So, all information presented further follows the same logical order.

Investment Management segment includes wealth management, investment management services as well as private equity through investments in entities that manage private equity funds. LLC "Integral Capital Management Sàrl" offers tailored investment management solutions and services to high-net-worth private clients, institutions and investment advisers. These include, but are not limited to, portfolio management, manager research and due diligence, asset allocation advice and financial planning. The company offers proprietary and third-party investment management capabilities through separately managed accounts, alternative investments and discretionary and non-discretionary portfolio management programs as well as managed portfolios of mutual funds.

At December 31, 2018, the company had $90 million of client assets under management (AUM) in fee-based programs. Revenues for ICM are generated by the investment advisory and transactional fees for advisory services and revenue from sharing arrangements with registered and private alternative investment vehicles. Integral Capital Management Sàrl earns investment advisory fees on all assets held in discretionary and non-discretionary asset-based programs. These fees are typically billed quarterly, in advance, and are calculated based on all fee-based AUM balances at the end of the prior quarter. In FY2018, Investment Management segment generated revenue of $8.05 million or 39% of revenues, excluding other revenue ($6.87 million or 42% in FY2017 and $6.71 million or 47% in FY2016). For the future, the company expect to maintain a similar proportion of total revenues (see Figure 1.2).

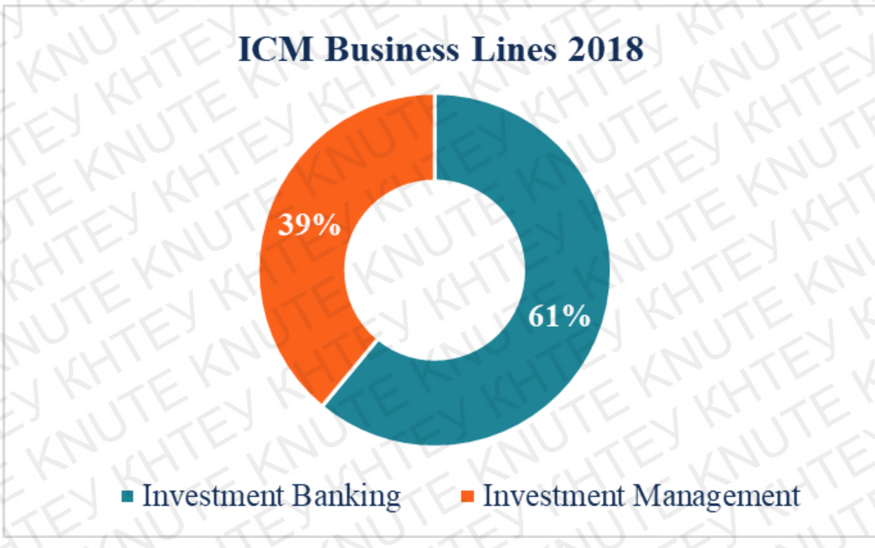


Figure 1.2 Segments Breakdown of Integral Capital Management

Source: *based on the author analysis of the information provided by LLC "Integral Capital Management Sàrl".*

As of December 31, 2018, the company employed approximately 35 people worldwide. Like any other leading independent investment banking advisory firm believe that core asset is professional staff, including their intellectual capital and their dedication to providing the highest quality services to their clients. Prior to joining ICM, many of Advisory Senior Managing Directors, Senior Research, Sales, Trading Professionals, Portfolio and Client Relationship Managers held senior-level positions in other leading corporations, financial services companies or investment funds.

To analyze whether ICM is enough stable, solvent, liquid and profitable we conducted comprehensive financial analysis (see Appendices A-D). Integral Capital Management has historically shown consistent growth rates. Considering this fact, in FY2018 growth rates have further improved. There is some fluctuation year over year in growth rates (for example net income growth: in FY2016 the growth rate was 157.4%, in FY2017 - 20.7%, and in FY2018 - 147.1%) due to variation of direct and indirect costs. This is a typical situation for a young, fast-growing company (see Appendix D)

Based on the historical 4-year analysis presented in appendices and tables of financial ratios, ICM has generated greater than $4.4 million of net income in the last year. This has largely been driven by decreasing cost base and its ability to grow revenue and EBITDA.

Historically ICM's operating costs have mostly been comprised of staff costs (employee compensation, benefits, travel expenses, professional fees etc.), which represented more than 85% cost of sales in FY2018. Even though these costs are directly connected to sales, currently the company invests a significant amount of available financial resources into employee efficiency improvement and non-monetary rewards (see Appendix B). Integral Capital Management, therefore, demonstrated the growth of its sales at a faster pace than operating expenses (19, 1% vs. 11.6% CAGR respectively), which will translate into higher margins (see Appendix D).

The EBITDA margin is increased by 27.6% year over year in FY2018, operating profit margin - 26.3% and net margin growing at a slightly faster pace by 21.4%. Net margin improvement from 4.7% to 21.4% in FY2015-2018 comes from both segment - Investment Banking and Investment Managing as well as an efficient tax payment managing. As ICM continues its steady growth of revenue, we also expect such favourable margin trends in future (see Table 1.1).

ICM shows incomparable growth of ROE from 19.9% to 49.1% in FY2015 - 2018 (see Table 1.1). This allows us to confirm that the company has a strong ability to earn enough money from their equity investments, as a company increases its net income size and generates a better return. Besides, debt use allows ICM to retain much of the return growth. In FY2018 the company has reached 49.1% of ROE (doubled from the previous year) in comparison to the average of its peers of 10.8%. We could conclude that ICM management is above average at using the company’s assets to create profits.

Table 1.1

Profitability Ratios of ICM in FY2015-2018, %

№	Ratio	FY2015	FY2016	FY2017	FY2018
1.1.	Return on Total Assets	-	9.5	11.0	23.9
1.2.	Return on Equity	-	19.9	22.7	49.1
1.3.	Return on Invested Capital	-	9.5	11.0	23.9
1.4.	Return on Capital Employed	-	23.0	37.0	43.4
1.5.	EBITDA Margin	14.2	19.9	26.6	27.6
1.6.	Operating Profit Margin	11.9	18.1	25.2	26.3
1.7.	Pretax Margin	11.0	18.6	25.7	26.7
1.8.	Net Profit Margin	4.7	10.3	10.5	21.4

Source: based on the author analysis of the information provided by LLC "Integral Capital Management Sàrl" and appendices A, B.

Both ROA and ROE are measures of how a company utilizes its resources. Essentially, ROE only measures the return on a company's equity, leaving out the liabilities. The more leverage and debt a company takes on the higher ROE will be relative to ROA. Thus, let's have a deep look at ROA. Due to the high level of ROA 23.9% in FY2018, the company has amassed more assets, thus, the more sales and potentially more profits the company may generate (see Table 1.1).

ICM maintains a very liquid, financeable and low-risk balance sheet. Integral Capital Management has historically kept a sufficient level of current assets to cover its short-term liabilities and it resulted in a high level of current ratio equal to 1.98 in FY2018 (see Table 1.2). We expect an increase in both this indicator as well as stable cash ratio in the future due to fast growth cash and cash equivalents required to service the new revenue and comparatively slower growth in company's current portion of accrued liabilities.

Table 1.2

Asset Use Ratios (Activity Ratios) of ICM in FY2015-2018

№	Ratio	FY2015	FY2016	FY2017	FY2018
2.1.	Total Asset Turnover	-	0.92	1.05	1.11
2.2.	Current Asset Turnover	-	1.72	1.77	1.66
2.3.	Receivable Turnover	-	7.09	8.20	8.36
2.4.	Net Working Capital Turnover	-	-34.27	-108.59	72.39

Source: based on the author analysis of the information provided by LLC "Integral Capital Management Sàrl" and appendices A.

The company's operating activity has allowed it to generate cash flow from operating activity (CFO) of $8.5 million in FY2018 and this figure is expected to grow further. The current level of liabilities does not require substantial loan repayments or interest expenditures, enabling the company to maintain an efficient level of cash from operating activity. OCF ratio was 0.87, 1.20, 1.09, and 1.13 in FY2015, FY2016, FY2017, and FY2018 respectively (see Table 1.3).

Table 1.3

Liquidity and Solvency Ratios of ICM in FY2015-2018

№	Ratio	Dec 31 2015	Dec 31 2016	Dec 31 2017	Dec 31 2018
3.1.	Current Ratio	1.84	2.00	2.16	1.98
3.2.	Cash Ratio | Acid-Test Ratio	1.21	1.35	1.59	1.46
3.3.	Operating Cash Flow Ratio	0.87	1.20	1.09	1.13

Source: based on the author analysis of the information provided by LLC "Integral Capital Management Sàrl" and appendices A.

Let's take a closer look at the capital structure and how ICM finances its overall operations and growth by using different sources of funds. Usually, capital structure can be a mixture of a firm's long-term debt, short-term debt, common equity and preferred equity. Since inception, Integral Capital Management maintains debt to total assets ratio and debt to shareholders' equity ratio at a stable level of 0.50-0.53. A lower debt ratio usually implies a more stable business with the potential of longevity because a company with a lower ratio also has lower overall debt. Each industry has its own benchmarks for debt, but 0.5 is a reasonable ratio. Such debt ratio is often considered to be less risky. This means that ICM has twice as many assets as liabilities.

Times interest earned ratio (TIE) is a metric used to measure a company's ability to meet its debt obligations. ICM has TIE ratio of 30.5 in FY2018. A higher times interest earned ratio is favourable because it means that the company presents less of a risk to investors and creditors in terms of solvency. As we know that times interest earned ratio greater than 2.5 is considered an acceptable risk. So, our subject company demonstrates a very strong performance. The net debt-to-EBITDA ratio (ND/EBITDA) is a debt ratio that shows how many years it would take for a company to pay back its debt if net debt and EBITDA are held constant. The same logic use for total-debt-to-EBITDA (TD/EBITDA). Results that are lower than 3 and 4 respectively consider as favourable. ICM demonstrates more than enough ratios: 0.1 ND/EBITDA in FY2018 and 1.67 TD/EBITDA in FY2018 (see Table 1.4).

Table 1.4

Capital Structure Ratios (Debt Ratios) of ICM in FY2015-2018

№	Ratio	Dec 31 2015	Dec 31 2016	Dec 31 2017	Dec 31 2018
4.1.	Debt to Total Assets	0.52	0.53	0.50	0.53
4.2.	Debt to Shareholders' Equity	0.52	0.53	0.50	0.53
4.3.	Times Interest Earning*	8.6	15.6	21.4	30.5
4.4.	TD/EBITDA*	-	2.89	1.84	1.67
4.5.	ND/EBITDA*	-	0.93	0.34	0.06

Source: based on the author analysis of the information provided by LLC "Integral Capital Management Sàrl" and appendices A, B.

** is calculated for the whole year*

Debt is one of the two main ways companies can raise capital in the capital markets. Companies like to issue debt because of tax advantages. Interest payments are tax-deductible. Debt also allows a company or business to retain ownership, unlike equity. Additionally, in times of low-interest rates, debt is abundant and easy to access. Equity is more expensive than debt, especially when interest rates are low. However, unlike debt, equity does not need to be paid back if earnings decline.

The shareholders of the LLC "Integral Capital Management" might as well consider attracting more debt financing in the future and gain additional benefits via increasing tax shield.

1.2 Main Characteristics of Foreign Economic Activity of LLC "Integral Capital Management Sàrl"

This is a watershed moment for the asset management industry. New technologies are reshaping the sector, commoditizing large parts of the value chain, forcing incumbents to sharpen their value propositions. The industry still enjoys growth in assets under management, the future is likely to become increasingly turbulent to players ignoring the structural changes taking place in the market. These structural changes are being driven by key trends that are already challenging the industry.

The following are the top trends that we believe will have the greatest influence in this and next year for the asset management industry and, of course, our subject company.

Complex and frequent regulatory changes. Regulatory compliance is a key business imperative in the financial services industry. A lot of asset management companies operate across different countries, which impose different regulatory mandates. According to Thomson Reuters' research, on an average day in 2018, 155 regulatory updates were issued by regulators globally. That amounts to a staggering 40,603 updates per annum. The updates take on many forms, including rule book updates, regulatory announcements, policy papers, speeches and enforcement notices. Asset managers and compliance teams need to be cognizant of each update, understand and interpret its impact, and embed the update in the compliance process of the business. It is a tough task for each asset management fund [11, 32].

Managers start looking for value in their technology. In 2019-2020, we expect to see more asset managers connect their technology dots in ways that unlock an entirely new level of agility, efficiency and value. For some, this will start with basic cloud enablement – a fundamental requirement for digital enablement to deliver on today's customer expectations. This will allow them to not only unblock process roadblocks, optimize technologies and eliminate redundancies; it should also lead to some strong competitive advantages [4, 25].

ETF players become more active. The ETF market continues to show strong signs of positive growth and many asset managers are starting to recognize ETFs as an important part of the digital product offering. This year, we expect some of the more active players to start to enter the ETF market [4, 25].

Increasing cost sensitivities. The implication of the shift to passive products is that investors have become increasingly cost-conscious. In fact, according to data collected by Morgan Stanley, price competitiveness became the primary determinant of reallocations between managers in 2018, surpassing even performance. The importance of costs has even doubled in relevance since 2015, especially in the equity space (see Figure 1.3). Clearly, this increased cost sensitivity is being driven by the proliferation of low-cost alternatives, the elusive quest for alpha, and, of course, the low-yield environment [3, 16].

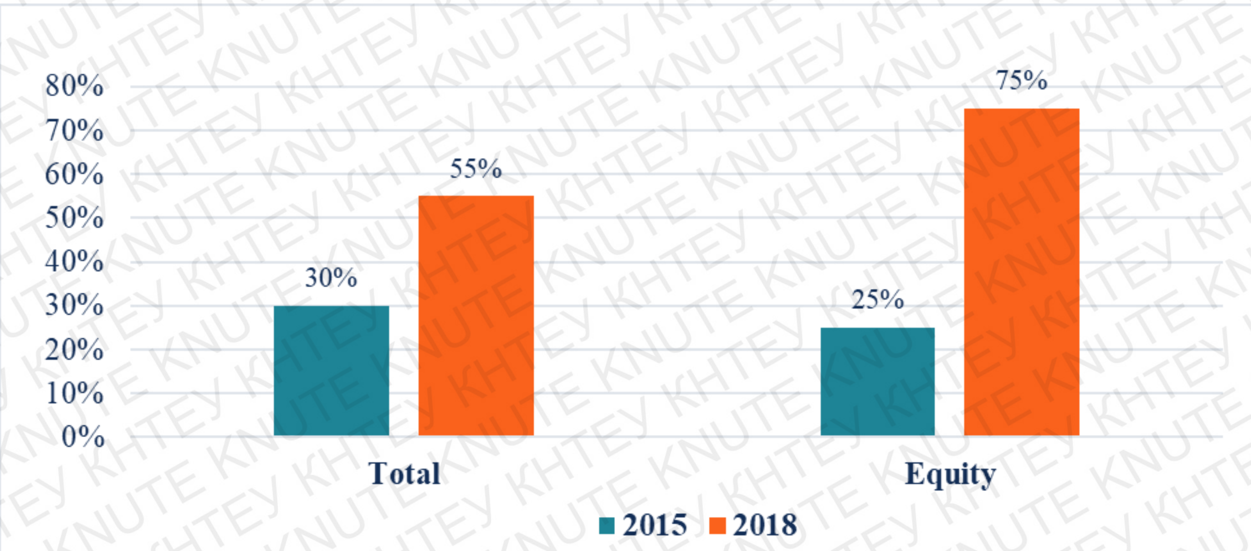


Figure 1.3 Global Active Mutual Fund Flows where the Price Was the Primary Determining Factor, (Percentage of Flows between Funds 2015-2018)

Source: based on the author analysis of the materials [3, 16].

Robo-advisors can serve as a new distribution channel for asset managers. Regulatory changes accelerate the adoption of robo-advisory services (see Figure 1.4). Indeed, as regulators take more steps to protect retail investors, the costs of providing customers with individualized offerings through traditional channels have risen fast. Robo-advisors could offer a compelling solution to this dilemma since they allow to lower operational costs and extend their serves to a much broader range of clients [1, 12].

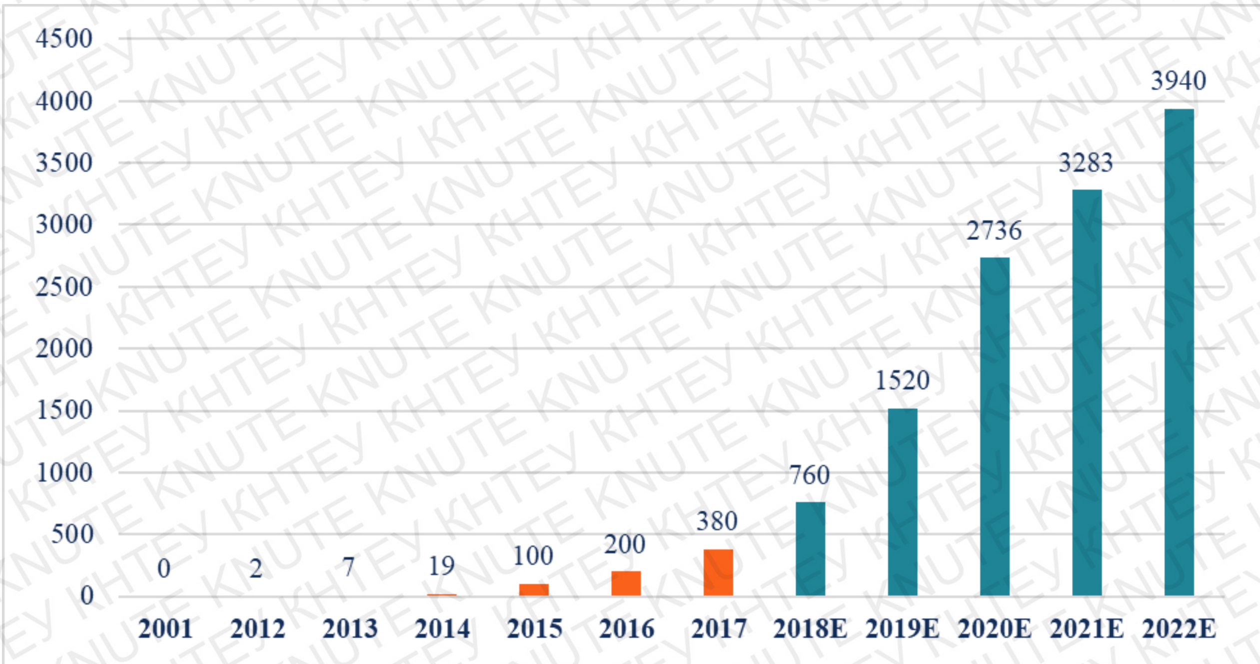


Figure 1.4 AUM of Robo-Advisors, Globally in USD billion

Source: based on the author analysis of the materials [1, 12].

Blockchain technology. There is more to blockchain technology than simply bitcoin. The blockchain technology has grown beyond its roots in bitcoin. For asset management firms, the most exciting aspect of blockchain is that it makes it possible to create an immutable digital ledger of transactions, agreements and contracts without the need for a central authority. More specifically, the blockchain technology is set to revolutionize two key parts of the asset management value chain the post-trade settlement process and trading of private company shares [17, 34].

ICM maintains a significant global sales and marketing presence that is focused on establishing and maintaining institutional investment management and technology service relationships by marketing its services to investors directly and through third-party distribution relationships.

Integral Capital Management is a global hedge fund and investment company. ICM has its footprints in the Americas, Europe and Asia-Pacific regions reflect strong relationships with intermediaries and an established ability to deliver its global investment expertise in funds and other products tailored to local regulations and requirements (see Appendix F).

At December 31, 2018, ICM served clients in more than 10 countries across the globe, including the United States, the United Kingdom and Hong Kong.

The significant portion of revenue is generated in the United States - 63% from the total, in Europe - 16%, in Asia - 10% (see Table 1.5).

Table 1.5

Operating Results of Foreign Economic Activity of LLC “Integral Capital Management Sàrl”, in Percentage from Total, 2018

	North America	Europe (excl. Ukraine)	Asia	Ukraine	Others
Net Revenues	63	12	10	4	11
Operating costs	8	12	4	69	7
Key Assets	7	35	0	58	0

Source: based on the author analysis of the information provided by LLC “Integral Capital Management Sàrl”.

Such revenue structure is formed due to the peculiarities of the business model as well as the foreign economic activity of ICM. Despite the fact mentioned above, the operating expenses of the company mainly originate from Ukraine and Europe, 58% and 35% respectively. During the past four years, ICM has been actively enhancing its services and solutions through traditional outsourcing strategy by lowering labour and other operating costs. Two main offices are located in Europe. With highly qualified employees, the company is able to effectively manage any obstacles and provide first-class services all over the world.

ICM operates in a global marketplace impacted by changing market dynamics and economic uncertainty, factors that can significantly affect earnings in any given period. New business efforts depend on ICM's ability to achieve clients' investment objectives in a manner consistent with their risk preferences and to deliver excellent client service. All of these efforts require the commitment and contributions of ICM employees. Accordingly, the ability to attract, develop and retain talented professionals is critical to the company's long-term success.

Considering further expansion into international markets ICM expects to see such global changes dominating for the next few years:

- Active management will have to continue to make its case against passive solutions and alternatives (especially private assets). Fee erosion is likely to persist in any event.
- Technology will definitely be vital in most markets. Getting it right will require a new strategic agenda and, usually, a significant investment. We expect most firms to step up their digitization activities, leading to reimagined business models, new technology capabilities, greatly increased efficiency, and transformed client relationships.

- China will become the second-largest region for asset management, ahead of continental Europe, attracting more flows than the US over the next decade. Emerging markets will become more important.
- Sustainable investing will rise as firms weave environmental, social, and governance factors into their investment decisions, aiming to create a positive impact without undermining returns.

It is a well-known fact that ICM engaged in highly intense competition in all aspects of the securities business and competes directly with other corporations, a significant number of which have substantially greater resources and offer a wider range of financial services.

In addition, there has been increasing competition from other sources, such as commercial banks, insurance companies, private equity and financial sponsors and certain major corporations that have entered the securities industry through acquisition, and from other entities. Moreover, foreign-based securities firms and commercial banks regularly offer their services in performing a variety of investment banking functions including mergers and acquisitions advice, leveraged buy-out financing, merchant banking, and bridge financing [28].

It's a well-known fact that the company may face some potential risks in future. Predominantly they are divided into two main groups: internal or external and are closely connected with operational, financial and investing activities of ICM.

The first group of risks including:

- The main asset of the subject company is employees, so the part of their strategy is the ability to attract and retain highly skilled and profitable senior professionals across all of the businesses. Due to competition from other firms, top management may face difficulties in recruiting and retaining professionals of a calibre consistent with their business strategy.
- Revenue and profits are highly volatile, which may make it difficult for ICM to achieve steady earnings growth consistently and may cause some

declines. That is why financial results will likely fluctuate from one report period to another based on the timing of when those fees are earned. It may be difficult for the company to achieve persistent earnings.

- Business is subject to various operational risks. The expansion of company equities business has increased the size and scope of trading activities and, accordingly, increased the opportunities for trade errors and other operational errors in connection with the processing of transactions.
- If the funds that the company manages or invests in perform poorly, it will suffer a decline in investment management revenue and earnings and Investment Management business may be adversely affected.
- Revenue from institutional asset management and wealth management businesses is derived from fees earned for the management of client assets, generally based on the market value of AUM. Poor investment performance by these businesses, on an absolute basis or as compared to third-party benchmarks or competitors, could stimulate higher redemptions, thereby lowering AUM and reducing the fees ICM earn.
- A meaningful portion of revenues is derived from international operations, which are subject to certain risks. In FY2018, the company earned 83% of Total Revenues from clients and private investors located outside of the Ukrainian.

Many of ICM larger clients for Investment Banking business are non-Ukrainian entities. ICM international operations carry special financial and business risks, which could include, but are not limited to, the following: greater difficulties managing and staffing foreign operations; language and cultural differences; fluctuations in foreign currency exchange rates that could adversely affect results; unexpected and costly changes in trading policies, regulatory requirements, tariffs and other barriers; greater difficulties in collecting accounts receivable; longer transaction cycles; higher operating costs; etc.

To external factors belong:

- Challenging market conditions may adversely affect company business in many ways, for example, reducing the volume of the transactions and reducing the value of the assets managed by ICM. Financial markets and economic conditions can be negatively impacted by many factors beyond its control, such as the inability to access credit markets, rising interest rates or inflation, terrorism, political uncertainty, uncertainty in the U.S. federal fiscal or monetary policy and the fiscal and monetary policy of foreign governments and the timing and nature of regulatory reform. Such obstacles may materially reduce revenue generation, net income or margins of the company.
- The financial services industry faces substantial litigation and regulatory risks, and ICM may face damage to professional reputation and legal liability if services are not regarded as satisfactory or for other reasons.
- The company business is subject to various cybersecurity risks. ICM may face various operational risks related to operating activity on a day-to-day basis. The company also depends on third-party software and programs as well as cloud-based storage platforms as part of our operations. These systems, including the systems of third parties, may fail to operate properly or become disabled as a result of tampering or a breach of network security systems or otherwise, including for reasons beyond of control.
- Fluctuations in foreign currency exchange rates could adversely affect company results. Because all financial statements are denominated in U.S. dollars and LLC "Integral Capital Management Sàrl" receive some portion of revenue from continuing operations in other currencies, the company are exposed to fluctuations. An appreciation or depreciation of any of these currencies relative to the U.S. dollar would result in an adverse or beneficial impact, respectively, to financial results. Fluctuations in foreign currency exchange rates may also affect the levels of AUM that company managed and, as a result, may affect investment advisory fees.

Summarizing this chapter, we can distinguish the following mistakes that will occur in ICM, when the company try to mitigate currency exposure.

Overusing complex derivatives limits defensive action. A common, but an exceedingly risk-laden mistake in foreign currency risk management is the overuse of complicated foreign exchange hedging tools. Often, the reason for doing so is to curb currency hedging costs, as companies turn to a package of derivative instruments that leverage a knockout option to reduce hedging cost outlays.

To create an efficient, mistake-free foreign currency management strategy, corporate financial decision-makers need crystal clear goals and objectives. To avoid the mistakes of misguided foreign exchange risk management policy, the key is to be preventive, and not reactive, in aligning currency risk management objectives with accurate, measurable results that provide a blueprint for future risk management decisions.

1.3 Peculiarities of LLC "Integral Capital Management Sàrl" Risk Hedging Operations Efficiency in the Stock Market

The most important derivatives contracts or contingent financial claims are futures, options, and swaps, whose behaviour depends on the underlying value of traded assets [9]. The hedge derivatives are too costly and risky because of the uncertainty of future returns or price levels between spot and futures market prices and the structure of markets, whereas, a deep market would offer products including the offering of currency derivatives.

The characteristics of derivatives include:

- change in value in response to changes in interest rates or foreign exchange rates;
- lacks ownership representation; and
- future settlement date.

Bank leaders, investors, and managers of hedge funds bet on how the exchange rate will move over a given time and use derivatives to mitigate risks through hedging by using hedge instruments such as spot, forwards, swaps, and debt contracts, as hybrid investments for future cash payments.

Business leaders hedge to enhance the principal's value by reducing the adverse effect of the volatility of cash flows through fluctuating exchange rates. The hedging mitigates the negative effect of borrowing costs on capital expenditure and firm value and consistently, economically reduced costs of debt, bankruptcy risks, agency costs, information asymmetry in industries [2].

The hedging of risks of fluctuating exchange rates is a common phenomenon in the financial industry. The bank leaders hedged cash flow to reduce precautionary demand for cash, improve reliance on credit lines, and leverage the bank's value [13]. The bank leaders hedged by using foreign exchange derivatives, including currency options, currency swaps, forward, and futures contracts, to lock in foreign exchanges. The corporations should retain or transfer and to control and mitigate foreign exchange risks related to currency-based assets and liabilities [18].

Investors hedged receivables with futures contracts to maintain or improve value at risk, ensure gains or profits, and protect against loss because of exchange rate fluctuation in the flexible or floating exchange rate regime. In hedging, a manager or trader takes the opposite position in a cash market securities or derivate instruments (futures contract); so that any loss in the position held will be offset by a gain in the opposite position. The theoretical motivations for corporate risk management of foreign exchange risk are based on significant difference across various forms of countries, diversification, cash flow volatility, and standard deviations of changes in the exchange rates [10].

By assessing our subject company as the main case study we explained the hedging strategies and transactions, analyzed how and why hedging mitigates the fluctuating exchange rate risks.

The hedging of risks of fluctuating exchange rates in the international financial markets is necessary to enhance the safety, liquidity or marketability, and fair market value of ICM's investments.

The large banks acted as brokers or dealers of hedging transactions for big companies or speculative bets for investment funds like ICM. Our subject company operates specifically thorough a Danish investment bank Saxo Bank. Hedgers mitigated risks of foreign exchange exposure on financial instruments denominated in a foreign currency other than the functional currency or non-monetary items. The change in exchange rates influences on the cash flow of bank and economic conditions both domestic and foreign markets. The adaption of risk management strategies depends on the economic conditions and nature of risks to be hedged including credit risks, market risks, liquidity risks, and operational risks.

As the fund market in the US plays a key role in the operating activity of LLC "Integral Capital Management Sàrl" we believe, according to our research, that equity valuations in the U.S. are expensive. While we don't claim an immediate, recession-sized market correction, the risk of downside is significantly greater than any remaining upside.

That said, the upside potential is still there with the recent fiscal stimulus and new tax bill supporting a late-cycle blowout rally. So, management of ICM ends up with two conflicting risks they need to manage:

- downside risk;
- upside risk (think of this as the risk of missing out).

At Integral Capital Management, management often uses derivatives as tools designed to protect against downward market moves, but in reality, they help with both kinds of risk. Let's make a very optimistic forecast (not considering the long-running debates between US and China trade war) and say that it is possible that U.S. equity markets could still generate an additional 20% return. But if equities are already overvalued, as we believe, then that increase in value may also create a greater likelihood and a greater scale of a downside correction. The company want to participate in the upside and avoid the downside.

It is worth to consider this situation with the example of one type of derivatives - options. Put options are option contracts that allow the holder of the option to sell a security at a specified price within a gated period [23, 24]. Because put options are sell-oriented, the holder benefits if the price drops. For example, ICM may buy put options on an ETF tracking the S&P 500 Index, giving the right to sell that ETF at the S&P valuation of 2,890 (August 2019). If the S&P drops to 2,500, ICM can still sell at a higher valuation. In other words, they would make money in a market downturn. The put option works similar to an insurance policy, and pays off when bad things happen, but does cost a premium to own.

Most of us guess why flood insurance costs more in a flood zone. In the same way, pricing for puts depends on the probability of the downside risk coming true. In periods of low market volatility, puts can be a bargain. Using puts to protect around significant event risks while maintaining portfolio exposure to participate in further equity upside could help portfolios. Integral Capital Management used put options to protect portfolios during the August 2015 sell-off, and again during the Brexit vote in June 2016 to help protect portfolios without trimming equity exposure to the markets.

Call options work in the opposite way of put options. Call options are contracts that allow the holder of the option to buy a security at a specified price within a gated period [14]. Moreover, because they are buy-oriented, the holder benefits if the price rises. So, instead of having exposure to actual U.S. equities, we can use call options to take advantage of a rise in U.S. equity markets.

Let's say company bought call options on the S&P at 2,890 and the market rose to 3,010. ICM could use options to get paid for the difference - thereby participating in the upside. But, if markets were to drop, the only loss would be the price of the premium for those options, instead of the loss of value to actual equity exposure. Obviously, it's most advantageous to buy upside through calls when volatility is at multi-year lows.

Options are a very special investment vehicle so it is important to learn the unique characteristics of options, which are presented in Table 1.6.

Table 1.6

Benefits and Drawbacks of Options Contract

Options Contract	
Advantages:	**Disadvantages:**
- allows to employ considerable leverage; - risk/reward ratio (unlimited upside with limited downside); - available on- or off-exchange; - low capital requirements; - unique strategies (create unique strategies to take advantage of different characteristics of the market - like volatility and time decay); - options are available even for small amounts and in all major currencies; - options can be sold back to writer for fair value at any time; - the amount, the strike price and the expiry date can be settled personally.	- low liquidity, many individual stock options don't have much volume; - high spreads, options tend to have higher spreads because of the lack of liquidity; - high commissions, options trades will cost more in commission per dollar invested; - options are very complicated for beginners; - options are not available for all stocks (although options are available on a good number of stocks, this still limits the number of possibilities available for investors).

Source: based on the author analysis of the materials [22].

To conclude this chapter, ICM protect itself from currency risk exposure by mainly using options. Currently, Integral Capital Management market-outlook scenario and investing strategy are that U.S. equity markets are unlikely to rise much more, but face a significant risk of a downturn. In response, they have chosen to reduce their actual exposure to U.S. equities by shorting the market using option derivatives, buying the upside using call options purchased in early December 2019 - to protect against the risk of missing out. As of August 2019, most of ICM portfolios are approximately 68-75% underweight U.S. equities. In many cases, ICM is using call options to cover that 68-75%. Clients of ICM get the upside exposure they need, while the company aim to drastically reduce the downside risk, for just the price of the options premium.

Conclusions to Chapter 1

Integral Capital Management Sàrl has managed to build a business with robust operations and strong financial results. ICM continues to execute its strategy very well. Both revenue and earnings are growing ahead of expectations and the company remains well-positioned to deliver long-term gains to its investors.

ICM has shown strong growth over the last few years and operates with high margins. The company's profit margins have increased from 4.7% to 21.4% and its return on equity has increased from 19.9% to 49.1% in FY2015-2018. The subject company operates with moderate debt, with its total liabilities representing 53% of its total asset value, which is remained unchanged since inception.

The financial services sector has been among one of the fastest-growing sectors all over the world. Along with traditional activities in brokerage and equities dealing, derivatives and debt instruments trading and dealing, and the rise in personal incomes have acted as revenue drivers for the industry. That is why, investment management is in a period of rapid change, driven by shifting investor preferences, margin compression, regulatory developments, and advancing technologies. All these tendencies have been fully covered in our research.

The U.S. financial sector is the third-largest sector of the economy after manufacturing and real estate and accounts for nearly one-tenth of the total U.S. GDP. It is also a major contributor to the tax base and quality jobs. Ukraine also has made enormous progress over the past three years fixing its financial sector. This is very welcome news, as debilitating weaknesses and rampant corruption in many financial institutions played an outsized role in the crisis years of 2014-2016. Restoring confidence in the sector will be central to sustaining the recovery currently taking root and providing the foundation for growth in the future.

Developing hedging strategies to mitigate the risks of fluctuating currency rates is essential for enhancing competitiveness in the financial industry. The success in risk management means to divert the financial risks and generate positive impacts of the income to our subject company.

By assessing the operating activity of ICM as the main case study we understood the hedging strategies and transactions, analyzed how and why hedging mitigates the fluctuating exchange rate risks.

At LLC “Integral Capital Management Sàrl”, management often use derivatives as tools designed to protect against downward market moves, but in reality, they help with both kinds of risk. Currently, ICM has chosen to reduce its actual exposure to U.S. equities by using option derivatives. In such a way the company is able safely to face a significant risk of a downturn.

We investigated ICM risk hedging operations efficiency in the stock market through one of the most popular derivatives - options. To sum our study up, it is necessary to mention that an options-inclusive approach isn't for every asset management company, as success in this space requires two key capabilities:

- Robust implementation and trading capabilities. Options trading is a highly specialized skillset. Without significant amounts of the right experience - through all market conditions - it's easy to get it wrong.

- Robust risk analytics systems. Without integrated and robust risk analysis capabilities, options trading may create unintentional gaps or overweight and actually increase downside risk.

In today's market environment, both risks are high: the risk of a market correction and the risk of missing out. That’ why, optionality can help.

CHAPTER 2. REASONS FOR APPLYING FOREIGN EXCHANGE HEDGING OF LLC “INTEGRAL CAPITAL MANAGEMENT SÀRL” IN TERMS OF PROVIDING INTERNATIONAL FINANCIAL SERVICES

2.1 Development of the Set of Measures for Optimal Foreign Exchange Risks Hedging by LLC “Integral Capital Management Sàrl”

Inherently, international investment will expose an investor to currency volatility. Exchange rate movements impact returns when a change in the value of one currency against another currency leads to a rise or fall in the value of an asset. When an investor buys a domestic asset, the only variable is whether that asset increases in value. Nevertheless, if they invest abroad, they will have to consider the impact of an exchange rate too.

Previously, we investigate basic principles of hedging foreign exchange risk and how effective they are. Now, it is necessary to identify a set of measures for optimal foreign exchange risks hedging.

There are simply too many unique variables that must be considered to effectively match a hedging strategy to an individual’s financial goals. However, there are certain products and principles that can be utilized to ensure that currency risk is appropriately managed and aligned with such goals. In our study, we propose the following:

- specialized ETFs;
- CFDs;
- forward contracts;
- options.

Hedging currency risk with specialized ETFs. Hedging has historically been limited to the use of derivative-based securities like futures, options, forward contracts and various combinations of over-the-counter and exchange-traded securities. Because the mechanics of the pricing of the derivative-based securities is based on advanced mathematical formulas like Black-Scholes options pricing models, they have generally been used by large, sophisticated investors. ETFs, however, are as simple to trade as stocks. And because they trade like stocks, ETFs come with the comparatively low transaction and holding costs compared to the costs of futures, options and forwards.

While less conventional, one way to hedge foreign exchange risk is by investing in a specialized currency exchange-traded fund (ETF). In principle, a currency ETF functions just like any other ETF, but rather than holding stocks or bonds, it holds currency cash deposits or derivative instruments tied to an underlying currency, which mirror its movements. For example, the Pro Shares Ultra Short Euro ETF or the Power Shares DB US Dollar Index Bullish Fund [24].

Integral Capital Management can go long or short on these ETFs, depending on the required hedge, to protect the value of an investment or cash flow from a currency's (or multiple currencies') volatility.

Hedging currency risk with CFDs. A contract for difference (CFD) is a derivative that can be used to hedge foreign exchange risk – to open a CFD position, the ICM is not required to own the underlying currency. A CFD hedge works because the participant is agreeing to exchange the difference in the price of an asset – in this case, currency – from when the position is opened, to when it is closed. If the market moves in the direction the trader predicted, they would profit and if it moved against them, they would lose. A CFD position can be used to offset the currency exposure of the asset being hedged. [21].

Key features of CFDs:

- CFDs are a leveraged product, only a small amount of capital is required to enter the hedge, the rest will be covered by CFD broker;
- CFDs are very flexible; it is possible to go long or short, and hedge ICM's portfolio against any risk, regardless of the market's direction;

- unlimited access to different markets (CFD trading platforms offer an extended range of different markets available to trade. ICM can choose from a great variety of commodities, indices, stocks, currencies and cryptocurrencies, and will have no trouble finding a hedge);
- CFDs hedge can be closed via cash settlement, limiting the potential financial outlay of the trade.

Hedging currency risk with forward contracts. A forward exchange contract (FEC) is a derivative that enables an individual to lock in an exchange rate in the present for a predetermined date in the future. The benefit of a forward is that it can protect ICM’s assets from exchange rate movements by locking in a precise value now. The cost or benefit of buying a forward is known at its purchase, with the forward exchange rate calculated by discounting the spot rate using interest rate differentials [30].

In addition to the basic currency forward contracts described in our paperwork, a few variations exist. Companies seeking to hedge long-term currency risks occasionally use Long Dated Forwards with settlement dates exceeding a year. Companies that don't know precisely when a transaction will close can consider a Forward window contract, which may be settled during a short interval (such as a few weeks) rather than on a specific date.

Hedging currency risk with options. An option gives the right, but not the obligation, to exchange currencies at a pre-determined rate on a pre-determined date. There are two types of options: puts and calls. A put option protects an option buyer from a fall in a currency, while a call option protects an option from a rally in the currency [22]. The benefit of such a strategy is that, for a premium, LLC "Integral Capital Management" can protect themselves from adverse movements.

To start hedging currency risks, ICM should follow a few steps. These are:

- understand the basis of financial goals and objectives;
- identify where FX exposures exist, and how they may impact objectives;

- quantify risks, stress test and perform some scenario analyses;
- make a judgement on appropriate risk appetite;
- find a hedging style and strategy that fits in within your risk appetite, and aligns with financial goals;
- match the appropriate hedging products to this strategy;
- monitor, assess and amend your hedging strategy as circumstances change;
- invest part of your portfolio in the stock market, even though it's risky, the risk-adjusted returns often outpace inflation;
- buy gold, precious metals, and shares in gold mining companies (if the dollar falls faster, prompting hyperinflation, it would be a profitable decision);
- make sure to have a well-diversified portfolio, rebalance your asset allocation if it looks like the business cycle is going to shift.

A lot of macro analysts and professors claim the euro could replace the dollar as an international currency. They point to the increase in euros held in foreign government reserves. Between the first quarter of 2008 and the first quarter of 2019, the holdings of euros almost doubled from 1.2 to 2.2 trillion U.S dollars.

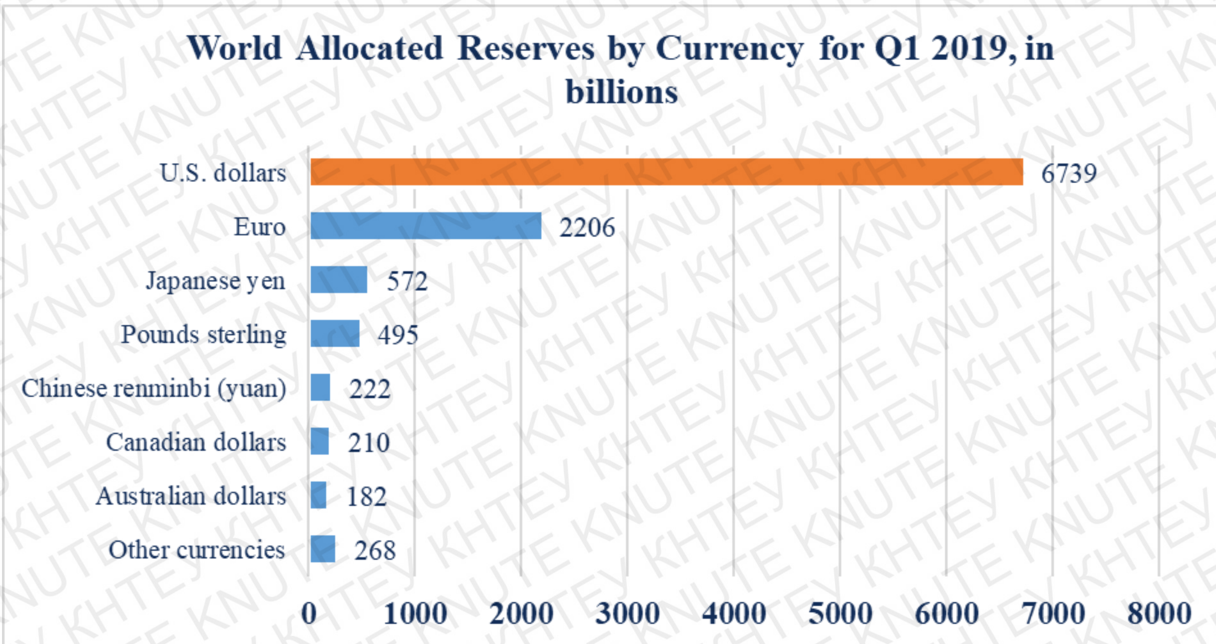


Figure 2.1 Currency Composition of Official Foreign Exchange Reserves

Source: based on the author analysis of the materials [19].

But the facts don't support that theory. At the same time, U.S. dollar holdings more than doubled, from 2.8 trillion to 6.7 trillion. Dollar holdings are 61% of the 10.9 trillion of total measurable reserves. That's only slightly less than the 63% held in Q1 2008. The International Monetary Fund provides details about foreign exchange reserves for each quarter with the COFER table, see Figure 2.1 above [19].

China is the largest foreign investor in dollars. As of May 2019, it held $1.11 trillion in U.S. Treasury securities. China periodically hints it will reduce its holdings if the U.S. doesn't reduce its debt. Instead, its holdings continue to increase. The U.S. debt to China was 27% of America's debt to foreign countries.

Japan is the second-largest investor with $1.1 trillion in holdings. It buys treasuries to keep the value of the yen low, so it can export more cheaply. Its debt is now more than 200% of its gross domestic product.

Oil-exporting countries own $274 billion. If they decide to trade oil in euros instead of dollars, they would have less of a need to hold dollars to keep its value relatively higher. For example, Iran and Venezuela have both proposed oil-trading markets denominated in euros instead of dollars [31].

We can conclude that the best hedge against foreign exchange risk is with a well-diversified investment portfolio. Most overseas funds are denominated in foreign currencies, which rise when the dollar falls. Also commodities funds, such as gold, silver, and oil increase when the dollar declines. All claims are true, but at the same time, such funds hold a certain share of assets in dollars and invest also in dollars. It's hard to argue that the dollar is not an unreliable currency.

According to our proposals for ICM, mentioned above in this chapter, the best way to hedge currency risk fluctuations is to invest in such financial instruments as specialized ETFs, CFDs, forward contracts, and options.

2.2 Evidences of Improving Risks Hedging LLC “Integral Capital Management Sàrl”

Meanwhile, the years following the financial crisis, volatility in the foreign exchange market was essentially non-existent. Central banks were flooding the bond market with excessive liquidity in order to keep interest rates at record low levels, which also kept the majority of foreign exchange pairs in historically tight trading ranges.

The current market environment, however, is much different. During 2018, the volatility in Emerging Market currencies exploded, particularly in Turkey and Argentina, which saw the Lira and Peso devalue by roughly 43% and 51% accordingly (see Figure 2.2).

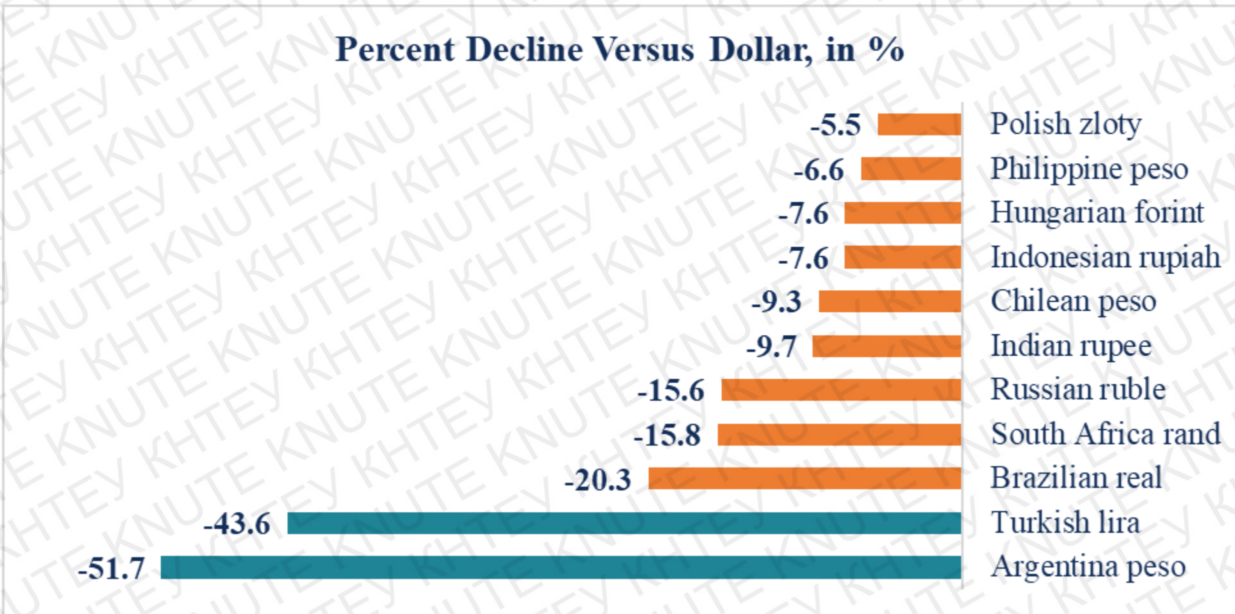


Figure 2.2 Worst Performers in 2018 Among Emerging Market Peers

Source: Bloomberg, author analysis of the materials [7].

A number of factors, including heating global trade tensions, a withdrawal of stimulus from global central banks, and increased market volatility in other markets such as equities and commodities may have caused this rise in the foreign exchange market's volatility. The volatility has since returned to a normal level but the takeaway is that heightened volatility in the foreign exchange market can occur at any time and can be triggered by various factors.

Whether Integral Capital Management decides to hedge currency or not depends on the future performance of the local currency against the investment currency. Among the most recognized global currencies, British pound shows extraordinary volatility due to uncertainty around the Brexit deal (see Table 2.1). Suppose, for instance, that the U.S. dollar depreciated against the British pound. This would result in a more expensive British pound for ICM investors.

Table 2.1

Currencies Volatility against US Dollar, %

Currency pair	360 day volatility
EUR/USD	5.86
GBP/USD	8.46
CNY/USD	4.49
CND/USD	5.73

Source: based on the author analysis of the materials [20, 27].

However, an investor from ICM owned British stock. Then, he would get more money when he sells stock in the British pound and converts it back to U.S. dollar at a higher exchange rate. This is simply because the same amount of GBP would be worth more when converting back to USD. In this case, an unhedged strategy would perform better than its currency-hedged counterpart would. On the other hand, if the USD strengthens against the GBP, then the British pound that he would receive after selling stock would be worthless in USD because the British pound depreciated against the USD. This is the fundamental currency risk which is only one layer of the international investment's total risk that investors face when entering a foreign market [27].

The key benefit of currency-hedged strategies is that they provide exposure to the business only. By protecting against currency risk, the underlying stocks provide ICM investors with returns that are solely dependent on the companies' sales, earnings and dividends regardless of currency fluctuations. Investors can leverage currency-hedged strategies when their local currency is strengthening against their investment's currency. That way, investors will prevent their international stocks from depreciating against their local currency.

The main downside of currency hedging is that it limits gains: by removing the risk of losses due to currency fluctuations, this also has the effect of capping gains. Essentially, if the movement of both the investment and the currency pair work in the investor's favour (stocks rise and the local currency depreciates against the investment currency), a traditional strategy will perform better than its currency-hedged equivalent. Of course, the inverse is also true if the investment declines and the investment's currency depreciates against the investor's local currency (both movements would hurt the investor), the two negative hits together would magnify losses. Thus, by protecting against currency risk, currency-hedged strategies also limit gains or losses.

We would like to simulate a vivid example of how ICM could carry out its trade deal in the stock market with hedge implementation. For instance, let's take a trading transaction in the period from April 30, 2019, until June 28, 2019. It could be a long trade of Ferrexpo PLC. It means that ICM could receive a profit when the stock price of a company increase.

Ferrexpo is a Swiss headquartered iron ore company with assets in Ukraine. It has been mining, processing and selling high-quality iron ore pellets to the global steel industry for 40 years. Ferrexpo's resource base is one of the largest iron ore deposits in the world. In 2018, the Group produced 10.6 million tons of pellets, a 2% increase compared to 2017, ranking it as the 3rd largest exporter of pellets to the global steel industry with a market share of approximately 8.5%. Ferrexpo has a diversified customer base supplying steel mills in Austria, Germany, Japan, South Korea, Taiwan, China, Slovakia, the Czech Republic, Turkey and Vietnam. Ferrexpo has a premium listing on the main market of the London Stock Exchange under the ticker FXPO [15].

In April, an iron ore miner Ferrexpo has fallen on pretty hard times, with its share price dropping more than 35% in a period of two weeks following the news of a disputed relationship with a Ukrainian charity. The stock price movement is presented at the Figure 2.3. Moreover, the company's auditor Deloitte heaped pressure on the shares after resigning its relationship with Ferrexpo following an investigation into its CEO Kostyantin Zhevago's relationship with a charity called Blooming Land. Contrary to the claims of Deloitte, Ferrexpo has come out fighting in relation to the issue, accusing Deloitte of quitting prematurely and for "innocuous" reasons [6, 29].

Figure 2.3 Huge Dropdown of Ferrexpo Stocks in April 2019 as a Market Reaction on 'Discrepancies', Which Were Found Inside Company Accountings

Source: Investing.com, author analysis of the materials [6].

The hard times for Ferrexpo could be a great buying opportunity for ICM investors. After deep analytic research, ICM management could be truly convinced that Ferrexpo can handle with such type of issue. When its full-year results eventually arrived on April 23, revenue was strong, with a 6.4% rise to 1.3 billion U.S. dollars compared to 2017, despite lower net profits for the year of 335 million U.S. dollars. Production remained steady and commenting on the remainder of 2019, the company said prices of its iron pellets were to remain high for the rest of the year.

Besides, Ferrexpo has traditionally been known as a high dividend stock and announced a dividend of 23.1 cents per share, 40% higher year-on-year, and the improvement here suggests that the company is in a strong position financially going forward.

Considering the financials, dividends available and the potential value of the shares following the crash, ICM believes it could represent a buying opportunity looking for a stock with a little more risk built-in. Let's simulate that the management of ICM decided to buy its securities.

So, how does Ferrexpo perform with or without a currency-hedging tool? This case study will illustrate how FXPO behaves against the hedged or unhedged version of the GBP/USD pair. Additionally, it will provide examples that show the benefits and drawbacks of gaining exposure to a currency pair that has a currency-hedging process implemented into the methodology.

In this transaction, ICM traders use a hedge ratio of 100%. By selling foreign exchange forward contracts, they are able to lock in current exchange forward rates and manage their currency risk. Profits/losses from the forward contracts are offset by losses/profits in the value of the currency, thereby negating exposure to the currency.

In order to show whether the hedge is effective or not, we can use the regression method for hedge assessment. It is a quantitative method which commonly applied to evaluate hedge efficiency and is called linear regression presented at the Figure 2.4 below.

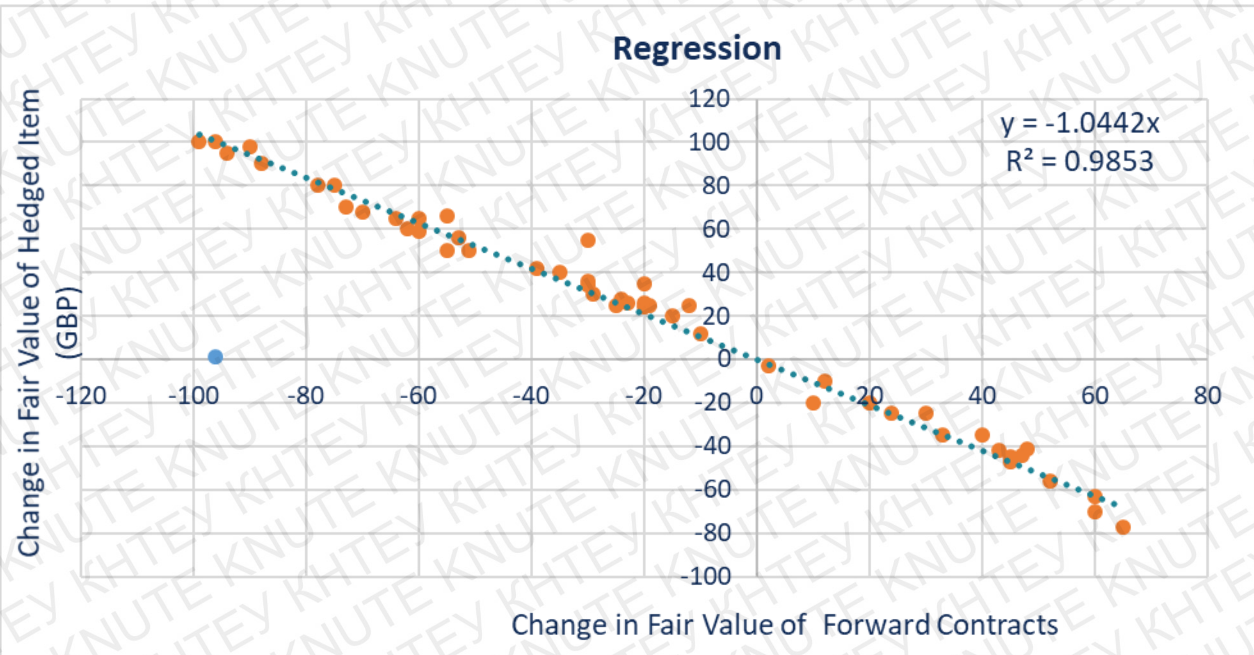


Figure 2.4 Linear Regression Model to Evaluate Hedge Effectiveness of ICM Transaction

Source: based on the author estimates and analysis of the materials [33].

The prospective measure of hedging effectiveness is based on the adjusted r-square produced by a regression in which the change in the value of the hedged item, in our case British pound, is the dependent variable and the change in the value of the derivative (currency forward contracts) is the independent variable.

Key measures that we should highlight (see Table 2.2):

- R square should be within a range of 0.80 to 1.00;
- the coefficient of X should be between -0.8 and -1.25.

Table 2.2

Summary Output from the Regression Model

Regression Statistics	
Multiple R	0.983
R Square	0.976
Adjusted R Square	0.955
Standard Error	5.943
Coefficients (intercept)	1.54
Coefficients (hedged item)	-1.03
Observations	100

Source: based on the author estimates and data from Bloomberg [5].

Our model showed that the estimated slope coefficient is the variance-minimizing hedge ratio. Given the definitions of X and Y, the slope of this regression equation should be negative and close to -1.0. We received a slope ratio of -1.0329. In terms of a prospective effectiveness test, if the adjusted R2 is greater than 80%, then a hedge ratio equal to the regression slope coefficient would have been highly effective (see Appendix E). The interpretation of the intercept term is also important. It is the amount per (data measurement) period, on average, by which the change in the value of the hedged item differs from the change in the value of the derivative. Because the hedge should aim for a combined change in the value of 0.0, the hedger should account separately for the intercept term.

To sum up our calculation, we can firmly consider that we have obtained the necessary results to assume that our foreign exchange hedge strategy is effective.

In order to get a better idea of how a foreign exchange rate can influence the performance of Ferrexpo stocks, we ran some analysis to display the benefits of the currency hedging dynamic: FXPO returns within a defined time frame with or without currency hedge.

From April 30, 2019 to June 28, 2019, the FXPO was up 34.84% (gradual recovering from a previous significant drop) and GBP/USD was down 2.78% (indicating a weakening in British pound) highlighted in the Figure 2.5 below.

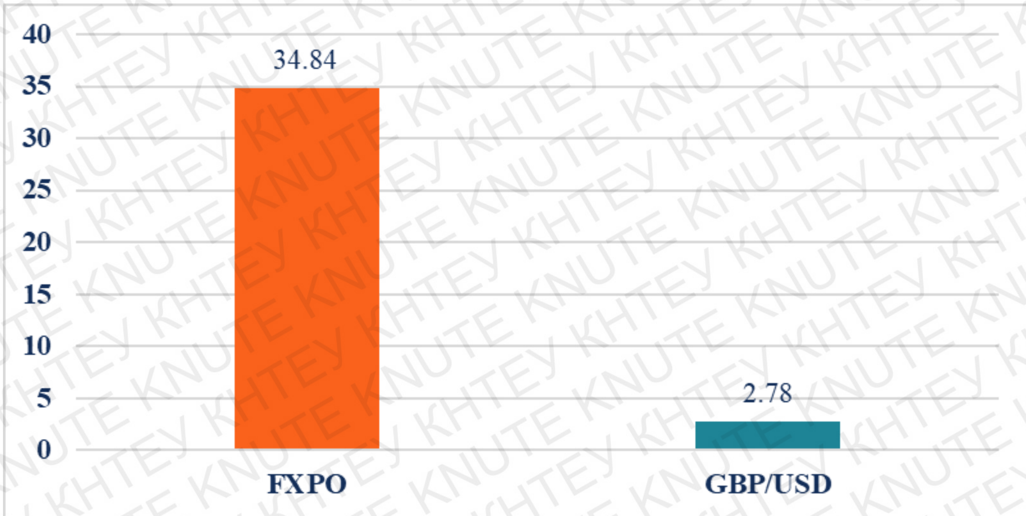


Figure 2.5 Price Change of Ferrexpo and Currency Pair from April 30, 2019 to June 28, 2019, in Percentage

Source: based on the author estimates and data from Bloomberg [5].

The Figure, depicted above, shows how ICM's profit changed relative to hedged currency pair - GBP/USD. Applying forward currency contracts allows Integral Capital Management to minimize the losses a company would incur without the use of foreign currency hedge. Instead of receiving a net profit of 34.84%, ICM could get only 32.06%. The losses would have been arising to 2.78%.

Lastly, with Brexit uncertainty playing on the minds of investors, it’s easy to see why hedging GBP exposure has become a large topic of conversation since the 2016 referendum. But, as with any other element of a financial plan, there’s no golden rule as to how one should hedge their GBP currency risk.

In this chapter, we illustrated that Integral Capital Management can also successfully implement currency hedging not only using options but also applying currency forward contracts which were recommended by our research.

2.3 Risk Hedging Efficiency Assessment and Appraisal of the Impact of Proposed Measures on the International Economic Activity of LLC “Integral Capital Management Sàrl”

The effectiveness of foreign exchange hedge quite a long time has been without a standard method of measurement. A lack of a universal measure deprives both investment managers and their end investors of a meaningful way to evaluate performance and understand the effectiveness of their process. But nowadays everything has changed, the company can choose the best one from the existing options at the market or develop own approach on how to evaluate risk hedging efficiency.

For the sake of clarity, we have chosen one of the simplest. Brown Brothers Harriman has developed a metric that distils the effectiveness of a foreign exchange hedging program into a single score allowing comparison across funds, managers or service providers. It is called the FX Hedge Efficiency Score [8].

Hedge Efficiency Score provides investors or investment funds with an effective comparison of hedging programs. Most importantly, it creates a basis upon which more detailed conversations around the calibration of the hedging program can take place. It provides insight into target areas of improvement and whether those improvements may relate to the timing, costs and/or operational workflows.

These assumptions need to be viewed as key elements:

- The hedging program is designed to recover as much of the foreign exchange spot effect as possible. The spot effect is defined as the effect of FX from translating an investment from its value in foreign currency (local) terms to its value in ICM currency terms (unhedged). The intention is not to enhance returns through active management of FX, but to minimize FX exposure.
- The goal is to achieve the above with as much certainty and consistency (minimal tracking error) as possible.

The FX Hedge Efficiency Score is designed to assess these two key elements of performance: spot recovery (return) and tracking error elimination (risk).

For instance, we will again use ICM's investment in Ferrexpo. In other words, the transaction will be linked to the U.S. dollar and the British pound. The goal of the hedge is to recover (offset) the greatest percentage of the foreign exchange spot effect as possible. The FX spot effect represents the return element of the FX Hedge Efficiency Score and is calculated (from the Integral Capital Management perspective) as:

$$\text{Spot Effect} = \text{UIR} - \text{IR}_{lc}, \qquad (2.1)$$

where

UIR – unhedged investment return;

IR_{lc} – investment return in local currency.

If a U.S. dollar, ICM base currency, returned 10.00% over some period and the unhedged return of that stock to a British pound over the same period was 5.00%, the spot effect is equal to -5.00%. In other words, the U.S. dollar depreciated by 5.00% relative to the British pound.

Next, the performance difference between the hedged and local returns attributable to the interest rate differential (IRD) between the two currencies over the hedge period must be accounted for. To do this, we need to adjust the hedged performance up or down to account for the difference. In our example, we assume an IRD for the period of 0.50%, meaning that risk-free rates in the UK are 0.50% higher than in the US. This should yield a perfectly hedged return of 10.50% for British pound in the absence of all other implementation factors.

We can now measure the "spot recovery" reflected in the hedged performance by comparing the adjusted hedged return against the unhedged return:

$$\textbf{Spot Recovery} = (\textbf{HR} - \textbf{IRD}) - \textbf{UR}, \tag{2.2}$$

where

HR – hedged return;

IRD – interest rate differential;

UR – unhedged return.

If the hedged return was 10.25% and the IRD over the period was 0.50%, the adjusted hedged return is 9.75%. Comparing that to the unhedged return of 5.00% implies the spot recovery was 4.75%. The hedging goal is to offset the -5.00% spot effect, therefore we are left with -0.25% attributable to other implementation-related factors (relative spot performance).

The Spot Recovery Ratio can be calculated as:

$$\textbf{Spot Recovery Ratio} = \mathbf{1} - \left(\frac{SE+SR}{SE}\right), \tag{2.3}$$

where

SR – spot recovery;

SE – spot effect.

To ensure equal penalty for both positive and negative relative spot performance of the hedge, we measure its absolute value (remember, the goal is not to enhance performance through active management, but to eliminate risk). In this scenario, the hedge captured all but 0.25% of the spot effect, representing a 95.00% recovery rate. The remaining spot foreign exchange exposure not recovered may be the result of any number of implementation factors as mentioned above.

Table 2.3

Spot Recovery Ratio for ICM Foreign Exchange Operations, %

Local Return (USD)	Unhedged Return (GBP)	Spot Effect (USD against GBP)	Hedged Return (GBP)	IRD (GBP against USD)	Spot Recovery	Relative Spot Performance	Spot Recovery Ratio
10.00	5.00	5.00	12.50	0.50	7.00	2.00	60.00
10.00	5.00	5.00	12.25	0.50	6.75	1.75	65.00
10.00	5.00	5.00	12.00	0.50	6.50	1.50	70.00
10.00	5.00	5.00	11.75	0.50	6.25	1.25	75.00
10.00	5.00	5.00	11.50	0.50	6.00	1.00	80.00
10.00	5.00	5.00	11.25	0.50	5.75	0.75	85.00
10.00	5.00	5.00	11.00	0.50	5.50	0.50	90.00
10.00	5.00	5.00	10.75	0.50	5.25	0.25	95.00
10.00	**5.00**	**5.00**	**10.50**	**0.50**	**5.00**	**0.00**	**100.00**
10.00	5.00	5.00	10.25	0.50	4.75	-0.25	95.00
10.00	5.00	5.00	10.00	0.50	4.50	-0.50	90.00
10.00	5.00	5.00	9.75	0.50	4.25	-0.75	85.00
10.00	5.00	5.00	9.50	0.50	4.00	-1.00	80.00
10.00	5.00	5.00	9.25	0.50	3.75	-1.25	75.00
10.00	5.00	5.00	9.00	0.50	3.50	-1.50	70.00

10.00	5.00	5.00	8.75	0.50	3.25	-1.75	65.00
10.00	5.00	5.00	8.50	0.50	3.00	-2.00	60.00

Source: data from Bloomberg, Investing.com; author estimates and analysis of the materials [8].

Tracking error is defined as the volatility of the return delta between two return series. Calculated in the same manner as the typical standard deviation of any returning series, it can provide a measure of the consistency of the hedging program.

To begin, calculate the tracking error of the unhedged returns relative to the local asset returns to determine the magnitude of the tracking error improvement provided through the hedging program. To do this, simply calculate the daily return differences of the unhedged relative to local stock return series. Once these returns are available, calculate the standard deviation of this series.

Next, perform the same calculation for the hedged returns relative to the local asset returns to determine the tracking error of the hedged returns. Assume the tracking error of the unhedged series is 10.00% while the tracking error of the realized hedged series is 0.10%, the tracking error reduction ratio is simply calculated as:

$$\textbf{Tracking Error Elimination Ratio} = \mathbf{1} - \left(\frac{\mathbf{Hedged_{TE}}}{\mathbf{Unhedged_{TE}}}\right), \quad (2.4)$$

where

$Hedged_{TE}$ – hedged tracking error;

$Unhedged_{TE}$ – unhedged tracking error.

In our example, the hedged performance eliminated 99.00% of the tracking error resulting from FX exposure.

Table 2.4

Tracking Error Elimination Ratio for ICM Foreign Exchange Operations, %

Unhedged Tracking Error	Hedged Tracking Error	TE Elimination Ratio
10.00	1.25	87.50
10.00	1.00	90.00
10.00	0.75	92.50
10.00	0.50	95.00
10.00	0.40	96.00
10.00	0.30	97.00
10.00	0.20	98.00
10.00	0.10	99.00
10.00	**0.00**	**100.00**
10.00	0.10	99.00
10.00	0.20	98.00
10.00	0.30	97.00
10.00	0.40	96.00
10.00	0.50	95.00
10.00	0.75	92.50
10.00	1.00	90.00
10.00	1.25	87.50

Source: data from Bloomberg, Investing.com; author estimates and analysis of the materials [26].

Finally, to determine the FX Hedge Efficiency Score, simply multiply the ratios:

$$\textbf{FX Hedge Efficiency Score} = \textbf{SRR} \times \textbf{TEER}, \tag{2.5}$$

where

SRR – spot recovery ratio;

TEER – tracking error elimination ratio.

A perfect score would result from recovering 100% of the spot effect while eliminating 100% of the tracking error. While a flawless score is not practically achievable, the FX Hedge Efficiency Score can form a basis for peer group comparison, provider performance evaluation and program calibration.

Table 2.5

The Final Hedge Efficiency Score of Integral Capital Managemen,%

Unhedged Tracking Error	Hedged Tracking Error	TE Elimination Ratio	FX Hedge Efficiency Score
10.00	1.25	87.50	52.50
10.00	1.00	90.00	58.50
10.00	0.75	92.50	64.80
10.00	0.50	95.00	71.30
10.00	0.40	96.00	76.80
10.00	0.30	97.00	82.50
10.00	0.20	98.00	88.20
10.00	0.10	99.00	94.10
10.00	**0.00**	**100.00**	**100.00**
10.00	0.10	99.00	94.10
10.00	0.20	98.00	88.20
10.00	0.30	97.00	82.50
10.00	0.40	96.00	76.80
10.00	0.50	95.00	71.30
10.00	0.75	92.50	64.80

10.00	1.00	90.00	58.50
10.00	1.25	87.50	52.50

Source: data from Bloomberg, Investing.com; author estimates and analysis of the materials [26].

Ultimately, ICM managers owe it to their end investors to demonstrate the effectiveness of the products they offer. In a world of increased demand for transparency and an abundance of investment choices, offering investors a simple way to evaluate success can open the door to additional capital inflow. Whether the FX Hedge Efficiency Score highlights how well a hedging program is run or sheds light on areas of improvement, managers only stand to gain from a better understanding of their performance.

Such an evaluation type of hedging currency risk as FX Hedge Efficiency Score allows ICM to calculate efficiency of all transaction accomplished before. Based on results received from historical data analysis, Integral Capital Management will be able to adjust current trading strategies and to develop unique and personalized approaches according to current economic and market conditions. In combination with alternative hedging tools proposed in paragraph 2.2, Integral Capital Management will be able to extend existing hedge package of financial tools, to increase profitability and to decrease potential losses.

Since the company will be growing due to successful operating activity, it will be rational to expand its foreign economic activity. Furthermore, we need to point on the fact that because of taking into consideration all the suggestions that we proposed to the company, LLC “Integral Capital Management Sàrl” will increase its financial results. Based on our calculation, ICM can improve existing currency hedging strategy and minimise overall losses from trading activity in foreign currencies up to 5%.

Therefore, we can make a forecast of how our suggestions will influence the financial results of LLC “Integral Capital Management Sàrl” (see Table 2.6 below). Assumptions of our forecast take into consideration the compound annual growth rate from Appendix D and additional improvement from optimising hedging strategies (5% growth potential).

Because of the implementation of FX Hedge Efficiency Score and alternative hedging tools for currency risk mitigation net revenues will grow from 20.65 to 48.97 million USD, EBITDA – from 5.69 to 12.73 million USD, operating profit – from 5.42 to 12.24 million USD, net profit – from 4.43 to 9.79 million USD.

Table 2.6

The Forecast of Financial Results of LLC “Integral Capital Management Sàrl” in 2019-2022

in thousands of USD	FY2018	Forecast			
		FY2019	**FY2020**	**FY2021**	**FY2022**
Net Revenues	20 647.1	25 623.0	31 798.1	39 461.5	48 971.7
EBITDA	5 691.3	6 662.0	8 267.5	10 260.0	12,732.6
Operating profit	5 420.8	6 405.7	7 949.5	9 865.4	12 242.9
Net Profit	4 428.5	5 124.6	6 359.6	7 892.3	9 794.3

Source: based on the author analysis

In other words, the company will be able to offset the potential risk of losses and magnify profits. Moreover, it will help LLC “Integral Capital Management Sàrl” to support its competitiveness and avoid the risks, which can arise from providing foreign economic activity. Such assumption significantly depends on current market conditions and countries ICM would like to invest. The more unstable situation in country the more efficient the hedging strategy will be. In our study, we have repeatedly emphasized that only a comprehensive approach will allow to solve the issues discussed in our study.

Furthermore, the results obtained in this scientific paper can be useful for other Ukrainian companies in the financial sector.

Conclusions to Chapter 2

The most dominant theme thus far in 2019 has been the global currency war, where central banks are fighting one another with new easing measures on a daily basis to debase their currencies. Unfortunately, forecasting short-term currency movements is extremely difficult, largely because of the big players at the currency market - central banks. The Federal Reserve, the European Central Bank, the Bank of Japan, the Ukrainian central bank and so on cast a long shadow over currency pricing, for reasons that can defy economic logic from the perspective of an investor.

One thing we should consider with foreign exchange market when it comes to international equity investing: there is a tight connection between the US dollar's price relative to other currencies and the impact on hedged and unhedged equity returns. Such assumptions were tested and approbated in this chapter. A strong dollar tends to equate with negative returns for currency-hedged equity performance and vice versa.

The main thought that pervades all our work explains currency hedging as a superior strategy and so it should prevail at all times for all US-based portfolios.

Of course, a final decision one way or the other depends on the ICM's risk tolerance, investment horizon, and portfolio design. As a standalone investment in foreign stocks, for instance, hedging can be compelling. As part of a diversified portfolio with various asset classes, by contrast, hedging's advantages are open for debate.

Another factor to consider is that hedging isn't free. There's a cost to running a forex hedge. In addition, hedging strategies can differ, running the gambit from a relatively passive, steady plan to a quasi-speculative operation. In short, when ICM is choosing to hedge foreign exchange risk, a big part of what the company will earn/lose is bound up with how the hedging unfolds.

To sum it up, unhedged equity investing may or may not be productive, depending on the time period, investment strategy, etc. The strongest case for avoiding hedging is tied to portfolios that invest across asset classes with medium to long-term time horizons, especially for US-based asset allocation. To be fair, introducing currency hedging strategies for ICM portfolio won't be a 100% winning decision. But the reverse is also true for hedging, which can end up as little more than an added expense. Explaining the significance of our arguments and recommendations in our study, we highlight the key benefits of using alternative hedging tools and the importance of calculating hedge effectiveness.

GENERAL CONCLUSION

Ultimately, foreign exchange is just one of many risks involved for each company operating outside its domestic market. Diversification across countries introduces a new factor that will affect portfolio returns – movements in exchange rates. Often, the countries with the highest potential returns from equities or bonds are also those with the greatest possible economic risks, including risks from currencies. With key geopolitical issues like the ongoing Brexit saga (Britain voting to leave the EU), global US-China trade wars, and battered economies like Turkey and Venezuela on the front burner as 2019 beckons, companies need an action plan to deal with currency exchange risk. Hoping for the best and relying on stable financial markets rarely works. Yet as we have seen in recent years, foreign exchange fluctuations can have a huge impact on companies' portfolio, directly and indirectly.

Integral Capital Management Sàrl has managed to build a business with robust operations and strong financial results. ICM continues to execute its strategy very well. Both revenue and earnings are growing ahead of expectations and the company remains well-positioned to deliver long-term gains to its investors. ICM has demonstrated strong growth over the last few years and operated with high margins.

Developing hedging strategies to mitigate the risks of fluctuating exchange rates in Integral Capital Management is essential for enhancing competitiveness in the financial industry. The success in risk management means to divert the financial risks and generate positive impacts of the income to our subject company.

By assessing the subject company as the main case study it seems pertinent to remember that we analyze the hedging strategies and transactions, analyzed how and why hedging mitigates the fluctuating exchange rate risks for ICM.

Above all, it necessary to remember that in companies that do hedge, it is very important to have a strong financial forecasting process and a solid understanding of foreign exchange exposure. By way of explanation, currency hedging is the act of entering into a financial contract in order to protect against unexpected, expected or anticipated changes in currency exchange rates. Hedging can be accomplished by purchasing or booking different types of contracts in the stock exchange depending upon in which currency is dealing.

Currency management in ICM plays an important part in portfolio management, particularly as investors access a greater range of international investments. Hedging can help to lower risk in a portfolio and the decision to hedge or not to hedge depends on the characteristics of the asset class of the investment, the risk and return objectives of the investor, and how the management of ICM views benefits and drawbacks, listed above in our study.

At LLC “Integral Capital Management Sàrl”, management often use derivatives as tools designed to protect against downward market moves, but in reality, they help with both kinds of risk. Currently, ICM has chosen to reduce its actual exposure to U.S. equities by using option derivatives. In such a way the company is able safely to face a significant risk of a downturn.

Reviewing main points mentioned in a study, overhanging because a financial forecast was too optimistic can be also an expensive mistake. In addition, having a personal view on currency movements and taking a position based on anticipated currency fluctuations starts to cross a thin line that separates risk management and speculation. Our paperwork shows that the best way to effectively hedge currency risk fluctuation is through using a set of measures with minimal human influence. Even if the company invests only in U.S. stocks, the fact that the companies do business globally still makes foreign exchange rates relevant. If a multinational company does business abroad and the dollar rises, then the sales and profits it earns abroad will be worth fewer dollars, and that will reduce growth rates and often lead to poor financial results. If the dollar falls, then the foreign exchange that multinationals bring in will be worth more in dollar terms, and that will enhance and accelerate growth rates.

Stock market investors like ICM may be willing to accept some currency risk, and a higher level of portfolio volatility, in exchange for a greater potential return. For more defensive asset classes, such as property and fixed interest, however, hedging may be a better long-term portfolio management strategy. With the current unsettled global environment, there are significant differences in outlook among regions and currencies. This suggests that the currency markets appear set to remain volatile. Given this, Integral Capital Management is expected to see increasing demand for more flexible approaches to currency exposure management than those that are now widely used. As a result, ICM will most likely reappraise their assessments of hedging currency exposures and how it should be handled. We recommend to use our study as a roadmap for further structural changes in such a fast-growing company. It will allow to develop a new vision of the stock market and to implement unique prevention measures for currency risks mitigation.

This study illustrates how variation in the exchange rate might affect ICM operations at the foreign market. Applied to the aforementioned example, the dollar has strengthened against the pound. As a consequence, the ICM received fewer dollars and the difference will be recorded as a foreign exchange loss. Such implemented strategies minimize risks, which usually involve purchasing a financial product to offset their exposed assets or liabilities. There is a wide range of products available for this purpose, the most commonly used is derivatives.

We would like to highlight that investors tend to hedge portfolios of overseas equities and bonds to protect them against unforeseen foreign exchange losses. Doing so makes sure that the portfolio does not forego any profits from equities or bonds due to currency losses. There were presented several ways in our study how it can be done. The first of them is a forward contract, which commits two parties to buy or sell a currency at a specific price at a specific date in the future. The flexibility of these contracts makes them especially useful. Options are another way to hedge. They give the right to buy or sell a currency at a specific price on a specific date – however, there is no obligation to do so. Specialized ETFs and CFDs can also handle these issues.

To make a general conclusion to our study research, the regression model allowed us clearly to understand the direct relationship between the selected asset and the hedging instrument. Then, using the FX Hedge Efficiency Score, we reached accurate results for a deeper assessment of key issues of our research. Moreover, based on results received from historical data analysis, Integral Capital Management will be able to adjust current trading strategies and to develop unique and personalized approaches according to current economic and market conditions. In combination with alternative hedging tools, Integral Capital Management will be able to extend existing hedge package of financial tools, to increase profitability and to decrease potential losses. Based on our calculation, ICM can improve existing currency hedging strategy and reduce overall losses from trading activity in foreign currencies up to 5%. Because of the implementation of FX Hedge Efficiency Score and alternative hedging tools for currency risk mitigation net revenues will grow from 20.65 to 48.97 million USD, EBITDA – from 5.69 to 12.73 million USD, operating profit – from 5.42 to 12.24 million USD, net profit – from 4.43 to 9.79 million USD.

Such assumption significantly depends on current market conditions and countries ICM would like to invest. The more unstable situation in country the more efficient the hedging strategy will be.

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APPENDICES

Appendix A

LLC "Integral Capital Management Sàrl"

Statement of Financial Condition

in thousands of USD	31 Dec **2015**	31 Dec **2016**	31 Dec **2017**	31 Dec **2018**
Assets				
Cash and Cash Equivalents	4487.6	5585.2	6095.9	7905.9
Marketable Securities and Certificates of Deposit	437.9	664.9	1285.6	3046.3
Financial Instruments Owned and Pledged as Collateral at Fair Value	417.4	185.4	193.7	223.5
Securities Purchased Under Agreements to Resell	21.9	125.9	106.5	27.0
Accounts Receivable	1755.0	2305.2	1849.9	3090.8
Receivable from Employees and Related Parties	211.9	150.3	170.3	238.4
Other Current Assets	162.9	239.5	300.2	284.4
Total Current Assets	**7494.6**	**9256.3**	**10002.1**	**14816.2**
Investments	1266.5	1166.3	983.1	906.4
Deferred Tax Assets	2981.2	3054.2	1988.9	2410.9
Furniture. Equipment and Leasehold Improvements	479.8	516.5	685.9	810.7
Goodwill	1664.6	1609.6	1342.3	1313.9
Intangible Assets	410.1	293.7	195.8	103.8
Assets Segregated for Bank Regulatory Requirements	102.0	102.0	-	-
Other Assets	392.9	624.7	650.7	894.8
Total Non-current Assets	**7297.1**	**7367.1**	**5846.8**	**6440.5**
Total Assets	**14791.7**	**16623.5**	**15848.9**	**21256.7**
Liabilities and Equity				
Accrued Compensation and Benefits	2638.6	3345.4	3401.7	6021.2
Accounts Payable and Accrued Expenses	438.8	307.2	341.1	379.5
Securities Sold Under Agreements to Repurchase	440.0	311.5	300.3	250.8
Payable to Employees and Related Parties	283.9	273.7	311.7	318.9
Taxes Payable	208.9	273.2	164.9	336.2
Other Current Liabilities	70.3	123.2	120.9	190.3
Total Current Liabilities	**4080.5**	**4634.2**	**4640.5**	**7496.9**
Notes Payable	1192.5	1681.0	1683.5	1686.1
Subordinated Borrowings	225.5	165.5	68.0	-
Amounts Due Pursuant to Tax Receivable Agreements	1860.4	1741.1	903.8	944.1
Other Long-term Liabilities	360.7	568.4	589.5	1050.1
Total Long-term Liabilities	**3639.1**	**4155.9**	**3244.7**	**3680.4**
Total Liabilities	**7719.6**	**8790.2**	**7885.2**	**11177.3**

Source: based on the author analysis of the information provided by LLC "Integral Capital Management Sàrl".

Continuation of Appendix A

LLC "Integral Capital Management Sàrl"

Statement of Financial Condition

Equity				
Share capital	5.5	5.8	6.2	6.6
Additional Paid-In-Capital	12107.4	13681.2	16007.0	18181.0
Accumulated Other Comprehensive Income (Loss)	(345.4)	(501.0)	(314.1)	(304.3)
Retained Earnings (Deficit)	(277.9)	203.4	794.6	3648.8
Treasury Stock at Cost	(6444.1)	(8116.5)	(11054.1)	(13950.9)
Total Stockholders' Equity	**5045.5**	**5273.0**	**5439.6**	**7581.2**
Non-controlling Interest	2026.6	2560.3	2524.0	2498.2
Total Equity	**7072.2**	**7833.3**	**7963.7**	**10079.4**
Total Liabilities and Equity	**14791.7**	**16623.5**	**15848.9**	**21256.7**

Source: based on the author analysis of the information provided by LLC "Integral Capital Management Sàrl".

Appendix B

LLC "Integral Capital Management Sàrl"

Income Statement

in thousands of USD	31 Dec **2015**	31 Dec **2016**	31 Dec **2017**	31 Dec **2018**
Revenues				
Investment Banking:	11338.6	**13640.1**	**15758.7**	**20151.8**
Advisory Fees	-	10968.3	13244.1	17434.7
Underwriting Fees	-	362.6	458.3	716.9
Commissions and Related Fees	-	2309.1	2056.3	2000.2
Asset Management and Administration Fees	951.3	634.0	596.5	482.5
Other Revenue. Including Interest and Investments	112.6	293.8	888.3	190.5
Total Revenues	**12402.5**	**14567.9**	**17243.5**	**20824.8**
Interest Expense	169.8	167.4	200.0	177.7
Net Revenues	**12232.7**	**14400.5**	**17043.5**	**20647.1**
Expenses				
Employee Compensation and Benefits	7881.8	9005.9	9625.1	11971.7
Occupancy and Equipment Rental	477.0	453.0	534.5	589.7
Professional Fees	508.2	564.0	638.6	823.9
Travel and Related Expenses	553.9	574.7	641.8	687.5
Communications and Information Services	363.7	402.8	413.9	413.2
Depreciation and Amortization	279.3	248.0	248.2	270.5
Execution. Clearing and Custody Fees	-	175.4	147.8	114.7
Special Charges	411.4	81.0	254.4	50.1
Acquisition and Transition Costs	48.9	1.0	16.7	0.2
Other Operating Expenses	421.9	283.0	234.4	304.6
Total Expenses	**10946.0**	**11788.8**	**12755.4**	**15226.3**
Income Before Income from Equity Method Investments and Income Taxes	1286.7	2611.7	4288.1	5420.8
Income from Equity Method Investments	60.5	66.4	88.4	92.9
Income Before Income Taxes	1347.2	2678.2	4376.5	5513.7
Provision for Income Taxes	770.3	1193.0	2584.4	1085.2
Net Income	**576.9**	**1485.1**	**1792.1**	**4428.5**

Source: based on the author analysis of the information provided by LLC "Integral Capital Management Sàrl".

Appendix C

LLC "Integral Capital Management Sàrl"

Cash Flow Statement

in thousands of USD	31 Dec **2015**	31 Dec **2016**	31 Dec **2017**	31 Dec **2018**
Cash Flows From Operating Activities				
Net Income	576.9	1 485.1	1 792.1	4 428.5
Adjustments to Reconcile Net Income to Net Cash Provided by Operating Activities:				
Net (Gains) Losses on Investments. Marketable Securities and Contingent Consideration	55.2	107.2	(0.3)	107.2
Equity Method Investments	28.2	13.5	(5.1)	13.5
Equity-Based and Other Deferred Compensation	2 075.3	2 935.1	2 302.7	2 935.1
Impairment of Goodwill and Equity Method Investments	285.0	-	215.1	-
Gain on Sale of Institutional Trust and Independent Fiduciary business of ETC	-	-	(78.1)	-
Depreciation. Amortization and Accretion	296.4	293.7	260.3	293.7
Bad Debt Expense	13.1	33.7	25.8	33.7
Adjustment to Tax Receivable Agreement	-	-	(775.4)	-
Release of Cumulative Foreign Exchange Losses	-	-	162.7	-
Deferred Taxes	(36.3)	(39.8)	1 483.2	(39.8)
Decrease (Increase) in Operating Assets:	-	-	-	-
Marketable Securities	5.6	(5.5)	8.7	(5.5)
Financial Instruments Owned and Pledged as Collateral at Fair Value	460.2	(29.6)	0.4	(29.6)
Securities Purchased Under Agreements to Resell	47.3	81.7	26.4	81.7
Accounts Receivable	(464.4)	(1 309.6)	471.2	(1 309.6)
Receivable from Employees and Related Parties	(39.4)	(68.5)	(21.9)	(68.5)
Other Assets	(39.0)	(218.3)	(109.8)	(218.3)
(Decrease) Increase in Operating Liabilities:	-	-	-	-
Accrued Compensation and Benefits	517.3	2 080.9	(258.9)	2 080.9
Accounts Payable and Accrued Expenses	54.2	55.0	11.5	55.0
Securities Sold Under Agreements to Repurchase	(508.0)	(51.8)	(27.0)	(51.8)
Payables to Employees and Related Parties	87.0	43.9	32.2	43.9
Taxes Payable	178.5	161.0	(108.5)	161.0
Other Liabilities	(24.5)	(15.2)	(334.7)	(15.2)
Net Cash Provided by Operating Activities	**3 568.5**	**5 552.4**	**5 072.4**	**8 495.7**

Source: based on the author analysis of the information provided by LLC "Integral Capital Management Sàrl".

Continuation of Appendix C

LLC “Integral Capital Management Sàrl”

Cash Flow Statement

Cash Flows From Investing Activities				
Investments Purchased	(8.2)	(1.0)	(10.0)	(1.0)
Distributions of Private Equity Investments	68.2	21.4	20.7	21.4
Marketable Securities:	-	-	-	-
Proceeds from Sales and Maturities	323.2	1 917.8	456.4	1 917.8
Purchases	(391.0)	(3 366.0)	(410.0)	(3 366.0)
Maturity of Certificates of Deposit	0.0	635.3	0.0	635.3
Purchase of Certificates of Deposit	0.0	(1 000.0)	(634.2)	(1 000.0)
Cash Paid for Acquisitions and Deconsolidation of Cash. Net of Cash Acquired	(56.5)	-	-	-
Purchase of Furniture. Equipment and Leasehold Improvements	(161.9)	(333.2)	(313.0)	(333.2)
Proceeds from Sale of Business	(35.0)	-	343.5	-
Net Cash Provided by (Used in) Investing Activities	**(261.2)**	**(2 125.7)**	**(546.4)**	**(2 125.7)**
Cash Flows From Financing Activities				
Issuance of Non-controlling Interests	5.9	11.7	1.1	11.7
Distributions to Non-controlling Interests	(237.2)	(414.1)	(363.7)	(414.1)
Payments Under Tax Receivable Agreement	(110.5)	(133.5)	(123.8)	(133.5)
Cash Paid for Deferred and Contingent Consideration	-	-	-	-
Short-Term Borrowings	450.0	300.0	300.0	300.0
Repayment of Short-Term Borrowings	(450.0)	(300.0)	(300.0)	(300.0)
Repayment of Subordinated Borrowings	64.2	(68.0)	(97.5)	(68.0)
Payment of Notes Payable - Mizuho	-	-	-	-
Issuance of Notes Payable	-	-	-	-
Debt Issuance Costs	108.2	-	-	-
Purchase of Treasury Stock and Non-controlling Interests	(1 607.3)	(3 152.3)	(3 043.1)	(3 152.3)
Dividends - Class A Stockholders	(461.3)	(773.0)	(565.2)	(773.0)
Net Cash Provided by (Used in) Financing Activities	**(2 238.0)**	**(4 529.3)**	**(4 192.3)**	**(4 529.3)**
Effect of Exchange Rate Changes on Cash	**(103.3)**	**(13.7)**	**83.8**	**(13.7)**
Net Increase in Cash. Cash Equivalents and Restricted Cash	**966.0**	**(1 116.3)**	**417.5**	**1 827.1**
Cash. Cash Equivalents and Restricted Cash-Beginning of Period	**3 521.6**	**4 487.6**	**3 371.4**	**3 788.8**
Cash. Cash Equivalents and Restricted Cash-End of Period	**4 487.6**	**3 371.4**	**3 788.8**	**5 616.0**

Source: based on the author analysis of the information provided by LLC “Integral Capital Management Sàrl”.

Appendix D

LLC "Integral Capital Management Sàrl"

Basic Growth Rates of Income Statement

YoY growth, %	31 Dec **2016**	31 Dec **2017**	31 Dec **2018**	**CAGR 4Y**
Revenues				
Investment Banking:	**20.3%**	**15.5%**	**27.9%**	**21.1%**
Advisory Fees	-	-	-	
Underwriting Fees	-	-	-	
Commissions and Related Fees	-	-	-	
Asset Management and Administration Fees	-33.3%	-5.9%	-19.1%	
Other Revenue. Including Interest and Investments	160.9%	202.3%	-78.6%	
Total Revenues	**17.5%**	**18.4%**	**20.8%**	**18.9%**
Interest Expense	-1.4%	19.5%	-11.1%	
Net Revenues	**17.7%**	**18.4%**	**21.1%**	**19.1%**
Expenses				
Employee Compensation and Benefits	14.3%	6.9%	24.4%	
Occupancy and Equipment Rental	-5.0%	18.0%	10.3%	
Professional Fees	11.0%	13.2%	29.0%	
Travel and Related Expenses	3.7%	11.7%	7.1%	
Communications and Information Services	10.7%	2.8%	-0.2%	
Depreciation and Amortization	-11.2%	0.1%	9.0%	
Execution. Clearing and Custody Fees	-	-15.8%	-22.4%	
Special Charges	-80.3%	214.0%	-80.3%	
Acquisition and Transition Costs	-98.0%	1589.9%	-98.7%	
Other Operating Expenses	-32.9%	-17.2%	29.9%	
Total Expenses	**7.7%**	**8.2%**	**19.4%**	**11.6%**
Income Before Income from Equity Method Investments and Income Taxes	103.0%	64.2%	26.4%	
Income from Equity Method Investments	9.8%	33.1%	5.2%	
Income Before Income Taxes	98.8%	63.4%	26.0%	
Provision for Income Taxes	54.9%	116.6%	-58.0%	
Net Income	**157.4%**	**20.7%**	**147.1%**	**97.3%**

Source: based on the author analysis of the information provided by LLC "Integral Capital Management Sàrl".

Appendix E

LLC "Integral Capital Management Sàrl"

Regression analysis

Table E.1

Regression Statistics	
Multiple R	0.983
R Square	0.976
Adjusted R Square	0.955
Standard Error	5.943
Observations	100

Source: based on the author analysis

Table E.2

	df	**SS**	**MS**	**F**	**Significance F**
Regression	1	120436.9	120436.9	3409.6	3.02714E-46
Residual	98	1695.5	35.3		
Total	99	122132.4			

Source: based on the author analysis

Table E.3

	Coefficients	**Standard Error**	**t Stat**	**P-value**	**Lower 95%**	**Upper 95%**
Intercept	1.54	0.908	1.701	0.095	-0.281	3.369
Hedged item: Change in Fair Value	-1.03	0.018	-58.392	3.02714E-46	-1.068	-0.997

Source: based on the author analysis

Appendix F

Major Offices of LLC "Integral Capital Management Sàrl" in the World

Source: based on the author analysis of the information provided by LLC "Integral Capital Management Sàrl".