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**ANALYSIS OF THE IMPACT OF ECONOMIES'  
INTERNATIONALIZATION IN THE PORTFOLIO  
MANAGEMENT PROCESS**

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**Summary:** The main objective of this paper is to present the impact of the internationalization on portfolio management. Literature and empirical studies were used as a research method. It is shown that nowadays the scope of the internationalization of the financial markets of individual countries is diverse and depends on many factors. In this publication, the top 10 private banks are presented in terms of entrusting the management of cash and all major stock exchanges in the world. In addition, the article shows that the internationalization of economies will affect the portfolio management process in a way that it will be focused on new challenges. They will be opportunities positively influencing the achieved rate of return and the acquisition of new clients.

**Keywords:** internationalization processes, capital markets, financial asset management, wealth management, stock exchanges.

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## **1. Introduction**

Currently progressing internationalization of economies largely determines the increasing interdependence of different countries, enterprises and financial institutions. However, without continuous development of internationalization processes and participation in their individual financial institutions as well as individual investors, achieving of increasing returns would not be possible. At the same time it should also be emphasized that financial markets are still characterized by volatility and unpredictability, and globalization is one of the most important causes in the sphere of strong competitive pressure among financial institutions offering the service of portfolio management, resulting in the offering of new investment products within wealth management. In the following light, the internationalization puts new demands for the process of portfolio management. Therefore, it is desirable to con-

duct in-depth study to identify the impact of the internationalization of economies in the process of portfolio management. It should also be emphasized that this study is the main subject of the publication.

It does not need to be explained any further that portfolio management is still the primary tool used by both institutional investors as well as individuals. Being aware of the challenges of progressive internationalization of economies, the goal of this publication is to answer the question how to create the correct process of portfolio management at these specific conditions that may constitute a package of opportunities for portfolio managers. In addition, this article should identify, on the background of ongoing processes of globalization and internationalization of financial markets, the need to improve the methods of portfolio management. However, it does not exhaust the mentioned subject because of the limited volume, so it is only an outline. It should be also noted that the publication uses literature and empirical research.

## **2. The processes of internationalization and integration in the context of financial markets' functioning**

The engagement in the internationalization of economic activity in many areas leads to the increased interdependence of countries and businesses. Spreading rapidly it becomes wider and wider, and more complicated, and it generates new forms in organization and institution that allows to pass to higher, more advanced stages of international cooperation. Thus it is understood the internationalization is closely linked to the global nature of the modern world economy. The ultimate result of these processes will become a new quality of the global economy. The processes integrating a growing number of national economies across the borders of their countries as a result of the expansion and intensification of inter-linkages: trade, investment, production, specialized cooperation, financial, scientific-technical and other (e.g. cultural and military-political) capital, are a characteristic feature of the economy [Ślusarczyk 2011].

However, special attention has to be paid to the process of internationalization of financial markets. Nowadays the sphere of internationalization of financial markets among individual countries is diverse and depends on:

- the degree of openness of the economy,
- the degree of economic integration of the country into the world economy and the economies of other countries in the framework of regional integration,
- the liberalization of capital flows,
- the exchange rate regime,
- the size of the financial market in the country, including the size of the market capitalization (stock exchanges),
- the development of financial engineering and its application in the financial market of the country,

- the level of development of information and communication technologies in the country.

The impact of the above factors leads to the growing internationalization of financial markets, of which the ultimate result, from the theoretical point of view, will be the full globalization. As follows, the full globalization of financial markets means their integration on a global scale in the world economy, which in turn causes an increase in the correlation between stock market cycle, the evolution of stock market indices and rates of return on financial assets [Baele et al. 2004].

Integration processes on a regional scale influence the development of local financial markets through an increase in investment in the financial sector and do increase the capacity of the financial markets. The result of the inflow of foreign direct investment is to increase competition and efficiency of financial institutions. That undoubtedly impacts the search for new ways to raise returns on investment. In addition, competitive pressure induces a reduction of adverse selection and the cost of financial intermediation and increase the availability of capital for traders.

It is worth noting that the process of financial integration generates additional conditions for the process of risk sharing, the effect of which is to diversify the portfolios of investors' assets. However, the process of integration of international financial markets faces a number of barriers: economic policy on the movement of capital, diversification of fiscal policies in individual countries and their level of competitiveness and macroeconomic risk differentiation between countries, as well as information asymmetry between foreign and domestic investors. In addition to the above-mentioned, the barriers to the process of full integration of financial markets interact in a way that minimizes its achievement both on a regional scale and in the whole world causing the differences in the systems of commercial and financial law, multi-currency and exchange rate fluctuations, as well as the lack of harmonization of settlement of transactions in financial instruments on an international scale [Japelli, Pagano 2008 and Iwanicz-Drozdowska (ed.) 2009]. Undoubtedly, they have a significant impact on the efficient management of the portfolio and the scope of its risk and uncertainty. In addition, it should be also taken into account that the choice of specific securities involves many relevant problems. One of them, which is still not solved, is the method of evaluation of management of companies [Francis 1976].

### **3. The essence of portfolio management in terms of economies' internationalization**

Before we try to explain the impact of internationalization on the portfolio management process, first we will present the most important concept in this part of the publication, that is the management of the portfolio. Generally speaking, it consists in investing funds in certain financial instruments (in the case of financial institutions on behalf of clients and on their behalf). It does not need to be explained that these institutions manage the service primarily for people who want to effectively

use their financial resources while leveraging the knowledge and experience of managing portfolios.

The increasing interest in the services of portfolio management at the present time derives from several reasons. First and foremost, it is the result of the growing wealth of the richest groups of the population and falling inflation limiting the profitability of bank deposits. It is worth noting that investors entrusted the management of cash in the amount of USD 18.5 trillion to all financial institutions in 2012 (no data for the year 2013) [*The Scorpio Partnership Private Banking Benchmark 2013*]. Secondly, it follows also from the rapidly developing capital markets, as well as the increasing number of financial instruments, resulting in an impediment to individual investors to make optimal allocation of resources. Thirdly, the interest is related to increasing quality of investment services offered by financial institutions resulting in increasing customer satisfaction [*The Futurewealth Report 2014*]. Fourthly, the interest is also apparent from the fact that the process of globalization makes it easier to invest funds abroad. The empirical studies which are conducted in this regard clearly indicate that speculators can easily bypass any control capital flows in quite a legal way [Straetmans, Versteeg 2013].

Given the above, it is for the fair depiction of the essence of portfolio management in terms of internationalization, to make the overall presentation of the largest, in terms of assets under management, private banks in the world.

**Table 1.** The 10 largest private banks in terms of total asset under management (2012)

Place in the rank	Name of bank	The value of the asset under management (USD billions)
1.	UBS	1,705.0
2.	Bank of America	1,673.5
3.	Wells Fargo	1,400.0
4.	Morgan Stanley	1,308.0
5.	Credit Suisse	854.6
6.	Royal Bank of Canada	628.5
7.	HSBC	398.0
8.	Deutsche Bank	387.3
9.	BNP Paribas	346.9
10.	Pictet	322.2

Source: own study based on the data of the report of *The Scorpio Partnership Private Banking Benchmark 2013*, July 2013, [http://www.scorpiopartnership.com/uploads/pdfs/2013%20Scorpio%20Partnership\\_Global%20Private%20Banking%20KPI%20Benchmark\\_Final.pdf](http://www.scorpiopartnership.com/uploads/pdfs/2013%20Scorpio%20Partnership_Global%20Private%20Banking%20KPI%20Benchmark_Final.pdf).

The data presented in Table 1 clearly indicate that the world faces the trend that lies in the fact that the four major banks concentrate most of the assets and manage-

ment, distancing competitors. However, it is also evident that the increasing competitive pressure from banks having their registered offices outside the United States begins to dominate in the asset management.

In summary, the service portfolio management is an attractive alternative to make its own, often risky investment decisions. Nevertheless, individual investors manage their portfolios as well. It is not necessary to explain more that portfolio management is also currently one of those disciplines that affect emotions. This is mainly due to the fact that it concerns the investment of cash that is not always associated with achieving above-average returns. In contrast, characterizing the essence of portfolio management in terms of economies' internationalization, first of all it has to be taken into account that current institutional and individual investors have to deal with the liberalization of capital movement, which contributes to the elimination of obstacles in the functioning of the global financial market. In addition, the integration of financial markets runs at regional levels particularly strongly, as a result of the internationalization of economies. This can be seen in terms of determinants of economic growth in the long term, but on the other hand, it has an impact on financial institutions that invest cash. The consequence of this is the frequent change of investment strategies which goal is not only to maximize the rate of return, but also the preservation of capital. The second of these objectives takes on new meaning in the period of increasing volatility of capital markets, which we now have to deal with. A variation of this is used in the era of thriving development of computer technology, which undoubtedly exists in financial institutions, in the context of high-frequency trading (HFT) involving the use of high-tech computers.

As it is known, the capital markets are part of the financial markets and a wider financial system is not stable and is constantly changing, going through different phases [Heffernan 2005], which in turn makes it difficult to undertake investment decisions. The literature increasingly meets the views that in the future the financial system will be more transparent than at present, and financial institutions will fail without the financial burden of other participants in these systems [Cecchetti 2014].

As it is well known, investment recommendations, on which investment strategies are often based, also do not constitute a guarantee for obtaining above-average rates of return, as they are often very different from one another. Recent empirical studies [Kim, Ryu, Seo 2014] indicate that investor sentiment, which, unfortunately, has nothing to do with the investment account, plays an important role in portfolio management. These studies have also shown that there is a relationship between investor sentiment and expected rates of return of shares. Thus, they recommend reducing the shares of different companies in the portfolio, where the number of conflicting recommendations on these companies is high. However, a view can be expressed that such an investment strategy under uncertainty will not always guarantee investment success.

**Table 2.** Distribution of stock exchanges due to the capitalization in USD millions – division according to criteria of WFE and FESE (data from the end of February 2014)

Stock Exchange with capitalization between USD 19 tn – USD 1 tn		Stock Exchange with capitalization between USD 1 tn – USD 100 bln		Stock Exchange with capitalization between USD 100 bln – USD 10 bln		Stock Exchange with capitalization under USD 10 bln	
1	2	3	4	5	6	7	8
NYSE Euronext (US)	18,332,838.22	Johannesburg SE	940,938.05	Athens Exchange	93,481.19	CEESEG – Ljubljana	7,893.78
NASDAQ OMX	6,282,834.17	BM&FBOVESPA	940,411.07	Dubai Financial Market	85,329.49	Ljubljana SE	7,893.30
Japan Exchange Group – Tokyo	4,382,783.87	Taiwan SE Corp.	810,874.62	GreTai Securities Market	85,323.84	Bulgarian Stock Exchange	7,820.71
LSE	3,729,247.00	Singapore Exchange	740,434.10	Lima SE	78,860.82	Mauritius SE	7,432.30
NYSE Euronext (Europe)	3,718,120.17	Moscow Exchange	683,047.47	Luxembourg SE	77,290.43	Bratislava Stock Exchange	5,644.22
Hong Kong Exchanges	3,051,390.48	Bursa Malaysia	501,811.14	Egyptian Exchange	70,852.92	Malta SE	4,416.02
Shanghai SE	2,421,677.76	Saudi Stock Exchange – Tadawul	497,571.40	New Zealand Exchange	70,437.95	Cyprus SE	2,425.41
TMX Group	2,126,006.94	Mexican Exchange	473,969.10	Casablanca SE	54,721.45	Bermuda SE	1,674.97
Deutsche Börse	1,970,520.18	Indonesia SE	394,183.44	HoChiMinh SE	49,032.43		
SIX Swiss Exchange	1,615,646.81	The Stock Exchange of Thailand	364,454.19	Buenos Aires SE	45,087.95		
Shenzhen SE	1,511,332.14	Oslo Børs	273,815.79	Muscat Securities Market	37,779.12		
Australian SE	1,383,886.35	Santiago SE	249,697.75	CEESEG – Prague	31,373.12		
NASDAQ OMX Nordic Exchange	1,357,980.32	Philippine SE	233,221.81	Amman SE	26,828.98		
Korea Exchange	1,217,317.22	Warsaw Stock Exchange	216,092.64	Kazakhstan SE	24,055.57		
BSE India	1,112,146.35	Tel Aviv SE	214,955.27	Bucharest Stock Exchange	23,790.38		
BME Spanish Exchanges	1,103,988.19	Irish SE	211,917.98	Colombo SE	18,977.47		
National Stock Exchange India	1,085,178.11	Qatar Exchange	187,684.98	Budapest SE	18,204.88		

1	2	3	4	5	6	7	8
		Colombia SE	181,025.89	CEESEG – Budapest	18,192.20		
		Borsa Istanbul	177,615.13				
		CEESEG – Vienna	126,657.08				
		Wiener Börse	126,649.34				
		Abu Dhabi SE	124,383.07				

Source: own study based on data from WFE (<http://www.world-exchanges.org/statistics/monthly-reports>) and FESE (<http://www.fese.eu/en/?inc=art&id=4>). In the absence of data from WFE, the analyzed data came from FESE and was given in euro (EUR value converted into USD at the exchange rate on 28.02. 2014, by conversion of the European Central Bank (<http://www.ecb.europa.eu/stats/exchange/eurofxref/html/eurofxref-graph-gbp.en.html>)). Data on the LSE (London Stock Exchange) come from the LSE (<http://www.londonstockexchange.com/statistics/home/statistics.htm>) dated 31.03.2014 respectively and capitalization of the LSE expressed in GBP was converted into USD at the exchange of 31.03. 2014.

Effectively managing portfolio expressed by obtaining high rates of return and considered in the category of process in the era of internationalization of economies, requires taking into account the additional problem of the choice of stock exchanges, on which financial instruments will be purchased. The indicated problem is a challenge for financial institutions even for the reason that in the properly selected stock exchange one can find many undervalued financial instruments for which the acquisition will allow the construction of a diversified portfolio, which has became a benchmark and being used in the marketing campaign, may allow for the acquisition of new customers, resulting at the same time in raising capital devoted to management. The presented problem should be well illustrated by tabular presentation of the number of major stock exchanges in the world.

Table 2 shows the most important stock exchanges in the world, dividing them into four groups. Their selection was based on market capitalization, which is one of the main factors characterizing the attractiveness of the stock exchange. However, the choice of a particular stock exchange (specific exchanges), while the real assessment of the effort required to select financial instruments in the portfolio, can make a huge barrier to the proper portfolio management process. With all this in mind, the management of the portfolio, both from the perspective of financial institutions and individual investors, must concentrate in the era of internationalization on taking up new challenges. Therefore it will be necessary because of the search of new ways to raise returns on investment.

#### **4. Challenges for portfolio management resulting from the impact of the progressive internationalization**

As it was mentioned, in the era of internationalization of economies, the portfolio management process will be focused on new challenges, which in earlier periods

did not have to be taken into account. Firstly, the part of portfolio managers will increase the interest in international diversification of the portfolio. It can afford to become independent of the economic situation of one country and it can get a premium for the risk taken in the form of the potential appreciation of the exchange rate of a foreign state. Apart from that the global capital market offers a wide range of financial instruments [Reilly 1985]. The mentioned method may also be a part of the strategy to protect the value of portfolio [Halicki 2014]. Secondly, restrictions on high-frequency trading (HFT) involving the use of powerful computers will affect a growing number of exchanges, therefore, they will be followed by the resignation of such trade for the deliberate strategy based on “nowcasting”. This term describes a set of techniques for creating short-term (0 to 12 hours) economic and financial forecasts. Thirdly, the financial institutions will limit too high costs of portfolio management, because they underestimate the rate of return achieved [The Scorpio Partnership Private Banking Benchmark 2013], and therefore the salary of portfolio managers and the wealth of managers will increasingly depend on the investment performance and cash acquired. Fourthly, it will be looking for new methods of measuring portfolio risk. This means that it will be treated as one big advantage, which will allow for more accurate calculation of its future value. It is known that the standard models used in portfolio management (e.g. CAPM, MPT) are not able to accurately measure the return and risk even on the grounds that it does not take into account the skewing and kurtosis of the distribution of rates of return. The study points out that investors have the utility functions, which includes the skew distribution of rates of return [Brennan 1979], because the arithmetic mean and standard deviation of rates of return may be a too poor basis for the construction of an optimal portfolio. Therefore, portfolio managers will analyze the distribution of returns of financial instruments not only on the basis of the arithmetic mean and variance, but also taking into account the skewing and kurtosis. Such a proposal can be found in the literature on the management of structured products [Blümke 2013]. Fifthly, too much information will overwhelm the portfolio managers, so they will be forced to seek new methods (techniques) to invest funds that will be based on the use of the latest computer technology. It could be argued that it will be used in two areas of portfolio management. The first one will include the optimization of the portfolio consisting of a very large number of financial instruments and the calculation of the value of the portfolio after taking into account the taxation of capital income (in the case of wealth management services). The second area will include a selection of stock exchanges and specific financial instruments. In the case of the former one, the calculation of the effective boundary of portfolios justifies the use of innovative methods of MPQ (Multi - Parametric Quadratic programming) with the use of action programming in Java. This is due to the fact that the mentioned method allows to calculate the effective border of the portfolio consisting of 2000 securities [Steuer, Hirschberger 2006].

The second area of portfolios of financial instruments will be managed with the use of elements of artificial intelligence. For this purpose there will be used so called Artificial Neural Networks (ANN), which will provide a tool based on experience and intuition for asset management, while taking into account the elements of portfolio analysis and fundamental and technical performance in order to maximize returns on investments in financial instruments. Generally speaking, the method is based on the classical method of computer pattern recognition based on neural networks. The computerized pattern recognition task consists of stages which are closely related to the mapping of objects in space representation. Therefore, the first primary task will be to define these spaces. Financial instruments will be the objects in case of the investment portfolios. Thus, under the ANN the vector representation of objects will be applied. To create space representation of objects, some attributes must be assigned to objects. It should be noted that this issue is difficult and requires careful selection criteria for the formulation of the feature space, taking into account the expected effect. The objective of the portfolio management of derivatives within the ANN will be mapping the representation of the "X" in the "c" dimensional vector space of real numbers [Tadeusiewicz 1993]. It can be mentioned, this methodology will provide the objectivity needed to determine the optimal composition of the investment portfolio. As it is known, investors making investment decisions are often driven by emotions.

## 5. Conclusions

In conclusion, it should be repeated that (in the light of the considerations) the presented portfolio management needs to meet new challenges. These challenges can become, as a consequence, an incentive to achieve superior returns and attract new clients requiring services like wealth management. It is easy to demonstrate why this is happening. The internationalization of economies results in the emergence of new opportunities that may be fully utilized by portfolio managers.

Mainly due to the latest computer technology portfolio management will be an effective tool in the case of investments in many different assets on the domestic and foreign capital markets. In contrast, international portfolio diversification will be a part of the investment strategy not only protecting the value of the portfolio, but also directly affecting the independence of the economic situation of one country. In this context, it is reasonable to conclude that further studies devoted to the above issues are highly desirable in separate publications.

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## **ANALIZA WPŁYWU INTERNACJONALIZACJI GOSPODAREK NA PROCES ZARZĄDZANIA PORTFELEM**

**Streszczenie:** Głównym celem artykułu jest prezentacja wpływu internacjonalizacji na zarządzanie portfelem. Wykorzystywaną metodą badawczą były badania literaturowe i empiryczne. Pokazano, iż zakres umiędzynarodowienia rynków finansowych poszczególnych krajów jest współcześnie zróżnicowany i zależy od wielu czynników. W niniejszej publikacji

dokonano także prezentacji 10 największych banków prywatnych pod względem oddanych w zarządzanie środków pieniężnych oraz wszystkich najważniejszych giełd papierów wartościowych na świecie. Ponadto wykazano, iż internacjonalizacja gospodarki będzie oddziaływać na proces zarządzanie portfelem w ten sposób, że będzie on koncentrował się wokół podejmowania nowych wyzwań. Będą one stanowiły zespół szans wpływających pozytywnie na uzyskiwaną stopę zwrotu i pozyskiwanie nowych klientów.

**Słowa kluczowe:** procesy internacjonalizacji, rynki kapitałowe, zarządzanie aktywami finansowymi, *wealth management*, giełdy papierów wartościowych.