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### ИННОВАЦИОННАЯ СПЕЦИФИКА СОЦИАЛЬНЫХ ПРЕДПРИЯТИЙ

*Исследована суть, особенности и основные направления развития социального предпринимательства в Украине, его специфический характер и особенности в условиях сокращения бюджетного финансирования.*

*Ключевые слова: социальная ответственность субъектов предпринимательства, партнерство государства и бизнеса, ответственность государства перед бизнесом.*

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### INNOVATION SPECIFICITY OF A SOCIAL ENTERPRISE

*The article explores the essence, features and main directions of the development of social entrepreneurship in Ukraine, its specific character and features in the context of reducing budget financing.*

*Key words: social responsibility of subjects of entrepreneurship, partnership of the state and business, state responsibility to business.*

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### INTERNATIONAL FINANCIAL THEORIES AND GLOBALIZATION

*The article analyses international finance as the branch of economics that studies the dynamics of exchange rates, foreign investment, global financial system, and how these affect international trade. It also studies international projects, international investments and capital flows, and trade deficits. It includes the study of futures, options and currency swaps.*

*The article reviews several important theories in international finance including the Mundell-Fleming model, the optimum currency area (OCA) theory, as well as the purchasing power parity (PPP) theory. Whereas international trade theory makes use of mostly microeconomic methods and theories, international finance theory makes use of predominantly macroeconomic methods and concepts.*

*Key words: international finance, international financial theories, Mundell-Fleming model, optimum currency area (OCA) theory, purchasing power parity (PPP) theory.*

**Research problem.** International finance studies the "system" within which people, businesses, governments, and other groups interact in the global economy. Specifically, international finance describes and explains the flows of payments between countries, but, in explaining those payments, international finance inevitably examines how these payments are related to the overall performance of economies and the human societies they inhabit. Specifically, international finance focuses on many types of international transactions between individuals, firms, banks, governments, groups, and organizations in the global economy. These financial flows therefore provide an indication of how dependent we are on foreigners for our daily existence. The study of international finance examines how institutions, such as those that were designed at the Bretton Woods Conference, enable the international monetary system to effectively advance international specialization, risk sharing, and technological progress. And more fundamentally, international finance uses models from open-economy macroeconomics to examine how the international financial system affects all macroeconomic variables that economists normally use to evaluate, explain, and influence the performance of the economic system.

We have relatively few proven theories that can be applied to numerous outcomes and problems in international finance. The financial system that emerged after World War II worked well enough to permit the world economy to recover from the war, and allowed many economies to enter a long and sustained period of rapid economic growth. However, the pegged exchange rates that distinguished the system ultimately proved to be unworkable, and the Bretton Woods system was replaced with another system in 1973.

Economists continued to learn, and policymakers amended their economic policies. Yet, the new system was not able to establish conditions that led to consistent improvements in people's lives. Income disparities across countries grew, and even within most national economies, income distributions became less equal. The mixture of floating and managed exchange rates that characterized the post-Bretton Woods system caused numerous financial crises and deep recessions in many developing countries. Subsequently in 2008, a severe financial crisis and recession spread throughout the entire world, creating the fear of another Great Depression.

International economics is growing in importance as a field of study because of the rapid integration of international economic markets. Increasingly, businesses,

consumers, and governments realize that their lives are affected not only by what goes on in their own town, state, or country but also by what is happening around the world. Consumers can walk into their local shops today and buy goods and services from all over the world. Local businesses must compete with these foreign products. However, many of these same businesses also have new opportunities to expand their markets by selling to a multitude of consumers in other countries. The advance of telecommunications is also rapidly reducing the cost of providing services internationally, while the Internet will assuredly change the nature of many products and services as it expands markets even further [22].

**Literature review.** International finance is the branch of economics that studies the dynamics of exchange rates, foreign investment, global financial system, and how these affect international trade. It also studies international projects, international investments and capital flows, and trade deficits. It includes the study of futures, options and currency swaps. International finance is a branch of international economics.

Important theories in international finance include the Mundell-Fleming model, the optimum currency area (OCA) theory, as well as the purchasing power parity (PPP) theory. Whereas international trade theory makes use of mostly microeconomic methods and theories, international finance theory makes use of predominantly macroeconomic methods and concepts. Among the events that affect the firm and that must be managed are changes in exchange rates, inflation rates, and asset values (and these events are often themselves related). Because of the integration of financial markets, events in distant lands have effects that reverberate in other regions of the world (domino effects, contagion, systemic risk). Even companies with a domestic focus are affected by the global financial environment as they compete with firms that are internationally active. Inflation, jobs, economic growth rates, bonds and stock prices, oil and food prices, government revenues and other important financial variables are all tied to exchange rates and other developments in the increasingly integrated financial market [21].

The objective of International Finance theories is to understand how and why, in a system of free markets and flexible exchange rate, currencies strive to move toward equilibrium. These theories define the relationship between exchange rates (current spot, future spot, and forward), inflation, and nominal interest rate movements.

Purchasing power parity (PPP) involves a relationship between a country's foreign exchange rate and the level or movement of its national price level relative to that of a foreign country. Absolute PPP states that the purchasing power of a unit of domestic currency is exactly the same in the foreign economy, once it is converted into foreign currency at the absolute PPP exchange rate. Relative PPP implies that changes in national price levels are offset by commensurate changes in the nominal exchange rates between the relevant currencies. The voluminous research literature on PPP published in recent decades has been driven by econometric problems relating to univariate and panel unit root tests of necessary conditions for long-run absolute PPP to hold, in particular whether the real exchange rate has any tendency to settle down to a long-run equilibrium level. These include issues such as low power, possible structural breaks, the mixture of stationary and non-stationary error terms in the relevant regressions, and neglected cross-sectional dependence when real exchange rate panel data are used [10].

The appreciation or depreciation of currency prices is proportionally related to differences in nominal rates of interest. The International Fisher Effect (IFE) theory is an important concept in the fields of economics and finance that links interest rates, inflation and exchange rates. Similar to the Purchasing Power Parity (PPP) theory, IFE attributes changes in exchange rate to interest rate differentials, rather than inflation rate differentials among countries. Nominal interest rates would automatically reflect differences in inflation by a purchasing power parity or no-arbitrage system. The two theories are closely related because of high correlation between interest and inflation rates. The IFE theory suggests that currency of any country with a relatively higher interest rate will depreciate because high nominal interest rates reflect expected inflation. Assuming that the real rate of return is the same across countries, differences in interest rates between countries may be attributed to differences in expected inflation rates. The IFE predicts that the country with the higher nominal interest rate will see its currency depreciate. The expected future spot rate is calculated by multiplying the spot rate by a ratio of the foreign interest rate to domestic interest rate. The IFE predicts that the country with the lower nominal interest rate will see its currency appreciate. The expected future spot rate is calculated by multiplying the spot rate by a ratio of the foreign interest rate to domestic interest rate. In the end, investors in either currency will achieve the same average return [15].

Changes in the exchange rate can have a powerful effect on the macro-economy affecting variables such as the demand for exports and imports; real GDP growth, inflation and unemployment – but as with most variables in economics, there are time lags involved. For the shorter term, the IFE has proven to be unpredictable because of the various short-term factors that affect exchange rates and the predictions of nominal rates and inflation. Longer-term International Fisher Effects have on the other hand appeared to be better, but not by very much. Exchange rates eventually offset interest rate differentials, but prediction errors often occur when the objective is to try to predict the spot rate in the future [4].

One of the problems affecting consumers and the world economy is exchange rates fluctuations and interest rates disparities. Among others, exchange rates fluctuations can create inefficiency and distort world prices. Moreover, the long term profitability of investment, export opportunities and price competitiveness imports are all impacted by long-term movements in exchange rates; hence international investors/companies usually have to pay very close attention to countries' inflation. International businesses engaging in foreign exchange transactions on daily basis could benefit by knowing some short-term foreign exchange movements. Those that rely on exports can find their products suddenly competitive – or prohibitively expensive – in overseas markets as exchange rates fluctuate. Similarly, companies that rely on imports can see the costs of these imports rise and fall with the exchange rate. In an extension of capital preservation, companies may use information at hand to decide how much more derivative securities such as options, forwards, and futures to hedge in order to mitigate risk arising from exchange rate movements. In addition, investors and fund managers often use these very tools to speculate as well, hoping to profit from fluctuations in exchange rates. Also, exchange rates directly affect the realized return on an investment portfolio with overseas holdings. If you own stock in a foreign company and the local currency goes up a percentage, the value of your investment goes up the same percentage even if the stock price doesn't change at all.

The IFE theory is very attractive because it focuses on the interest-exchange rates relationship [20].

The "expectations theory of the term structure of interest rates" (Lutz) gives an explanation on the relationship between the yield and maturity for money and capital market investments. In other words, it explains the correlation between short- and long-term interest rates. The theory states that the expected return from holding a long term money or capital market investment until maturity is equal to the expected return from rolling over a series of short term investment with a total maturity equivalent to that of the long term investment. This implies that the long term investment yield is the average of the expected short rates. Equally, the forward rate is the expected future short rate (Kim and Orphanides). Expectations of market participants determine variations in the yield curve. If market participants expect the interest rate to increase, the slope of the yield curve is also expected to rise and vice versa (Cook & Hahn) [9].

The underlying assumption of the expectations theory is the rational expectations hypothesis. The hypothesis states that investors form their expectations of future interest rates rationally. This implies that: (1) there is a stable economic environment. (2) Investors understand this environment and are able to make predictions about future interest rates, that (3) are not systematically wrong and (4) are formed using all public information available at that time. This means that market participants do not systematically over- or under-value the current and future interest rate.

An important implication of the expectations theory is that of the information content in the forward rates. The forward rate is supposed to be equal to the future short term rate. In other words, the forward rate derived today predicts the spot rate tomorrow. Literature focuses on (dis)proving this suspected relation between forward rate and future spot rate.

**Methodology of research.** International economics is a field of study that assesses the implications of international trade, international investment, and international borrowing and lending. There are two broad subfields within the discipline: international trade and international finance.

International trade is a field in economics that applies microeconomic models to help understand the international economy. Its content includes basic supply-and-demand analysis of international markets; firm and consumer behaviour; perfectly competitive, oligopolistic, and monopolistic market structures; and the effects of market distortions. The typical course describes economic relationships among consumers, firms, factory owners, and the government.

International finance applies macroeconomic models to help understand the international economy. Its focus is on the interrelationships among aggregate economic variables such as GDP, unemployment rates, inflation rates, trade balances, exchange rates, interest rates, and so on. This field expands basic macroeconomics to include international exchanges. Its focus is on the significance of trade imbalances, the determinants of exchange rates, and the aggregate effects of government monetary and fiscal policies. The pros and cons of fixed versus floating exchange rate systems are among the important issues addressed.

As a separate subject of discipline, finance is still in its infancy. It was only the latter half of the twentieth century that witnessed most of major developments in finance with scientific rigor. This means that the whole profession of finance had to digest a very large amount of new theoretical developments in a relatively short time period.

Teachers, students, and business people have been continuously introduced to new models, theories, and empirical results thereof over the recent years and the trend continues [14].

Started out as largely a descriptive, institutional field of study, finance has quickly transformed into a science full of theoretical thrusts. While few would dispute its origin as a branch of applied microeconomics, finance now is as theoretical as its mother discipline. The rapid changes in finance have had a profound implication for business education. Especially, such extensive and rigorous theoretical developments over the recent past have made finance teaching in college classrooms increasingly challenging.

Finance is one of the most quantified and theorized disciplines in business curriculum. The dynamic and complex nature of finance requires continuous development of new theories. As intellectual advances in finance continues in the form of more sophisticated theoretical inquiries, the challenge of teaching finance theories will only grow bigger [13].

Over the last several decades there has been an outcry that theory-oriented analytical subjects, such as finance, should make way for more important, newly emerging subjects such as leadership, communication, ethics, global management perspectives, technology, and other soft skills. Besides, the rapid and widespread propagation of educational technology places an increasingly heavy weight on learning and mastering practical capabilities such as spreadsheet skills and thereby disregarding theoretical learning approaches.

No single theory can completely resolve problems. Given the real-world complexities, actual decision-making procedures are often heuristic. Obviously, case study settings can give more accurate descriptions of the real world than any finance theory can. But theories can guide us toward answers. It is theories, not practical rules of thumb based on experiential learning, that help us identify and analyse the right issues in a changing environment.

By adapting theories to the realities of circumstances, we can develop new theories which could shed more light on reasoning process. Theory learning can provide such high-echelon cognitive objectives as "analysis" and "synthesis," which will further develop into accumulation, distillation, and merging ability with respect to similar, divergent, and seemingly unrelated notions. Moreover, as Samuelson points out, finance as an inexact science benefits enormously from theoretical models that are themselves only partially accurate [18].

We should let the student clearly understand why we learn finance theories which often accompany formidable equations. They should know that without theories there is only a mass of meaningless observations (Lipsey et al. 1990). Otherwise meaningless observations in our financial world are theorized into equations, graphs, or articulate verbal statements.

**Results.** One simple way to see the rising importance of international economics is to look at the growth of exports in the world during the past fifty or more years. Recognizing that one country's exports are another country's imports, one can see the exponential growth in outflows and inflows during the past fifty years. However, rapid growth in the value of exports does not necessarily indicate that trade is becoming more important. A better method is to look at the share of traded goods in relation to the size of the world economy. It shows a steady increase in trade as a share of the size of the world economy. World exports grew from just over 10 percent of the GDP in 1970 to over 30 percent by 2008. Thus

trade is not only rising rapidly in absolute terms; it is becoming relatively more important too.

One other indicator of world interconnectedness can be seen in changes in the amount of foreign direct investment (FDI). FDI is foreign ownership of productive activities and thus is another way in which foreign economic influence can affect a country. As can be seen, the share of FDI has grown dramatically from around 5 percent of the world GDP in 1980 to over 25 percent of the GDP just twenty-five years later.

These changes in economic patterns and the trend toward ever-increasing openness are an important aspect of the more exhaustive phenomenon known as globalization. Globalization more formally refers to the economic, social, cultural, or environmental changes that tend to interconnect peoples around the world. Since the economic aspects of globalization are certainly the most pervasive of these changes, it is increasingly important to understand the implications of a global marketplace on consumers, businesses, and governments [4].

The Fisher effect hypothesis was formalized by Fisher (1930) and it states that a permanent change in the rate of expected inflation will cause an equal change in the nominal interest rate in the long run. Thereby, the real interest rate would remain unchanged in response to a monetary shock if the Fisher effect holds. In this long run relation, the Fisher effect hypothesis usually expressed as the sum of the ex-ante real interest rate and the expected inflation rate is equal to nominal interest rate.

The Fisher effect has been a widely accepted theoretical approach. Accordingly, numerous empirical analyses have been applied to test it and a variety of empirical techniques have been used for it. The evidence of these investigations has been mixed and the empirical results have been brought a debate for the validity of it. Some of these studies have been failed to find long term relation between expected inflation and nominal interest rate. However, the others have found the evidence of Fisher effect but also most of these findings are less than one-to-one relations [2].

In testify of Fisher effect, a variety of empirical techniques has been used to test. However, an important reason of the studies given different results is different econometrics methods. Furthermore, the Fisher effect has been empirically investigated time and again for many countries include developed and developing countries, but also most of these investigations have been focused on the developed countries.

Ex ante real interest rates appear to be a key variable when investment – savings decisions and asset prices determination are considered. Their long-run behaviour is often analysed in the context of the Fisher relationship, linking nominal rates to expected inflation and requiring full adjustment of the former to the latter. The importance of this adjustment process stems from the fact that permanent shocks to either inflation or nominal rates should not be translated into permanent disturbances to real rates themselves, which would be problematic in the context of standard models of intertemporal asset pricing [11].

However, thus far the empirical evidence has not been supportive of the Fisher relationship. Numerous studies have found that the slope coefficient in a regression of inflation against nominal rates is significantly different from one, at least over certain periods.

The first of these conditions, i.e. the condition that  $\pi(m)$  and  $\pi(m)$  are cointegrated processes is supported by the bulk of empirical evidence in the literature. On the other hand, when dealing with the second condition, estimates of

$\theta$  appear to be significantly different from unity, leading to the Fisher effect puzzle [6].

Mishkin was one of the first to suggest that due to the apparent nonstationarity of nominal interest rates and inflation a possible source of the low Fisher effect estimates is the spurious regression problem discussed by Granger and Newbold. He correctly pointed out that the Fisher relation should be treated within the context of a cointegrated system, as in Engle and Granger. Mishkin used the Engle-Granger OLS procedure to estimate the Fisher effect but did not derive any strong conclusions due to the large standard errors of the estimated parameters [20].

Subsequent studies used more efficient estimation procedures and generally found support for a long-run Fisher relation in the U.S. Evans and Lewis used the DOLS estimator and Crowder and Hoffman used the Johansen gaussian maximum likelihood estimator. Crowder and Hoffmann suggested that the estimator choice might account for the contradictory evidence gathered so far. In particular, the authors argue that differences in the small sample properties of the OLS, DOLS and JOH estimators are responsible for the vastly different conclusions reached in the literature about the relationship between inflation and interest rates.

More recently, Atkins and Coe found evidence supporting the long-run Fisher effect for both Canada and the US using a variety of interest rates and the ARDL bounds test developed by Pesaran which is capable of testing for the existence of a long-run relationship regardless of the integration properties of the underlying series. Fahmy and Kandil confirmed that inflation and interest rates exhibit common trends in the long-run and move in a one-to-one relation at long horizons, specifically when the assets' maturity exceeds two years. Their dataset includes, except for US, UK, Germany and Switzerland [16].

Caporale and Pittis employed virtually all available single-equation estimators and allowed for alternative data frequencies along with structural breaks. The authors examined whether (i) differences in the estimate of  $\theta$  from one can be attributed to small sample bias and (ii) rejections of the null reflect the use of asymptotic critical values rather than the empirical ones. They found evidence in favour of both claims, which implies that the Fisher hypothesis survives even when less satisfactory estimators are employed provided that the empirical critical values are used. Choosing the estimator with the minimum bias and shift in the distribution of the associated t-statistics, valid inference can be conducted in support of the Fisher identity. However, their study was confined to the US, which is the country usually employed in empirical studies on the Fisher hypothesis. There is some evidence, though, on the nominal interest rates and inflation relationship in other industrialized countries. Testing whether the Fisher relationship holds internationally is of interest since a necessary, but not sufficient, condition for real interest rates to be equalized internationally is that the Fisher relation holds in each country individually.

Rose examined the integration properties of nominal interest rates and inflation for 18 OECD countries. He concluded that inflation does not appear to have a unit root, while nominal interest rates do. By contrast, Koustas and Serletis examined 10 industrialized countries and established that the conditions for meaningful Fisher effects, i.e. that inflation and interest rates are  $I(1)$  and cointegrated processes, hold. The authors, however, were not able to provide strong evidence in support of the Fisher hypothesis, i.e. to establish a unit coefficient [17].

The point of controversy regarding the expectation theory of interest rates, concerns the incorporation of risk in

the theory. Investors in money and capital market investments, for instance bonds are exposed to a certain degree of uncertainty. The nominal return on a bond (unless it's hold to maturity) is unknown. The nominal return of a bond not hold to maturity is dependent on the future interest rate. If nominal interest rate rises, the price of a bond will generally fall (i.e. future coupons payments lose value). This is referred to as interest rate risk. Other risks that investors in bonds are exposed to: (1) credit risk; the risk a borrower is unable to settle payments of a bond. (2) Liquidity risk; entails the loss stemming from being unable to sell a bond fast enough, due to a lack of trading in the market. (3) Currency risk; the potential loss due to a possible depreciation of exchange rate (only applies to foreign investors). (4) Inflation risk; the decrease in real return, due to a rise in inflation rate. The greater the duration of the bond, the longer the investors are exposed to the risks associated with these investments. Investors are believed to require a compensation for this increased exposure, in the form of a higher interest rate for bonds with a longer maturity. This compensation is labelled the "term premium" and is also defined as the forward rate minus the expected future spot rate. The existence of a term premium would explain the normal upward sloping characteristic of the yield curve.

From the risk perspective we can differentiate among three variations of the theory. The pure version of the expectations theory assumes the term premium to be equal to null, therefore ignores the risks associated with money- and capital-market investments. The normal version of the expectations theory does incorporate risk. The term premium is expected to be a possible non-zero constant. The normal version acknowledges the existence of a term premium but considers this premium to be constant over time. The weak version of the expectation theory, regards the term premium as a non-constant (time-varying) value significantly different from null. This version reflects the notion of variation in compensation demanded by investors, depending on the perceived uncertainty regarding inflation, real economic activity and monetary policy. One of the first important empirical researches on the expectations theory of the term structure is conducted by Modigliani and Shiller. They provide a new framework to test the joint hypothesis of rational expectations and the expectations theory of the term structure. In their research Modigliani and Shiller concluded that the long-term interest rate is a weighted average of the expected future interest rate for the U.S. post 1945-period and that expectations regarding this future interest rate are formed rationally. Research that followed was however unable to provide a clear result on the validity of the expectations theory. Sargent and Shiller for example find evidence in favour of the expectations theory. Studies by Friedman, Nelson, Jones and Roley though, reject the joint hypothesis of rational expectations and expectations theory. Mankiw and Miron point out that, although a lot of research from 1970s and early 1980s reject the expectation theory. The majority of this research examines identical periods of historic U.S. Treasury bills market data. Therefore these studies are not independent from one another.

From the second half of the 1980s an increasing amount of empirical research seems to find evidence for predictability of long term interest rates with the help of forward rates. In a study by Fama on one- to six-month U.S. Treasury bills predictive power in the forward rates is found. Fama uses a sample that covers the period between 1959 through 1982. In roughly the first half of the sample, the forward rates are shown to be informative for spot rates three to five months ahead. In the second half

of the sample the information content is reduced to one month ahead. Although Fama finds evidence of predictability using forward rates, he still rejects the pure expectations hypothesis [13].

Mankiw and Miron studied 3- and 6-month interest rates in the US. The sample in use incorporated data over the period 1890 through 1979. The authors compare the predictability of the term structure before and after the founding of the Federal Reserve. Before the founding of the Federal Reserve (1890-1913) they found predictive power in the term structure of interest rates. In all following episodes however they rejected the expectations theory. The authors argue this is due to the interference of the Federal Reserve on the money and capital markets in the periods after it was founded, where much of the Federal Reserve's policy was aimed at interest rate stabilization. This leads the authors to conclude that monetary policy of central banks has distorting effects on the predictability of interest rates.

Cook & Hahn provide additional evidence for this notion of monetary policy interference on the predictability of interest rates. They compare the forecasting power of the yield curve for 3- and 6-months U.S. Treasury Bills against the forecasting power on shorter and longer maturities from earlier studies. The yield curve from 3 to 6 months is found to have little forecasting power, this result is hardly surprising considering earlier studies using this data. Prior studies do however find forecasting power in the yield curve for one-month maturities. Similar results are found regarding the yield curve of long term maturities. Fama and Bliss for example, find substantial predictive power in the yield curve from one to five years. Therefore, the expectations theory seems to hold on the short as well as the long-end of the maturity spectrum, nevertheless is rejected for maturities ranging between 3 and 12 months. Cook & Hahn argue this is due to the interference of the Federal Reserve. By (directly or indirectly) steering the interest rate in the short term, the ability of market participants to predict the future interest rate on the 3 to 12 month spectrum decreases dramatically.

Where previous studies mainly focus on the U.S. market, Hardouvalis takes another approach. In his study he uses a sample that consists of 3-months and 10-year rates taken from the G-7 countries. The study found that the expectations theory appeared to explain the behaviour of the interest rates for all countries except the interest rate behaviour in the U.S. This is a remarkable finding, since prior literature put its attention to the US, to (dis)prove the expectations theory. Hardouvalis is however unable to provide an explanation of this observation.

Gerlach and Smets continued on the finding that interest rates on markets outside the U.S. better comply to the implications of the expectations theory. They conducted a study for the 1-, 3-, 6- and 12-month interest rates of 17 European countries. For all countries the term spread contained information about the future short term rates. On top of this they were unable to reject the expectation hypothesis for the majority of countries. In line with earlier studies, this research rejected the expectation theory for the U.S. market as well. Gerlach and Smets argue this is due to country specific characteristics such as, monetary policy, tax and or legal considerations that are believed to influence predictability of interest rates between countries. The fact that the expectation theory finds greater support outside the U.S. is striking as the common perception was that there is no predictive power in the yield curve for short term maturities. This was, according to Gerlach and Smets the direct result of the narrow scope of prior literature that primarily focused on the U.S. Treasury bill and bond market.

Divergent views exist regarding the question of how interest rate differentials among foreign countries relate to corresponding exchange rate differentials among those same economies. Interest rate parity (IRP) theory suggests that if interest rates are higher in one country than they are in another, the former country's currency will sell at a discount in the forward market (Van Horne). In other words, interest rate differentials and forward-spot exchange rate differentials should offset one another. If not, opportunities for profit by engaging in covered interest arbitrage would exist, although profits must be sufficiently large enough to cover transactions costs and other market frictions [17].

Several studies over the past two decades have examined the validity of interest rate parity in major world markets. Most of these studies have focused on countries with established forward financial markets in foreign currencies since these data are required to test "covered" IRP. The expectation is that the level of informational efficiency of these major markets is higher than other (less established) markets, making IRP more probable and opportunities to earn economic profits from covered interest arbitrage less likely. Moreover, financial market frictions such as the regulatory and political barriers among established markets have decreased over this period, further reducing arbitrage opportunities in foreign exchange markets.

In testing the validity of IRP in emerging markets where no forward markets in currencies exists, "uncovered" IRP is used where the question is whether the change in the actual exchange rate between two countries equals that previously implied by the interest rate differential (Van Horne). The current practical relevance of this issue is that many large hedge funds now in operation seek to exploit market repricings across currencies. Such attempts to earn economic profits should be more risky, but also potentially more beneficial, in less efficient markets like the Asian emerging markets of Korea, the Philippines, and Thailand.

Recent summaries of empirical evidence show support for covered IRP among the United States, Japan, and most European countries in that there is generally an offsetting relationship between interest rates and the forward exchange rate relative to the spot rate, and that the cost of hedging offsets any yield advantage. Specifically, studies such as Rhee and Chang, and Abeysekera and Turtle, find that major global markets are efficient in the sense that profit opportunities from traditional covered interest arbitrage were rarely available in the 1980s and early 1990s. This is due to an (almost) absence of imperfections among these major economies. Most studies also show that IRP is stronger for short-term rates and weakens with longer maturities. However, empirical studies of uncovered IRP show mixed results.

Tests of the unbiased expectations hypothesis are used to study uncovered interest parity. Bakaert and Hodrick conclude that uncovered IRP did not hold through the early 1990s as high-interest-rate countries provided a higher net return, taking account of exchange rate changes, than did low interest rate countries. In other words, currency values of high interest rate countries did not depreciate fast enough to offset their yield advantages. Liu and Maddala also tested the unbiased expectations theory and concluded that the predictor is biased so covered interest parity doesn't hold and that the efficiency of the major currency markets of Japan, Germany, Great Britain, and Switzerland is questionable.

Van Horne summarized evidence of test of uncovered IRP in the mid 1990s as being "less clear", where the IRP equality "more nearly prevailed". Assuming observed exchange rate differentials are beginning to exhibit a closer

relationship with the previous interest rate differential in major markets, several additional questions arise. First, What is the relationship for non-major markets in the rest of world, in particular, those emerging markets in the Asian region (and how does this relationship differ from earlier studies of major global markets)? The prior studies leave the question of whether uncovered interest parity exists in non-major currency markets in post-1990 periods. It is likely that with today's technologically advanced markets, there is less likelihood of finding mispricings in the currency markets of established global economies. However, in emerging financial markets where price information moves more slowly, there should be more opportunities to arbitrage price discrepancies in currency values.

Second, what is the difference from studies of covered, as opposed to uncovered, parity? There is no organized futures or forward markets for most emerging market currencies, although it may be possible to secure a covered position in some of the more developed markets in this group through "tailor made" forward contracts. Even though an investor can occasionally find these arrangements, the lack of market price information leads to illiquidity in this type of futures contract. So, there is no forward market, therefore testing covered interest rate parity would be difficult, if not impossible, for emerging markets. Moreover, given that currency traders engage in asset balancing based on expected future currency values, the testing of uncovered interest parity may be of more interest. This is because uncovered interest arbitrage links spot currency rates, expected future currency rates, and short term interest rates between various markets. It makes sense that uncovered interest rate parity be empirically examined for emerging markets.

If the uncovered markets are not efficient, there are opportunities for and hedge fund managers and other speculators to find and exploit market mispricings. Such opportunities are assumed not to exist in the more efficient currency markets like those in the world's more established economies. If we find that uncovered parity does not hold, then we conclude that the Asian emerging markets of Thailand, Phillipines, and Korea are not completely efficient, and therefore offer arbitrage opportunities. It is likely that these opportunities persist because the underlying country risk of each of these currency markets reduces the number of speculators willing to participate in substantially informationally inefficient markets [11].

Purchasing power parity has been accepted as a central building block in the monetary models of exchange rate determination. PPP is based on a self-evident proposition that the exchange rate of two currencies will be determined by the ratio of aggregate prices of the two countries if market arbitrage enforces broad parity in prices across a wide range of goods and services. The existence of market arbitrage assumes that market mechanism is working [8].

Purchasing power parity (PPP) involves a relationship between a country's foreign exchange rate and the level or movement of its national price level relative to that of a foreign country. Absolute PPP states that the purchasing power of a unit of domestic currency is exactly the same in the foreign economy, once it is converted into foreign currency at the absolute PPP exchange rate. Relative PPP implies that changes in national price levels are offset by commensurate changes in the nominal exchange rates between the relevant currencies. The voluminous research literature on PPP published in recent decades has been driven by econometric problems relating to univariate and

panel unit root tests of necessary conditions for long-run absolute PPP to hold, in particular whether the real exchange rate has any tendency to settle down to a long-run equilibrium level. These include issues such as low power, possible structural breaks, the mixture of stationary and non-stationary error terms in the relevant regressions, and neglected cross-sectional dependence when real exchange rate panel data are used [1].

The purchasing power parity (PPP) theory is an elegant proposition in economics. It is based on the law of one price. The law states that under the assumptions of absence of trade barriers as well as absence of transportation costs, or at low transportation costs, prices in two countries of goods of similar quality when expressed in terms of the same currency, should be identical. The PPP theory is thus enunciated from the aforesaid law of one price as follows: exchange rates between any two countries will adjust over time to reflect changes in their respective price level. Undoubtedly, the PPP theory has enchanted empirical economists over a long time [7].

There have been several empirical studies on the validity of PPP theory which are available with respect of both developed and developing countries. They relate to different times. Some studies are on the same set of countries but were for different sets of periods as well. The findings are nearly universal: the PPP theory has little predictive power in the short run, despite the fact that theory provides some guidance to movements in exchange rates over a period of time. But many studies indicate that the PPP theory holds in the long run. Thus, policy makers are now aware by the findings of these empirical studies that in the long-run, if a given country's price level has been increasing to a relatively higher level than that of another country's price level, its currency would tend to depreciate [3].

The International Fisher Effect (IFE) is a theory which should be considered as a combination of the Purchasing Power Parity (PPP) and the Fisher Effect (FE). The Fisher theory simply argues that real interest rates across countries will be equal due to the possibility of arbitrage opportunities between financial markets which generally occurs in the form of capital flows. Real interest rate equality implies that the country with the higher interest rate should also have a higher inflation rate which, in turn, makes the real value of the country's currency decrease over time.

It is important to note that two crucial assumptions are made for the IFE to hold. First, investors view foreign and domestic assets as perfect substitutes, and, therefore, no risk premium is postulated by investors. Second, capital markets are perfectly integrated with no regulatory and psychological barriers so that free flow of capital is achieved across countries.

Generalized Fisher Effect asserts that nominal interest rate differences are caused by differences in inflation expectations. Besides, if PPP holds, inflation differentials should be offset by exchange rate changes. In conclusion, the IFE hypothesis states that, if real interest rates are equal across countries, the interest rate differential between two countries is an unbiased predictor of the future changes in spot exchange rates. At this point, it should be noted that this does not mean that the interest rate differential is a precise estimator of exchange rates but that the estimation errors will be cancelled out over time [5].

The theories are connected to each other such that, if the home country inflation rate is higher than the foreign country inflation rate, the home country nominal interest

rate should be higher than the foreign country nominal interest rate. Under the assumptions of (1) two country assets being perfect substitutes for each other, and (2) no barriers to capital market integration, the capital flows to home country are observed to cover the advantages of higher interest rates which will result in a depreciation of the home currency relative to the foreign currency.

The International Fisher Effect (IFE) theory suggests that foreign currencies with relatively high interest rates will tend to depreciate because the high nominal interest rates reflect expected rate of inflation. Does the interest rate differential actually help predict future currency movement? Available evidence is mixed as in the case of PPP theory. In the long-run, a relationship between interest rate differentials and subsequent changes in spot exchange rate seems to exist but with considerable deviations in the short run. The international Fisher effect is known not to be a good predictor of short-run changes in spot exchange rates.

Using quarterly and yearly data for the interest rates, inflation rate differentials, and changes in exchange rates over a five-year period, 2003-2008, Suti and Eno applied a test of the IFE to four "foreign countries", namely, the USA, Japan, Singapore, and the UK. Indonesia was the "home country". Regression results showed that interest rate differentials had positive but no significant effect on changes in exchange rate for the USA, Singapore, and the UK relative to that of Indonesia. On the other hand, interest rate differentials had negative significant effect on changes in exchange rates for Japan. Once again, we see mixed results with evidence of IFE holding (though statistically not significant) for the USA, Singapore and UK pairing with Indonesia, while not holding for the Japan pairing with Indonesia [19].

This inconstancy may be explained by the fact that there is a whole host of factors that could cause exchange rates fluctuations. These include foreign exchange supply and demand, balance of payments problems, rising inflation, interest rate, national income, monetary policy, expectations and speculations.

**Conclusions.** International finance applies macroeconomic models to help understand the international economy. Its focus is on the interrelationships among aggregate economic variables such as GDP, unemployment rates, inflation rates, trade balances, exchange rates, interest rates, and so on. This field expands basic macroeconomics to include international exchanges. Its focus is on the significance of trade imbalances, the determinants of exchange rates, and the aggregate effects of government monetary and fiscal policies. The pros and cons of fixed versus floating exchange rate systems are among the important issues addressed.

International finance is the branch of economics that studies the dynamics of exchange rates, foreign investment, global financial system, and how these affect international trade. It also studies international projects, international investments and capital flows, and trade deficits. It includes the study of futures, options and currency swaps. International finance is a branch of international economics.

Important theories in international finance include the Mundell-Fleming model, the optimum currency area (OCA) theory, as well as the purchasing power parity (PPP) theory. Whereas international trade theory makes use of mostly microeconomic methods and theories, international finance theory makes use of predominantly macroeconomic methods and concepts. Among the events that affect the firm and that must be managed are changes

in exchange rates, inflation rates, and asset values (and these events are often themselves related). Because of the integration of financial markets, events in distant lands have effects that reverberate in other regions of the world (domino effects, contagion, systemic risk). Even companies with a domestic focus are affected by the global financial environment as they compete with firms that are internationally active.

Inflation, jobs, economic growth rates, bonds and stock prices, oil and food prices, government revenues and other important financial variables are all tied to exchange rates and other developments in the increasingly integrated financial market. The objective of International Finance theories is to understand how and why, in a system of free markets and flexible exchange rate, currencies strive to move toward equilibrium. These theories define the relationship between exchange rates (current spot, future spot, and forward), inflation, and nominal interest rate movements.

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### ТЕОРІЇ МІЖНАРОДНИХ ФІНАНСІВ І ГЛОБАЛІЗАЦІЯ

*Проаналізовано міжнародні фінанси як галузь економіки, що вивчає динаміку валютних курсів, іноземні інвестиції, глобальну фінансову систему, а також їхній вплив на міжнародну торгівлю. Вона також вивчає міжнародні проекти, потоки міжнародних інвестицій і капіталу і торговельний дефіцит. Також проведено дослідження ф'ючерсів, опціонів і валютних свопів.*

*Проведено огляд декількох найважливіших теорій міжнародних фінансів, а саме: моделі Манделла – Флемінга, теорії оптимальної валютної зони (ОСА), а також теорії паритету купівельної спроможності (PPP). Обґрунтовано, що поді як теорії міжнародної торгівлі використовують переважно мікроекономічні методи і теорії, теорія міжнародних фінансів використовує переважно макроекономічні методи і концепції.*

*Ключові слова: міжнародні фінанси, теорії міжнародних фінансів, модель Манделла – Флемінга, теорія оптимальної валютної зони (ОСА), теорія паритету купівельної спроможності (PPP).*

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### ТЕОРИИ МЕЖДУНАРОДНЫХ ФИНАНСОВ И ГЛОБАЛИЗАЦИЯ

*Проанализированы международные финансы как отрасль экономики, которая изучает динамику валютных курсов, иностранные инвестиции, глобальную финансовую систему, а также их влияние на международную торговлю. Она также изучает международные проекты, потоки международных инвестиций и капитала и торговый дефицит. Также проведено исследование фьючерсов, опционов и валютных свопов.*

*Проведен обзор нескольких важнейших теорий международных финансов, а именно: модели Манделла – Флеминга, теории оптимальной валютной зоны (ОСА), а также теории паритета покупательной способности (PPP). Обосновано, что тогда как теории международной торговли используют преимущественно микроэкономические методы и теории, теория международных финансов использует преимущественно макроэкономические методы и концепции.*

*Ключевые слова: международные финансы, теории международных финансов, модель Манделла – Флеминга, теория оптимальной валютной зоны (ОСА), теория паритета покупательной способности (PPP).*