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# CORPORATE RISK ASSESSMENT IN TERMS OF FIXED ASSET FORECASTING METHODS

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## ABSTRACT

*This paper further carries the authors' research into the forecasting model of fixed assets taking into account the minimum possible step (abrupt) change in production capabilities. The considerations focus on the impact of a step change in fixed assets on the results of risk measurement at the level of the computerised financial model of the enterprise, which is the financial statement. Using the Monte Carlo simulation method, the authors pointed out that the application of fixed asset forecasting model taking into account the step change in production capabilities affects the volatility of financial values over time in a significant and unique way. Additionally, the paper shows that financial forecasting taking into account the risk of entrepreneurial activity using the Monte Carlo method in order to visualise the future financial situation of an enterprise requires not only observation of risk measures, but also graphic interpretation of the obtained results.*

**Keywords**: corporate finance, fixed assets, forecasting, risk analysis, Monte Carlo

**Introduction**

In an enterprise, forecasting is based on the development of a computerised financial model that illustrates its business operations in the most precise manner possible. By definition, the company's financial model is a simplified financial statement including elements such as the income statement, balance sheet, cash flow statement and other presenting financial events occurring in the enterprise covered by the forecast. The development of a financial model requires a number of retrospective and prospective financial data. In terms of the fixed assets management, the following are particularly important: depreciation schedule providing information about the value of depreciation write-downs and their impact on the level of net fixed assets, repayment schedule of long-term liabilities providing information on foreign sources of financing investment activities and the costs of servicing this debt, as well as the schedule of dividend payments allowing to determine actual, own sources of investment financing.

Various approaches and methods are used to forecast the value of fixed assets. A popular solution is direct or indirect dependence of the fixed asset level on sales, by designating investment expenditures on fixed assets (e.g. Rees 2008) or fixed assets themselves (e.g. Benning 2008) as a percentage of sales. The main advantage of such methods is versatility in the context of various types of entrepreneurial activities of enterprises. If the enterprise can flexibly adjust the level of fixed assets to the required production capabilities, then in forecasting fixed assets it can apply the method based on the assumption that it is possible to determine the minimum step change in production capabilities. Then, the production capabilities, and consequently, the fixed assets change in steps in relation to changes in demand (and thus changes in sales) (Ciupek, Kaczmarzyk 2017). As it has been proved, the application of the model with a minimal step change in production capabilities when it comes to forecasting fixed assets enables a precise reflection of the financial situation of the enterprise in conditions of stability of the internal and external environment of the enterprise, resulting in taking risk-free decisions. However, taking into account the fact that the enterprise's environment is unstable and the need to take risk-adjusted decisions **for the aim of the paper, the assumption has been adopted that the implementation of the minimum step change in production capabilities in the enterprise's financial model has a significant impact on the basic financial values and ratios resulting from the risk-adjusted forecast.** The purpose will be verified by measuring the entrepreneurial activity risk of a hypothetical enterprise using the Monte Carlo method with the use of a computerised financial model taking into account a step change in production capabilities.

**Theoretical background of risk-adjusted forecasting of fixed assets**

Financial planning in an enterprise requires the development of a financial model of its entrepreneurial activities, taking the form of a financial statement adapted to local formal requirements and reporting practices. For several decades, the concept of financial model has not only been associated with a set of related mathematical equations, but with a computerised tool – most often prepared using a spreadsheet. There are many comprehensive concepts for creating financial models of enterprise's entreprenurial activities (e.g. Day 2003, Benninga 2008, Rees 2008, Tjia 2009, Sengupta 2010, Proctor 2010).

In the financial model of an enterprise, the main elements are the income statement, balance sheet and cash flow statement. The depreciation schedule is an element that supplements the information on the status of fixed assets. The depreciation schedule for fixed assets is particularly important in terms of the purpose of the paper, because the figures set at its level shape the income statement and balance sheet values, resulting in a direct change in cash flows from operating and investment activities. Most often in the practice of financial planning the value of depreciation write-downs is reflected in the financial projection as a percentage of the initial value of net fixed assets, while investment expenditures for the purchase of fixed assets are presented as a percentage of sales (Rees, 2008, p. 104, Sievers, Klobucnik, 2013 pp. 947-984, Doffou 2015, p. 165). Another solution used in planning procedures is to determine the net fixed assets as a percentage of sales and to calculate depreciation based on the average level of fixed assets according to the acquisition cost (net fixed assets plus accumulated depreciation) (Benninga, 2008, p.109). The projection of net fixed assets may also be brought to the projection of the ratio: net fixed assets in the current period/sales and the ratio: depreciation/net fixed assets in the previous period (Jennergren 2011, p. 11). The literature also points to the approach in which depreciation can also be determined on the basis of a depreciation schedule – then the value of net fixed assets is calculated on the basis of their initial value less accumulated depreciation (Sengupta, 2010, p. 275). However, taking into account the fact that the relationship between sales revenue and depreciation is indirect, an approach is proposed in which depreciation is calculated separately for each subsequent period covered by planning, including investment expenditures from a given planning period (Tjia, 2009, pp. 337-338).

The model for fixed assets forecasting with the minimum possible step change in production capabilities assumes that: changes in demand entail changes in the demand for production capabilities which require change in fixed assets, and these changes, like changes in production capabilities, take place in a step-by-step manner. The enterprise acquires the necessary assets at the market price in a situation where there is a shortage of production capabilities and sells unnecessary fixed assets in a situation where there is an overcapacity at the book value. Additionally, the enterprise replaces the fixed assets that have been subject to economic wear and apart from the above, replaces a certain part of fixed assets at the assumed replacement rate (Ciupek, Kaczmarzyk 2017, pp. 20-23). As a result of the adoption of this method for forecasting fixed assets in the model for financial planning, the relation is observed: the higher the minimum possible step change in production capabilities is, the lower the stability of cash flows (Figure 1).

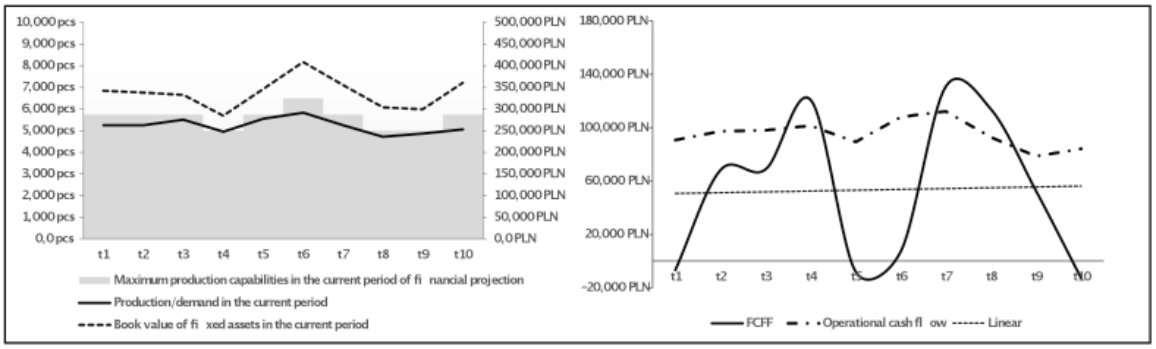


**Figure 1 An example of the cash flow forecast result with the minimum possible change in production capabilities**

Source: Ciupek B., Kaczmarzyk J., 2017, Forecasting fixed assets and their depreciation in conditions of volatile demand for production capabilities, Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu, No. 482, p. 27

In this context, the question arises how the model of forecasting fixed assets with a step change affects the results of entrepreneurial activity risk forecasting. In order to find an answer to such a question, it is necessary to carry out test risk measurements. The Monte Carlo simulation is considered to be the most comprehensive method of risk measurement, the concept of which derives from the scenario analysis (Kroese et al., 2014, p. 388, Brealey et al., 2014, p. 254, Chapman, 2006, p. 177; compare Lam, 2003, p. 111, Golden and Golden 1987, p. 54). The essence of the simulation is to consider almost all possible scenarios in the prospective financial analysis of the enterprise. The traditional and popular scenario analysis is, in comparison with the Monte Carlo simulation, a limited risk measurement tool allowing to consider only small number of scenarios (Figure 2).

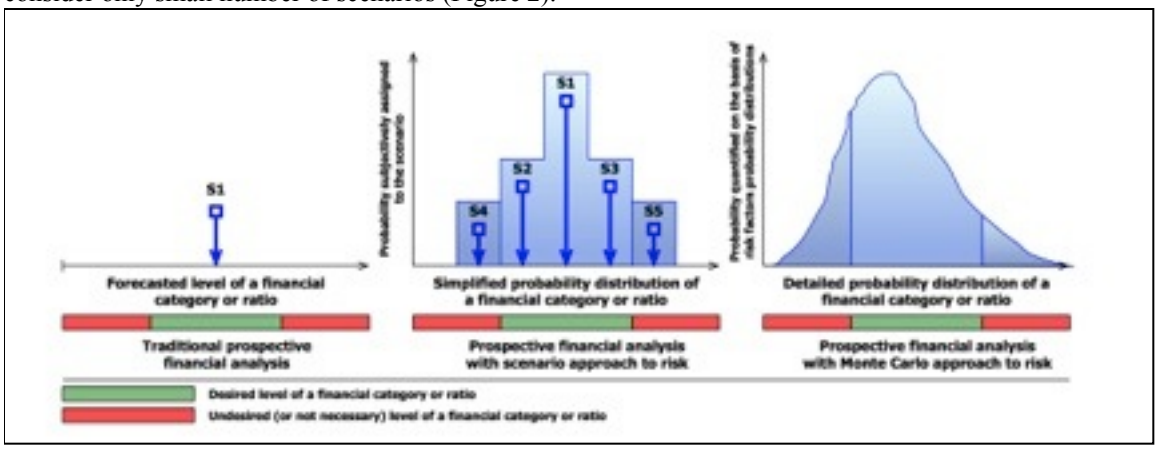


**Figure 1 The basic advantage of the Monte Carlo approach in prospective financial analysis**

Source: Kaczmarzyk J., 2016, Prospective financial analysis with regard to enterprise risk exposure – the advantages of the Monte Carlo method, Nauki o Finansach, No. 2 (27), p. 26

The main advantage of the Monte Carlo simulation is the way of reflecting changes in risk factors that can be simultaneous, non-linear and interdependent, which is close to the business reality of the enterprise (Kaczmarzyk 2016, p. 27). In essence, the Monte Carlo method consists in generating risk factor scenarios taking into account the individual probability distributions assigned to them. Risk factor scenarios are processed in the financial model to obtain corresponding risk variable scenarios (Vose, 2008, p. 45; Rees, 2008, p. 137; Gentry and Pyhrr, 1973, p. 70; Hertz, 1964, p. 102).

Taking into account that the purpose of the paper is **to indicate that the implementation of the minimum step change in production capabilities in the financial model of an enterprise has a significant impact on the basic financial values and ratios resulting from a risk-adjusted forecast – a test risk measurement was carried out in a hypothetical enterprise.**

**Measurement of entrepreneurial activity risk taking into account the step change in production capabilities – a case study**

For the purpose of the case study, a computerised financial model of a hypothetical enterprise was prepared, comprising a depreciation schedule for fixed assets, a long-term debt repayment schedule, an income statement, a balance sheet, a dividend payment schedule, and a cash flow statement (See: Appendix 1). The depreciation schedule is based on the fixed assets forecasting model, taking into account the minimum possible change in production capability. The input variables of the depreciation schedule include: changes in demand over the entire projection period, initial value of demand and maximum value of production capability. In addition, unit sales prices and acquisition prices of fixed assets are included in the depreciation schedule. Moreover, the depreciation schedule includes not only the depreciation rate but also the replacement rate. The next module of the financial model was a schedule of long-term debt repayment assuming equal capital and interest instalments. Input variables include the initial value of the debt, the interest rate and the number of annual instalments remaining to be repaid. The income statement includes changes in the volume of revenue based on a predetermined demand and a unit sales price. In addition, there were established the total variable costs, which are determined by the demand volume and unit cost, as well as fixed costs independent of changes in demand. The income statement also includes financial activities of the enterprise, in particular financial income from interest bearing short-term investments and financial costs related to short-term debt adequate to the cash demand and financial costs related to long-term debt according to the repayment schedule. The dividend payout schedule sets the remuneration for the owners based on the fixed dividend rate and the assumption that it is paid out if there was a net profit in the previous period. The balance sheet takes on an analytical character, where equity only contains share capital and retained earnings. On the assets side, apart from fixed assets, the balance of inventories and receivables as well as short-term investments with the division into interest-bearing (deposited) and interest-free investments (in line with the minimum required cash balance) were taken into account. Inventories, receivables and interest-free investments have been determined based on cycles. The liabilities include the balance of long- and short-term debt as well as trade payables determined by the cycle of liabilities. Short-term interest-bearing investments and short-term debt are determined iteratively on the basis of the demand for financial resources. The final element of the computerised financial model is the cash flow statement drawn up using the indirect method on the basis of the income statement and balance sheet data defining cash flows from operating, investment and financial activities. In addition, the financial model determined the Free Cash Flow to Firm (FCFF) value, commonly used in the decision-making practice of enterprises.

Among further assumptions, it should be pointed out that: the enterprise offers one product; the enterprise uses 100% of its production capabilities in $t_0$ period (as a consequence of any increase in demand in the next projection period, it will require the purchase of fixed assets); the enterprise repays the long-term debt in accordance with the repayment schedule, while the short-term one – when funds permit, the enterprise maintains a certain minimum level of cash and deposits any surplus in short-term financial investments.

**In order to verify the impact of the method for forecasting fixed assets whereby the minimum achievable step change in production capabilities affecting the result of risk measurement was taken into account, a simulation was carried out using the Monte Carlo method for the various sets of assumptions**, in which the following risk factors were preassumed:

- annual rate of change in demand in the subsequent 10 projection periods (RF1),
- annual rate of change in price in the subsequent 10 projection periods (RF2).

For both considered risk factors, the normal distribution of changes was assumed and it was accepted that these changes are interdependent in each projection period. Moreover, FCFF was adopted as a risk variable for each projection period.

As part of the risk measurement, several different sets of assumptions were considered (Table 1) and different levels of the minimum achievable step change in production capabilities were adopted. It was assumed that the enterprise expects a specific growth rate of demand and that the actual growth rate of demand may differ from the expected one. A similar assumption was made for the price. It was also inferred that price changes and changes in demand are positively correlated. The higher the rate of change in demand is, the higher the rate of change in price (within the assumed ranges of volatility). The assumed linear correlation coefficient at the level of +0.8 (average correlation force) means that the change in the rate of change in demand explains the change in the rate of change in price in 64% (determination coefficient).

**Table 1. Considered sets of assumptions**

| Scenario | Risk factor | Expected value | Standard deviation | Correlation | Minimum step change in production capabilities |
|---|---|---|---|---|---|
| #01 | Rate of change in demand (RF1) | 2.00% | 0.50% | +0.8 | 100 pcs |
| | Rate of change in price (RF2) | 1.50% | 0.30% | | |
| #02 | Rate of change in demand (RF1) | 2.00% | 0.50% | +0.8 | 500 pcs |
| | Rate of change in price (RF2) | 1.50% | 0.30% | | |
| #03 | Rate of change in demand (RF1) | 2.00% | 0.50% | +0.8 | 750 pcs |
| | Rate of change in price (RF2) | 1.50% | 0.30% | | |
| #04 | Rate of change in demand (RF1) | 2.00% | 0.50% | +0.8 | 1 000 pcs |
| | Rate of change in price (RF2) | 1.50% | 0.30% | | |
| #05 | Rate of change in demand (RF1) | 2.00% | 0.50% | +0.8 | 1 250 pcs |
| | Rate of change in price (RF2) | 1.50% | 0.30% | | |

Source: own study

For each of the assumed scenarios, a risk measurement was carried out using the Monte Carlo simulation in a Microsoft Excel spreadsheet. In line with the assumptions, 5,000 scenarios were generated and processed in the financial model, including the rate of change in demand along with the interdependent price change rate. To generate interdependent changes in risk factors, the Cholesky decomposition was adopted (more on the generation of interrelated random numbers in a spreadsheet in: Kaczmarzyk 2016, pp. 98-107, Wilmott 2006, pp.1275-1276).

The analysis of scenarios assuming the expected increase in demand allows to state that the higher the minimum possible step change in production capabilities is, the higher the volatility of FCFF. Though, the method of increasing volatility is not entirely obvious. In the case of the smallest considered change in production capabilities (S # 01, 100 pcs), it can be observed that the FCFF volatility range increases relatively smoothly. In other cases (S # 01-05), when the minimum change in production capabilities is higher (greater than or equal to 500 pcs), step increases in the FCFF volatility range can be observed (Figure 3). A step increase in the volatility range (considered in the examined case as a symmetric interquantile range covering 98% of the possible values of the risk variable) is negative (it should be noted that there is a disadvantageous shift of 1% of the quantile). The step increases in volatility are accompanied by drops in the expected FCFF (Figure 4). The higher the assumed minimum possible change in production capabilities is, the less frequent the periodic increase in volatility and it may be more severe. The scale of this periodic increase in volatility is also well illustrated by the FCFF standard deviation value (Figure 5).

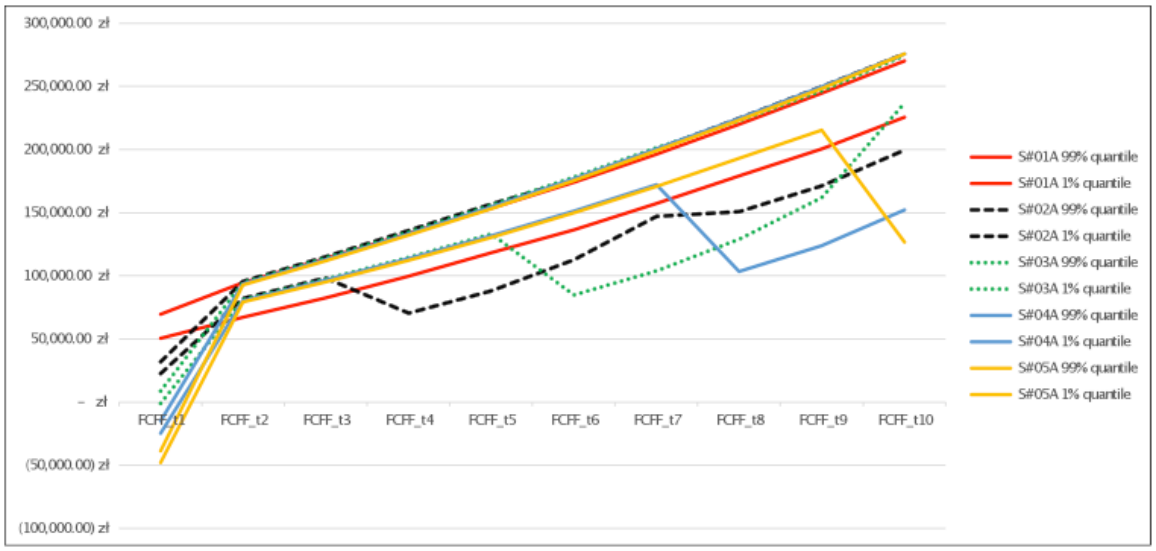


**Figure 3 FCFF interquantile range for scenarios assuming demand and price increase**
Source: own study

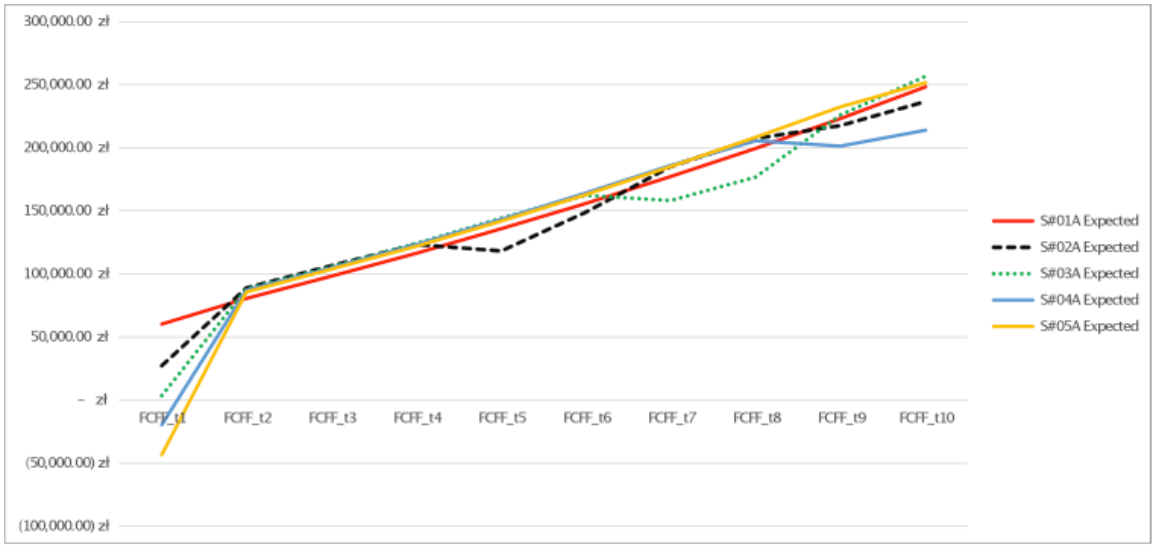


**Figure 4 FCFF expected value for scenarios assuming demand and price increase**
Source: own study

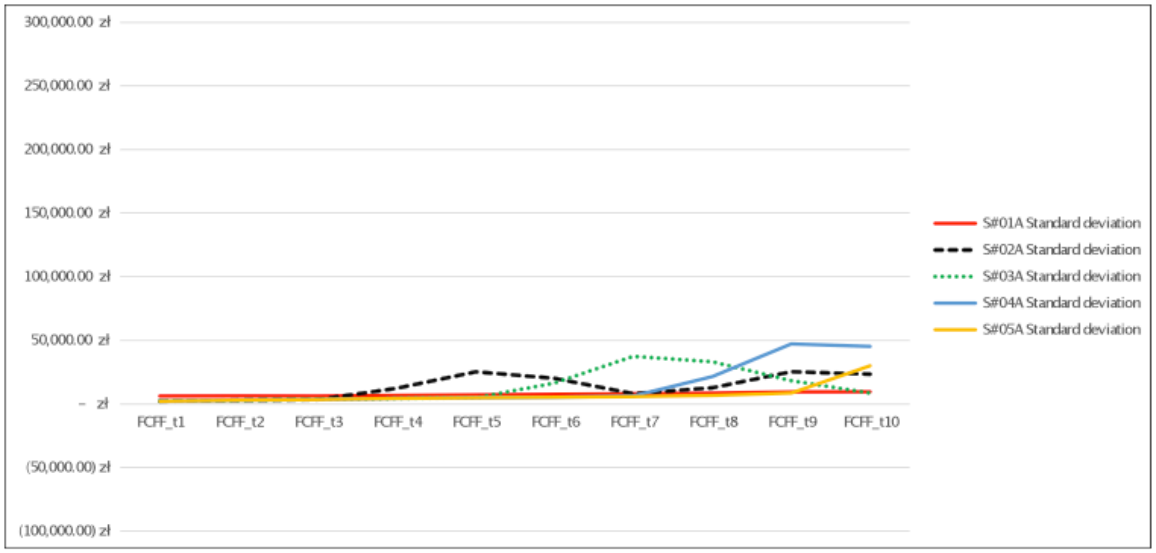


**Figure 5. FCFF standard deviation for scenarios assuming demand and price increase**
Source: own study

It should be emphasised that the assessment of the interquantile interval, the expected value and the standard deviation do not give a comprehensive picture of the risk. Only a graphical assessment of the FCFF probability distribution in individual projection periods allows to conclude that the inclusion of a step change in the forecasting of fixed assets results in a unique shape of these distributions. A comparison of the frequency rate function for particular periods of the financial projection with a relatively low (100 pcs – Figure 6) and high (500 pcs – Figure 7) minimal achievable step change in production capabilities allows to look more closely at the impact of this parameter on the FCFF volatility. In the case of a step change of 100 pcs in the first projection period, the distribution shows 'two expected values', after which in the next projection periods distributions have one expected value. Observing the frequency functions, one can clearly notice a gradual increase in FCFF volatility over time (Figure 6).

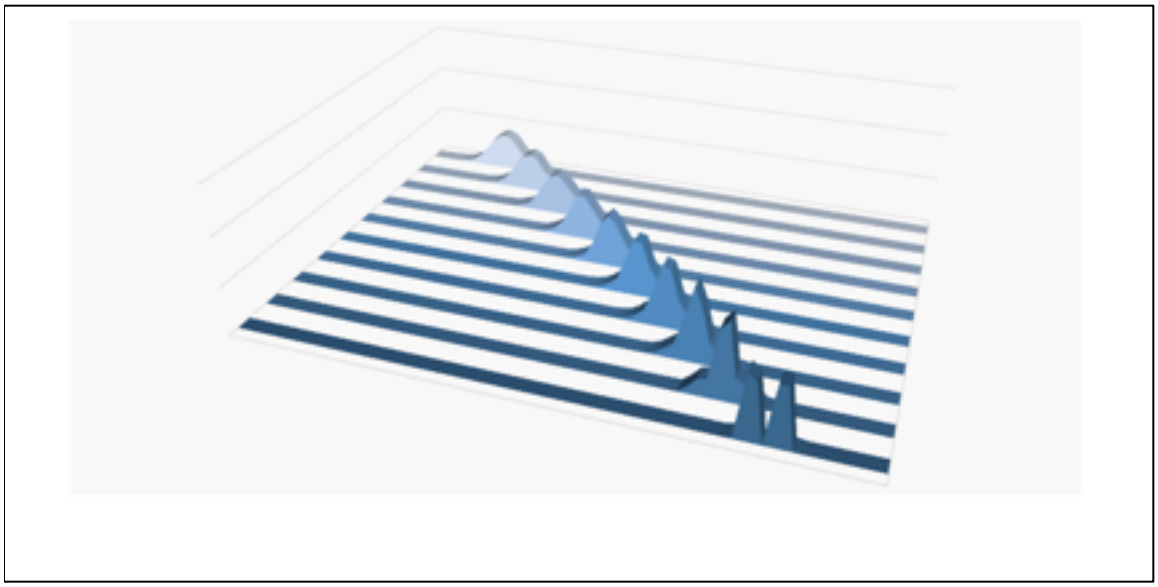

**Figure 6. Frequency function for FCFF in subsequent projection periods – 100 pc step change**
Source: own study

In the case of a step change by 500 pcs, it can be noticed that the volatility is lower in the first projection periods, then in periods t4 – t6 and t8 – t10 there is a significant increase in the volatility range

and a significant change in its shape. It should be noted that there is an 'additional', in this case an unfavourable, expected value.

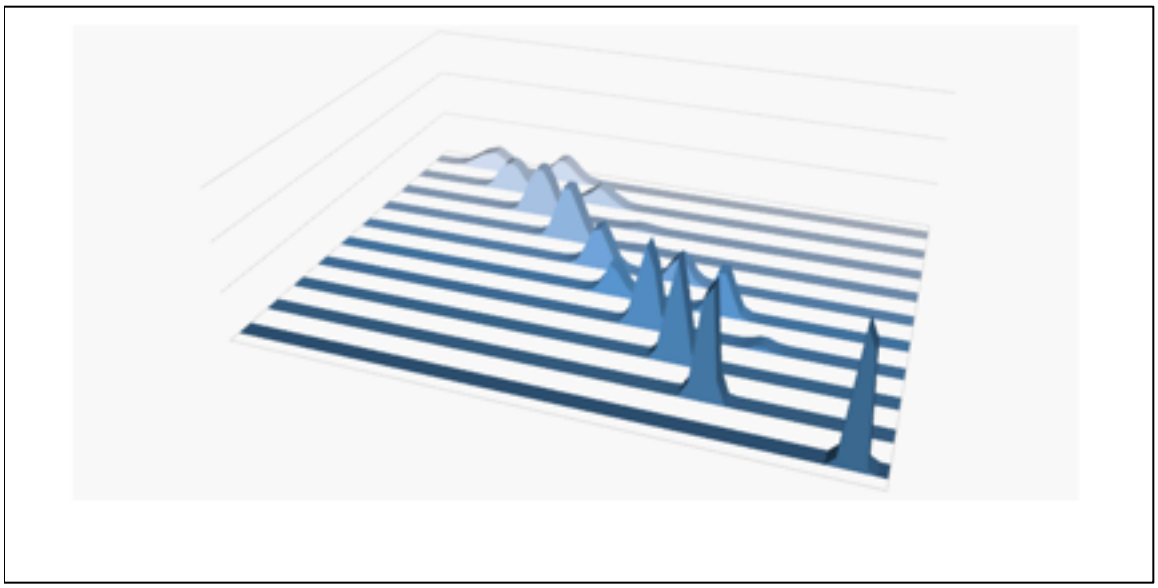

**Figure 7. Frequency function for FCFF in subsequent projection periods – 500 pc step change**
Source: own study

**Conclusions**

The use of the method of forecasting fixed assets based on the minimum achievable step change in production capabilities in the financial modelling in the enterprise significantly affects the results of the financial projection that takes into account the risk –which could not be clearly stated assuming a stable business environment. It should be emphasised that the assessment of interquantile range, expected value or standard deviation does not fully illustrate the nature of increasing volatility. Only the graphical analysis of FCFF probability distributions for subsequent projection periods allows to determine their unique shape. Uniqueness means that the average or median value (median) is not the most probable value or the closest value. In this case, accepting the risk on the basis of the average value may be subject to error. It is worth noting that the smaller the minimum possible change in production capabilities is, the less relevant the problem becomes. Therefore, enterprises, which can adapt fixed assets flexibly to the required production capabilities, should consider using the forecasting model for fixed assets with a step change.

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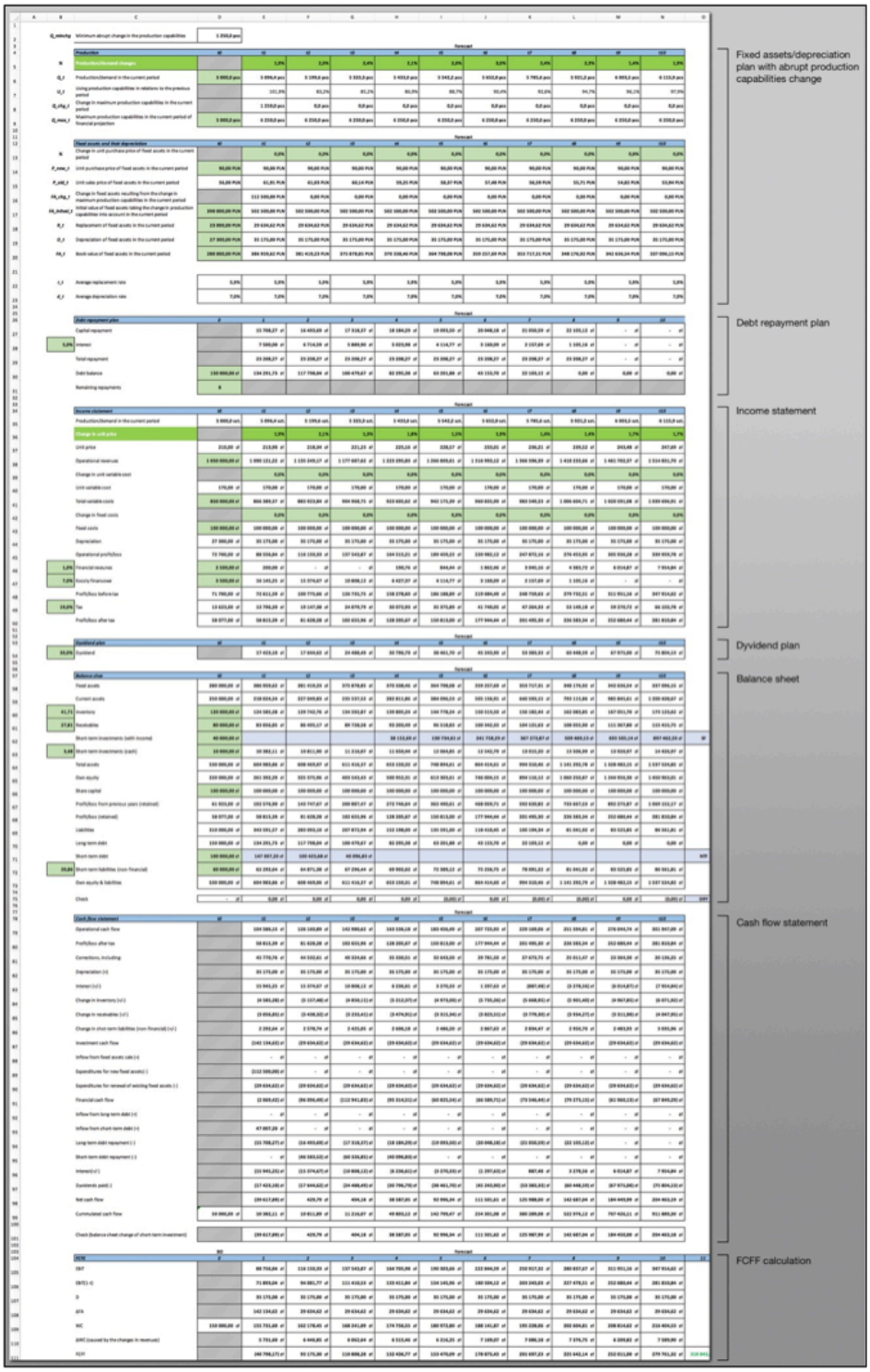
## Appendix 1 – Financial model



# ROLE OF SMES IN LEBANESE ECONOMY

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## ABSTRACT

*In Lebanon, the majority of organizations work as Small and Medium Enterprises (SMEs). SMEs play an important role in the monetary improvement of numerous countries. This paper utilizes current viewpoints to analyze the variables influencing venture, efficiency and development of SMEs in Lebanon. It explores main factors affecting investment and productivity as follows: flexibility, customers and employee's relations, motivation of the owners, education of the labour force, access to infrastructure, access to finance, size of firms and other business climate variables. Other business climate variables are insecurity, bribe or corruption, the amount of time that businesses spend dealing with government regulation, poor power availability, etc.*

*The most concerning issue for small and medium sized enterprises(SMEs) is not the idea or the product provided and neither its customers, but their needs. High costs of operations and office space are basics to the survival of a private venture. Incubators come as a reaction to the necessities of SMEs in key strides of a business, for example, commencement and market entrance. An incubator aims to have a positive effect on the economic health of an area, of a community even on a country.*

## Introduction

Since the 1960s to date, small and medium sized enterprises (SMEs) had been given due recognitions in particular in the developed countries for taking principal roles in the direction of fostering accelerated fiscal development, development and stability inside a number of economies (Yitzhaki, 2006).

Over the last few many years, the contributions of the SMEs sector, the progress of the biggest economies on the earth have beamed the searchlight on the uniqueness of the SMEs; and this have succeeded in overruling previously held views that SMEs have been simplest —miniature types of bigger corporations (Al-Shaikh 1998; Gaskill et al. 1993).

The survival of the SMEs during the latest economic crisis pushed Collins, in 2010, to find out why some enterprises declined while others persisted. (Aliouat and Nekka, 2011) also conducted research to find out the reasons that "make some SMEs operate properly, against all odds, in these environments".

Small and Medium Enterprises (SMEs) plays a huge part in the financial improvement and destitution lessening of numerous countries. SMEs are found in a wide exhibit of business exercises. These extents from the single craftsman creating farming actualizes for the town showcase, the coffeehouse at the corner, the web bistro in a residential area to a little complex building or programming firm offering in abroad markets and a medium-sized car parts maker pitching to multinational automakers in the household and remote markets (OECD, 2014). The expansion in consideration in SMEs has turned out to be more vital since the monetary effect of the 2007/2008 money related emergency on economies all around (Igwe, 2016; Igwe, Onjewu and Nwibo, 2018). With globalization, creating nations are winding up progressively reliant for universal trade of products and enterprises, work, development and innovation. This wonder requests that all economies end up proactive, distinguish openings that offer near points of interest and make inventive moves to financial development, work creation and flourishing.

For example, up to date studies conducted with the aid of United Nation Industrial development organization (UNIDO) concur that SMEs are: labour-intensive, delivering more possibilities for low-expert staff, correlated with curb earnings distribution inequality, quintessential for agriculture-elegant countries transitioning to an industrial and repair-oriented financial systems,

quality sites for innovation and sustainable initiatives due to their inherent flexibility and risk-taking potential (Patricoff& Sunderland, 2005).

Small and medium agencies play predominant roles within the economies of most of the developed and setting up nations, chiefly in Lebanon, and influence enormously on employment production, earnings distribution, and dispersion of industries.

The importance of the SME sector and the informal sector is stated internationally, defining SMEs as challenging mission, after which every nation has its own definition.

There is not any single, uniformly accepted definition of a small company (Storey, 1994). Corporations fluctuate of their levels of capitalization, sales and employment. Hence, definitions which employ measures of dimension (e.g. Number of workers, turnover, profitability and net valued at) when applied to a sector could lead to all firms being categorised as small, while the equal dimension definition when applied to another sector would result in yet another outcome.

The Lebanese economy faces a complexity of issues, which are rooted in socio-monetary constitution and history of violence and injustice. Consequently the low agricultural productivity, famine and established droughts; excessive population progress, low human resource development, excessive transport expenses and environmental degradation make a contribution drastically to the structural issues which resulted in large macroeconomic difficulties.

Besides, social problems, the human useful resource base and the general productive apparatus and programs, had been also littered with the conflict .For that reason the destruction of the social material, the lack of men and women′s confidence and trust in every different expand extra the poverty and vulnerability of the Lebanese people peculiarly in rural areas.

On this context, the Lebanese government′s superb purpose is to create a new social, political and economic framework that have to tackle the issues of the nation. The government of Lebanon have to develop a coverage that promote the creation of alternative ways of achieving high incomes, employment, a coverage which encourages entrepreneurs to make contributions more positively to fiscal development in the nation. Entrepreneurs are encouraged in enforcing small and medium agencies which play a paramount role on financial development

Many countries are facing low productivity growth, weak trade and investment, and rising or persistently high inequality. In addition, major trends, including the new industrial revolution, the changing nature of work and demographic changes, call for innovative policy solutions.

The population of SMEs is very diverse in terms of age, size, business model and the profile and aspirations of entrepreneurs. They vary in their characteristics and performance, including across sectors, regions and countries. These differences have implications for how policies are designed and targeted.

The objectives of this paper are to inspect the elements that influence efficiency and development of SMEs and business enterprise in Lebanon. It adds to information on the business ecological issues and difficulties in Lebanon. We inspect five fundamental determinants of profitability, which incorporate instruction of the work compel, access to foundation, access to back, size of firms and different business atmosphere factors. The measurements of business atmosphere factors are frailty, influence or debasement, the sum of time that organizations go through managing government direction, practices of casual exercises, expense and exchange directions, and so forth.

**The definitions of SMEs**

Small and medium-sized companies (SMEs) are an extraordinarily heterogeneous workforce. SMEs are located in a vast array of trade routine, ranging from the only artisan producing agricultural implements for the village market, the espresso store at the corner, the web café in a small town to a small subtle engineering or application corporation selling in abroad markets and a medium-sized car components brand promoting to multinational automakers within the home and overseas markets.

The house owners may just or might not be poor; the firms function in very exclusive markets (urban, rural, neighbourhood, national, regional and worldwide; embody unique levels of expertise, capital, sophistication and growth orientation, and is also within the formal or the casual economy. The abbreviation ″SME″ is used in the European Union and by global organizations such because the World bank, the United international locations and the World alternate institution . Small corporations out number colossal firms by using a huge margin and also rent many more humans. SMEs are also said to be liable for driving innovation and competitors in lots of financial sectors

In addition, the united states of America, the Small trade Administration units small business standards based on industry, possession constitution, sales and quantity of employees (which in some circumstances could also be as high as 1500, even though the cap is almost always 500). Both the United States and the EU more commonly use the identical threshold of fewer than 10 employees for small places of work.

**European Union**

In July 2011, the EU Union commission said it will open a session on the definition of SMEs in 2012. In Europe, there are three broad parameters which outline SMEs:

- Micro-entities are businesses with up to 10 staff
- Small companies appoint up to 50 workers
- Medium-sized corporations have up to 250 workers.

The European definition of SME follows: "The class of micro, small and medium-sized corporations is made up of enterprises which hire fewer than 250 people and which have an annual turnover no longer exceeding 50 million euro, and/or an annual stability sheet whole not exceeding forty three million euro.

ECU member states have had individual definitions of what constitutes an SME. For illustration, the definition in Germany had a limit of 255 workers, at the same time in Belgium it would had been 100. The influence is that even as a Belgian business of 249 employees could be taxed at full rate in Belgium, it could however be eligible for SME subsidy below a ECU-labeled programmed.

In keeping with German economist Hans-Heinrich Bass, "empirical study on SME as well as policies to promote SME has an extended lifestyle in West Germany, dating again into the 19th century. Except the mid-twentieth century most researchers regarded SMEs as an impediment to extra economic progress and SME policies had been for this reason designed in the framework of social policies.

Simplest the Ordo-liberal tuition, the founding fathers of Germany's social market economic climate, found out their strengths, viewed SME as a strategy to mid-20th century economic problems (mass unemployment, abuse of fiscal energy), and laid the foundations for non-selective (realistic) industrial policies to promote SMEs.

Canadian industry defines a small trade as one with fewer than one hundred staff (if the trade is a goods-producing one) or fewer than 50 workers (if the business is provider-situated), and a medium-sized industry as one with fewer than 500 employees. While enterprise Canada may have screening criteria headquartered on SME qualification, corresponding to eligibility for subsidies, it isn't the tax authority in Canada.

Establishments in Canada are probably taxed at 29% federally. Canadian controlled exclusive businesses acquire a 17% discount within the tax fee on taxable sales from active firms as much as $500,000. This small trade deduction is diminished for businesses whose taxable capital exceeding $10M, and is fully eliminated for businesses whose taxable capital exceeds $15M.

In China, the definition of a small-medium company most of the times situated on the number of employees that by and large with fewer than 500 workers; In China, the definition of an SME is complicated, which is dependent upon the enterprise category and situated on the quantity of employees, annual earnings and whole belongings, and this standards on small and medium-sized corporations are established on the SME promotion law of China (2003), which sets the rule of thumb for classifying SME's.

1. The principal dimension of the SMEs is drastically smaller than the gigantic and listed organizations in China as a result of the scale of their capital inventory, credit allowance.

2. After the reformations of presidency legislations in 2005 for they prefer of SMEs in China, at the present time, SMEs have been running in distinct branches of organizations reminiscent of manufacturing, services, development, transport and retailing. This help has helped the emergence of many extra SMEs in China which means there's even better demand for financing all these SMEs

3. Small organisations also make up significant share of SMEs in China which often lack the degree of specialization and cooperation within the production areas. This is most commonly considering that that there is lack of presidency legislations that helps and shows directions for SMEs in China.

4. The primary marketplace for SMEs is the domestic market of China which is when you consider that SMEs cannot take care of fierce competition in the worldwide markets or does not have advantage over overseas-invested businesses with high-tech. Because of scarcity of dollars,

most SMEs function most commonly in labour-intensive small and medium industries as the technological development is slow for them.

**SMEs in Lebanon**

SMEs play a particularly important role in developing countries. They are a major source of employment, incomeand export earnings. (OECD, 2004). In the MENA region, SMEs constitute 99% of companies and provide 2/3 of workstations (Koldertsova, 2006). In Lebanon, there is no official definition for SMEs, or their contribution to the Gross Domestic Product. Estimates from the World Bank show that 90.2% of SMEs have less than 5 employees. (Koldertsova, 2006).

Additionally, fiscal and monetary policies of the postwar highlight an enormous debt. The Central Bank persevere an efficient banking system that carries considerable national savings, a major asset to big business performance. But as the Lebanese productive sector consists of small and medium enterprises, the recession becomes more significant. This sector is weakening by the day. Debt policy that has been followed since 1990 by the governments of former Prime Minister Hariri made the interest rates relatively high on debt.

**Monetary progress**

Typically refers back to the sustained, concerted movements of coverage makers and communities that promote the ordinary of dwelling and fiscalwell-being of a detailed discipline. Monetary development will also be referred to as the quantitative and qualitative alterations in the economy.

Such moves can involve multiple areas including development of human capital, important infrastructure, regional competitiveness, environmental sustainability, social inclusion, wellbeing, protection, literacy, and different initiatives.

Financial progress, in step with Harvard Professor Michael E. Porter is the ″lengthy-term procedure of building a quantity of interdependent microeconomic capabilities and incentives to support extra advanced varieties of competition.″ These capabilities and incentives, that have been at the start recognized in Porter′s The aggressive competencies of countries, 1990, include the nature and extent of the inputs required through companies to supply items or services; the foundations, incentives and norms governing the style and intensity of regional rivalry; the first-

rate of demand for neighbourhood offerings; and the extent and satisfactory of regional suppliers and associated industries.

Monetary development differs from economic growth. Whereas fiscal progress is a policy intervention endeavour with ambitions of monetary and social well-being of persons, financial growth which is a phenomenon of market productiveness and upward push in GDP. As a result, as economist AmartyaSenFacets out: «economic development is one side of the system of economic development.

Monetary development can be described as an approach that influences development and restructuring of an economic climate to increase the monetary health of a community. In the broadest feel, fiscal progress encompasses three essential areas:
1. Insurance policies that executive undertakes to fulfill extensive financial ambitions including inflation control, high employment and sustainable growth.
2. Policies and programs to provide offerings together with constructing highways, managing parks and supplying scientific access to the deprived.
3. Insurance policies and packages explicitly directed at making improvements to the trade local weather via precise efforts, business finance, marketing, neighbourhood development, industry retention and expansion, science switch, real property development and others.

The fundamental intention of monetary progress is bettering the fiscal health of a group by way of efforts that entail job production, job retention, tax base enhancements and exceptional of existence. As there′s no single definition for financial progress, there is not any single method, coverage or application for attaining successful financial progress. Communities vary in their geographic and political strengths and weaknesses. Every neighbourhood therefore, will have a targeted set of challenges for financial progress.

**Financial Sector Development**

Given the present global economic crisis, budgetary administrations foundation and direction merits specific consideration as it has incredible effect on SMEs. This incorporates the control of banks and loaning, laws securing leasers, the frameworks for settling business debate, directions of the privileges of borrowers and loan bosses, manages on repossession of guarantee, credit registries and the related implementation components.

Laws allowing repossession of insurance vowed in return for advances are in critical segment of the administrative system fundamental for obligation accumulation and the arrangement of credit. Without them budgetary organizations might be hesitant to loan to business. Another imperative part of the budgetary framework, which helps banks in giving credit, is a credit registry. Their capacity is to record the credit reimbursement accounts everything being equal. Having a record of reimbursements can impartially help distinguish those with a sound reimbursement history and the individuals who have defaulted on credits.

Laws adequately directing bankruptcy and taking into account the efficient conclusion or restoration of bothered firms are a critical piece of the budgetary administrative condition. By accommodating business courts, the arrangement of private bankruptcy trustees to oversee rearrangement or liquidation of bankrupt firms, and loan boss assurance laws, among different zones, can make a more unsurprising money related condition that will give credit all the more effortlessly to SMEs.

Directing the money related detailing and revelation practices of banks and other credit suppliers likewise is a vital segment of a sound venture structure. Open trust in monetary organizations is a critical segment of present day economies.

**Growth and Development**

Dependency theorists argue that negative nations have typically skilled financial development with little or no economic progress initiatives; for illustration, in instances the place they′ve functioned almost always as useful resource-vendors to wealthy industrialized nations. There may be an opposing argument; however, that growth reasons progress due to the fact one of the most develops in income will get spent on human progress similar to education and wellness.

In keeping with Ranis et al., fiscal development and is a two-way relationship. Furthermore, the primary chain contains economic development benefiting human development with the upward push in economic progress, families and individuals will seemingly develop bills with heightened incomes, which in turn lead to growth in human development. Additional, with the improved consumption, health and schooling grow, also contributing to fiscal progress. In addition to increasing exclusive incomes, monetary development also generates additional resources that can be utilized to give a boost to social offerings (similar to healthcare, dependable drinking water, and so on.).

By using generating additional resources for social offerings, unequal income distribution might be mitigated as such social offerings are disbursed equally throughout every group, thereby benefiting every character. Concisely, the relationship between human development and monetary progress can be defined in three methods. First, develop in normal earnings results in development in wellbeing and nutrition (often called capability enlargement by way of fiscal development). Second, it is believed that social results can most effective be elevated through lowering earnings poverty (known as capability growth by means of Poverty discount).

Finally, social effects may also be accelerated with primary services equivalent to education, healthcare, and smooth drinking water (known as ability growth via Social services). John Joseph Puthenkalam's, research objectives on the procedure of economic growth theories that lead to fiscal development. After examining the present capitalistic development-progress theoretical equipment, he introduces the brand new model which integrates the variables of freedom, democracy and human rights into the present models and argues that any future fiscal development-progress of any nation depends on this rising mannequin as we witness the third wave of unfolding demand for democracy in the center east.

He develops the competencies sector in development theories with two new ideas of 'micro competencies' and 'macro advantage'. Micro talents are what a man or woman learns from institution or from various current competencies and macro advantage is the core philosophical thinking of a nation that each one individuals inherently acquire. Easy methods to combine each these talents would investigate additional progress that results in economic progress of establishing countries.

Yet others consider that a quantity of normal constructing blocks ought to be in place for growth and development to take situation. For instance, some economists suppose that a primary first step toward development and growth is to address property rights issues, otherwise handiest a small part of the fiscal sector shall be capable to take part in development. That is, without inclusive property rights within the equation, the casual sector will stay external the mainstream economic climate, excluded and without the identical possibilities for be trained.
Access to entrepreneurship competencies, management and workforce skills, technology, innovation, and networks, is also critical to enable SME growth.

In many countries, enabling SMEs to seize growth opportunities over time is a policy priority to address low productivity growth and widening wage and income gaps. SMEs that grow, in terms

of employees, turnover profitability or market share, can have a considerable impact on employment creation, innovation, and the competitiveness of national and sub-national economies, as well as contribute to raising wage and income levels.

OECD work shows that the share of young SMEs in total job creation is about twice as large as their share in total job destruction or in total employment. However, the majority of new enterprises fail in the first years of activity and post-entry growth varies widely across countries. Surviving start-ups scale up faster in high-risk sectors, such as telecommunications, scientific research and development and IT services. Older SMEs and older large firms continue to account for the bulk of employment across countries, but create fewer jobs than they destroy (Calvino et al., 2016).

Regional policies of economic development

In its broadest sense, policies of economic progress embody three fundamental areas:
1- Governments mission to fulfill huge financial objectives corresponding to price stability, excessive employment, and sustainable growth. Such efforts comprise economic and fiscal

insurance policies, legislation of monetary associations, trade, and tax policies.
2- Programs that provide infrastructure and offerings equivalent to highways, parks, low-

cost housing, crime prevention, and schooling.
3. Job construction and retention by way of unique efforts, business finance, marketing,

local development, body of workers development, small business development, business retention and growth, technology switch, and real property development. This third category is a main focal point of monetary development experts.

4- One growing understanding in monetary development is the promoting of regional clusters and a thriving metropolitan economy. In latest international landscape, place is vitally important and turns into a key in aggressive expertise.

5- Global trade and alternate premiums are a key challenge in monetary development. Currencies are generally both beneath-valued and over-valued, resulting in alternate surpluses or deficits.

General overview of Small and medium enterprises (SMEs)

The growth and progress of micro-corporations as well as small and medium scale organisations has been principal to the monetary development of East African international locations ( Mamadou March, 1996).

Many governments and specialized small and medium enterprises development corporations and associations have lengthy been engaged in supplying help for the institution of small and medium firms and for his or her development and progress activities.

This the most likely by way of the construction of an enabling environment, for illustration fiscal and economic policies which can be geared towards encouraging progress of small and medium companies, pre-investment feasibility surveys, services for raw materials and different inputs, infrastructure amenities and domestic assistance.

Small and medium organizations are a key aspect in financial lifestyles, no longer most effective considering of their number and form but additionally seeing that of their catalytic function in the economic system. They play a complementary role in the support of the colossal sector, and are a floor for innovations and diversifications. They can be visible as a kind of commercial breeding floor, a supply of constant renewal of industry and commerce, and a wellspring of competitors' dynamism (Tarner et al 1989).

Governments, organizations, global associations, personal and public traders and all other development associations are turning their concentration to the small-scale organisations. Efforts to advertise financial progress by establishing gigantic industries have on the whole didn′t beef up the lot of majority of the population. Within the constructing nations, small and medium companies are seen as a fundamental element in the monetary progress (Malcolm, 1976).

This section provides a large overview of small manufacturer definitions used throughout the globe with the target of figuring out what is an SME. This understanding will go some distance in comparing and benchmarking results from distinctive studies.

SME definitions can also be widely categorised into two, «fiscal» and «statistical» definitions. Under the fiscal definition, a firm is regarded as small if it meets the following three standards:
1- It has a relatively small share of their market situation;
2- it is managed by way of house owners, or part house owners, in a personalised approach and no longer by means of the medium of a formalized administration constitution; and
3. it′s independent in that it′s not part of a larger organization.

The «statistical» definition, alternatively, is utilized in three most important areas:

1- Quantifying the dimensions of the small organization sector and its contribution to GDP, employment and exports;
2- Comparing the extent to which the small firm sector′s fiscal contribution has converted over time; and

3- In a cross nation evaluation of the small corporations′ financial contribution.
These definitions, nevertheless, have a quantity of weaknesses. For instance, the financial definition, which states that a small business is managed by way of its homeowners or section homeowners in a customized manner and no longer via the medium of a formal administration constitution, is incompatible with its statistical definition of a small manufacturing company which might have up to 200 employees. In keeping with UNIDO, the definition of SMEs is an enormous quandary for coverage progress and implementation and is dependent especially on the purpose of the classification. For the purposes of policy development, UNIDO in general advises international locations to recollect the quantitative and qualitative indications for SME definition.

**Infrastructure**

Both large and small firms are influenced by poor foundation however it can be all the more overwhelming to SMEs. Enormous organizations might be more ready to fabricate their very own portion foundation when government fails to meet expectations, yet such self-arrangement is more troublesome for SMEs. At the point when governments neglect to give adequate amount and nature of foundation, they successfully force a quiet expense on business that is show through slower taxpayer supported organizations –, for example, traditions clearances – higher transport costs because of clog and harm to vehicles made by poor streets, higher expenses because of self- arrangement of power, water and different administrations. the area managing framework requires an approach that is fundamental and in light of a sound, comprehensive process for setting needs.

Related areas are the directions concerning open foundation offering, which can be an enticing focus for debasement, tricky business hones and political impedance. Subsequently a sound speculation atmosphere ought to incorporate clear rules and different types of straightforwardness to guarantee that foundation reserves are spent decently and to the greatest

advantage of the nation. Open offering standards should set out determination criteria, keep arrangement or debasement from impacting choices and keep irreconcilable situations from affecting the choices of obtainment authorities. Outlining forms with the goal that SMEs may share out in the open tenders can be an imperative SME advancement system

When contracts are marked, financial specialists likewise ought to be shielded from one- sided changes to contract conditions by governments. An adjust must be struck between people in general intrigue – which looks for the most astounding quality framework at the least value – and business interests, which need to make a reasonable profit for their endeavors.
Specific framework sectors influence SMEs unevenly. Long held as government imposing business models that have frequently failed to meet expectations, new innovation and administrative practices is permitting a few nations to include the private part considerably more viably in these zones. They incorporate telecommunications, electricity arrangement (counting co-age), and transport framework and administration (counting streets, toll-streets, ports, rails, air terminal administration and particular fare administrations, as farming dealing with terminals and chilly stockpiling stops. Water foundation can be critical to numerous organizations, especially in horticulture, mining and agri-processing.

**Popular types of small and medium enterprises**

Small industry exist in every form of industry, agriculture, forestry, and fishing, mining , construction, manufacturing, transportation , communication, and utilities, wholesale exchange, retail alternate, finance, insurance, and real property, and services. So as of value, nonetheless, they′re principal in retail trade, services, development, wholesale alternate, and manufacturing.

Retail companies promote their products instantly to patrons. But they are tens of thousands of small retail corporations, such as bakery, greeting card, record, attire, jewellery and numerous different varieties of stores and stores.

- Traits of the SME Sector

This learns noted that the small industry section of the economy is heterogeneous with companies ranging in dimension from micro-corporations to moderately tremendous companies. Small organizations are very diverse and have unique wants. They function within the formal and informal economies. Some are without problems survivalist whereas others are run

with the aid of humans with an entrepreneurial flair. Some are start ups; some are developing speedily; others are experienced and highly refined. They operate in extraordinary markets, nearby, national and global (Wikipedia, October 2007).

No single coverage can duvet all these businesses, formal and casual, working in unique industrial sectors and with many sector specified challenges. Accordingly, data categories must be sufficiently differentiated to provide special and nuanced know-how to support distinctive policy approaches and realistic interventions.

It′s valued at reconsidering whether SMEs should be considered as «one crew» because the acronym infers. For policy functions, a one- size-matches-all technique without doubt is not going to work

Factors needed for development of small and medium enterprises

1- Greater flexibility:: small firms are on the whole extra flexible than gigantic firms. For instance, they are able to adopt their plans speedily in response to environmental changes. Giant organizations, which many layers of administration, cannot reply as rapidly.

2- More personal attention to customers and employees: small industry homeowners have more direct contact with their patrons and have a greater believe for what they want than very big business. They are able to most often respond to changes in purchasers' preferences as good as present extra individual provider.

3- The relationship between the owners of small business and their employees can be mainly more direct and private than in many huge industry, where administration tends to be in contact with workers although labour and management representatives.
Lower fixed costs: : small corporations mainly have decrease fixed costs than big organizations. Fixed costs are charges that don′t fluctuate because the quantity of industry alterations. Consequently the small firm might be competent to promote its product at shrink rate than a giant competitor with excessive constant bills.

4.Greater entrepreneurial and innovative fervour: an entrepreneur is a risk taker who begins and operates a trade in hope of making a profit. The employed managers who run huge firms seldom preserve any gigantic ownership in them. They have much less to gain through taking the hazard,

for illustration, of constructing new products. As influence, they are going to are usually overly conservative in walking the establishments.

5- Greater motivation of the owners, employed managers almost always would not have a giant possession stake of their organisations. Small trade owners do, and this in itself can encourage them to work more difficult.

In addition, the desire to be independent and act as one′s owner boss is a powerful motivator (NORMAN M. Scarborough, 1999 p. 103 as much as 106).
Ten just right matters ISO necessities can do for small and medium companies

1- Standards aid you compete on a level taking part in subject with higher companies

2- Specifications open up export markets in your merchandise and offerings

3- Requisites help you realize best trade practices

4. Requirements force efficiency in your enterprise operations

5- Specifications add credibility and self-assurance for your purchasers

6- Requisites open new industry opportunities and sales

7- Specifications provide the aggressive part

8. Requirements make your company title internationally well-known

9- Specifications aid your corporation grow

10- Standards permit a customary « language » to be used throughout an industry sector

Principles of good regulation for Small and Medium Enterprises

1- Proportionality:
The effect of law on small industry is recognized, beginning an correct stability between hazard and fee. Unnecessary demands are not placed on regulated small business.
2- Transparency:
Coverage ambitions, including the need for legislation, are clearly outlined and comfortably communicated to those concerned. These being regulated understand their responsibilities and understand what to count on from the enforcing authorities.

3- Accountability
Proposals are released and all these affected are consulted before choices are taken.
4. Consistency

New laws are constant with present regulations. Rules are utilized continuously throughout the country.

The importance roles of SMEs in the economy

The significance and potential contribution of the SME sector are supported through both theoretical and empirical arguments and proof. We turn first to the former. A part of the contribution of the SME sector both to the overall whole element productivity (efficiency, as commonly outlined) of an economic system and to employment generation and distributional equality comes by advantage of its pattern of technology choice.

SME technology tends to be intermediate between the incredibly labour intensive technologies of micro manufacturer, which hence achieve simplest low typical labour productiveness, and the particularly capital intensive technologies of enormous businesses which thereby acquire excessive labour productivity, but use extra capital per worker than is to be had for the economic system as a whole.

Given this correlation between measurement and capital intensity, it turns into a foregone conclusion that an economic system that applies a excessive share of its capital to a small workforce need to necessarily have, as the other part of the coin, a massive casual or microenterprise sector that makes use of very little capital (the bit now not utilized by the large-scale sector) with the colossal amount of labour not employed by way of the enormous corporations.

Its intermediate technology attribute is what offers the SME sector a specific function (at the side of small-scale agriculture) in the new release of adequate or respectable employment. When most jobs are within the micro manufacturer sector, too lots of them are destined to be low productivity and for this reason low sales in character.

SME organizations can also be considerably extra productive, so in terms of the expertise to generate «decent» jobs this sector competes with massive personal businesses and the federal

government, however it has the abilities of being competent to generate many extra such jobs for a modest enter of capital.

The key mechanism in producing first rate employment in most setting up international locations entails the expansion of this sector speedy enough to take in people previously unemployed (just a few) or engaged in low productiveness casual sector jobs.

In a globalizing world it′s naturally important that as many predominant categories of corporations as feasible have the ability to compete in world markets. The importance of an efficient collaboration between tremendous corporations and SMEs by way of subcontracting is at its top in outward oriented nations particularly these competing in international markets in merchandise involving a great deal of labour. Being ready to depend of efficient low cost subcontractors can considerably broaden the competitiveness of the large exporters, and has been an major aspect underpinning the successes of Japan, Taiwan and Korea( Palma and Gabriel, January 2005).

On the empirical side, some facets are original to close to all SME sectors. The important confident facets have, naturally, long gone with these instances where SMEs have made the biggest optimistic contribution. Wide empirical proof highlighting the importance of SMEs includes the tips that:
1- the most triumphant setting up nation over the last 50 years, Taiwan, is built on a dynamic SME sector. This has produced both (for its time) document breaking progress and a relatively low degree of inequality, with the aid of comparative necessities.

2- The expertise of Korea, Taiwan′s accomplice among the many Asian Tigers and a kind of equally speedy grower, has provided the laboratory to illustrate one more point-inequality can fall enormously when the load of the SME sector rises rapidly, because it did for a interval after the mid-1970s in Korea.

3- Colombia′s golden age of growth, from the late 1960s via the 1970s, coincided with very speedy expansion of the manufacturing SME sector and with an apparent decline in urban inequality.
4- SMEs have a tendency to make use of medium-sophistication technology, which is approximately constant with the aspect endowment ratios in most establishing countries.

5- Many businesses «grow into» or «develop out of» the SME dimension variety, with both of those transitions having anything confident to be said for them.
6- The SME size range is where many primary entrepreneurs and organizations of the longer term get their start

Is it any correlation between Small and medium enterprises, business environment and Growth?

Efforts unique on the SME sector are usually headquartered on the premises that SMEs are the engine of growth, but market imperfections and institutional weaknesses obstruct their development. Sceptics question the efficacy of this policy and point to empirical evidence either in favour of big corporations or of a measurement-blind coverage technique. While many country-level and microeconomic stories have assessed the value of SMEs in the financial development and industrialization method (Snodgrass and Biggs, 1996), Beck, Demirguc-Kunt and Levine (2005a) furnish the primary move-country proof on the links between SMEs, financial development, and poverty alleviation, using a new database compiled through Ayyagari, Beck and Demirguc-Kunt (2003).

Pass-nation regressions of GDP per capita progress on SMEs share in manufacturing employment exhibit a strong constructive relationship over the Nineties, even after controlling for an array of different country traits that can account for differences in development across nations.

Instrumental variable regressions that explicitly manage for reverse causation and simultaneity bias, however, erode the value of the connection between SMEs and monetary progress. The regressions do not always result in the conclusion that SMEs do not foster fiscal progress. Instead, they fail to reject confidently the hypothesis that SMEs don't exert a causal impact on GDP per capita growth. This finding is regular with the view that a tremendous SME sector is a characteristic of speedy-developing economies, but no longer a cause of their speedy development. Beck, Demirguc-Kunt and Levine (2005a) also don't find any proof for any association of a giant SME sector with faster earnings growth of the lowest sales quintile and faster charges of poverty reduction.

Whilst to our pleasant knowledge there is not any mighty go-nation proof on the connection between the industry environment and financial progress, industry-degree, company level and survey evidence constantly exhibit a positive organization of a competitive trade environment

with entry, entrepreneurship and investment. Klapper, Leaven and Rajan (2006) exhibit that one channel by means of which the trade environment affects financial progress is the entry of recent businesses.

By using making use of company-stage survey knowledge for 52 countries, Demirguc- Kunt, Love and Maksimovic (2012) exhibit that one of the vital causes for this variant in the likelihood of incorporating is the fact that incorporated firms face scale back boundaries to their progress in nations with better developed fiscal sectors and efficient legal programs, robust shareholder and creditor rights, low regulatory burdens and corporate taxes and efficient chapter techniques.

Organizations report fewer financing, authorized and regulatory limitations than unincorporated firms and this expertise is better in nations with extra developed associations and beneficial trade environments. Extra, they find some evidence of greater development of integrated corporations in nations with just right financial and legal associations.

Using survey data from interviews with entrepreneurs and non-entrepreneurs in seven cities across Russia, Djankov et al. (2004) furnish additional proof for the value of the business atmosphere for the determination of becoming an entrepreneur. They to find that additionally to many private characteristics the belief of corruption and government officials′ angle closer to entrepreneurship influences the selection to end up an entrepreneur.

In a similar way, Johnson et al. (2002) in finding that entrepreneurs in transition economies usually tend to reinvest their profits if they consider more comfy about property right defense in their nation, at the same time Cull and Xu (2005) in finding that Chinese entrepreneurs are more likely to reinvest their earnings if they are more optimistic within the procedure of property rights security and have less difficult entry to credit, with this effect being improved for small companies.

Are exceptional dimensions of the industry atmosphere equally important? Making use of corporation degree survey knowledge on the industry environment throughout eighty nations, Ayyagari, Demirguc-Kunt and Maksimovic (2005) investigate the have an effect on of entry to finance, property proper defence, provision of infrastructure, inefficient law and taxation, and broader governance facets akin to corruption, macroeconomic and political stability on corporation development.

They show that finance, crime and political instability are the one limitations which have a direct have an impact on organization growth and finance is essentially the most potent one in every of these. Together, these outcome suggest that it is important to have a competitive industry environment that enables for the entry of latest and progressive entrepreneurs resulting in the Schumpeterian procedure of «inventive destruction» instead than quite simply having a huge SME sector, which probably characterized with the aid of a enormous quantity of small corporations which might be neither in a position to develop nor to exit.

Certainly, a colossal, however stagnant SME sector could also be a by using- manufactured from a poor industry environment itself. In addition, the prevailing proof suggests that access to finance performs an extraordinarily principal function in the overall business atmosphere, potentially constraining each organization entry and development (Thorsten Beck and AsliDemirguc-Kunt , February 2006)

**Limitations of Small and Medium enterprises in Lebanon**

Small and medium corporation force comes from the potential of smaller companies to react rapidly and flexibly to adapt to market realities and to take talents of opportunities that would not be an abilities to larger organizations. Small agencies grow to medium organizations as they′re increasingly able to strengthen the assets to develop out of their nearby fiscal process.

Hundreds of small companies working on the micro level, taking abilities of neighbourhood assets and possibilities, type the bottom of a healthy economic system via offering regional services, jobs and imparting or processing for bigger corporations and markets. Despite the fact that large assisting initiatives had been undertaken through the government, they have did not create the enabling environment essential to boost the sector.

**Key challenges include:**

1. Constrained resources and human potential for prior initiatives meant they have been unable to fulfill the mandate of SME development or to extend their services country-vast
2. Restricted coordination and partnership in these initiatives meant that many ongoing events, within the public and exclusive sector, were not sufficiently related and harmonized to maximize their expertise for SME development.

3. A constrained coverage atmosphere missing focal point and a prioritization of cluster and sector precise policies supposed that the final policy atmosphere was not unique at SMEs
4. The constitution of earlier finance schemes, by using inserting them in huge intermediary institutions with tricky utility tactics and limited comparison potential, intended the SMEs discovered them complicated to entry.

5. The (low) great and «one dimension matches all» procedure for industry development offerings intended that the confidential sector didn't take competencies of them, though the present PSF mannequin is working to address this constraint.
6. The overall regulatory atmosphere in Lebanon is structured towards colossal organizations that have the time and assets to conform, making the existing buildings a assignment to develop for SMEs.

7. Insufficient Infrastructure for rural SME development that inhibits implementation of innovative strategies and provision of services.

**Key Variables increasing challenges are:**

1- Age and Size of Firms

A major indicator of performance of new ventures is their post-entry growth (Parker, 2004; Coad, 2014). Several studies have indicated that firm age is an important determinant of firm growth, with younger firms growing faster than older firms (Caves, 1998; Coad and Rao, 2008; Haltiwanger et al., 2013). However, the characteristics of new firm growth remain poorly understood (McKelvie and Wiklund, 2010) and there is still lack knowledge on how firm age is influencing firm growth rates over time (Coad, 2014).

Based on the World Bank Enterprise Surveys that collects business data in both formal and informal firms, La Porta and Shleifer (2014, pp. 113) provides a summary of characteristics that distinguish informal and formal businesses as follows:

* Informal businesses are much smaller than formal firms.

* On average formal firm's employs 126 people, informal firms employ only four.

* Informal firms are much less productive, with productivity calculated as value added (sales net of expenditures on raw materials and energy) per employee.

* There is a sharp productivity difference between informal firms and formal firms of the same size, whereas productivity increases with size within the formal sector.

**2- Access to Finance**

Financial exclusion refers to a situation where the poor and other disadvantaged groups are unable to access formal financial services, owing to their perceived vulnerability (Mishra, Igwe and Lean, 2014)

**3- Access to Infrastructure**

The relationship between infrastructure and economic growth is a major focus of development literature (Ayogu, 2007; DFID, 2011 & 2012; Dorosh et al.,2010; Dorward et al. 2004; Estache et al. 2002; Estache&Vaglisaindi, 2007; Khander&Koolwall 2010; Krishna &Shariff, 2011; NEPAD, 2002; Reardon, 2001; World Bank, 2010). These studies support the idea that under the right conditions, infrastructure development plays a major role in increasing productivity, promoting economic growth and poverty reduction.

**4- Education of the Labour Force**

Based on the findings from studies in Uganda and Russia, Aikaeli (2010) maintains that education allows people to adapt more easily to both social and technical changes in the economy and to changes in the demand for labour. Education is often the most important foundation for people to pursue opportunities in new business, seek higher employment and migrate (World Bank, 2008)

**5- Other Business Climate Variables**

Associated investment climate and productivity has been examined in detail by several authors (e.g. De Rosa et. al., 2013; Klapper et al., 2006). World Bank Doing Business focuses on regulations and regulatory processes involved in setting up and operating a business. It analyses those that address asymmetries information (such as credit market regulations), those that balance asymmetries in bargaining power (such as labour market regulations) and those that enable the provision of public goods or services (such as business or property registration)

**SMEs and Incubators:**

Trade incubators were created to support attainable business strategies and to help entrepreneurs' firms to achieve passing crucial levels in the lifetime of any enterprise and to develop on the market. Incubators are delivering a variety of services to the incubated corporations, creating a favourable, right atmosphere to their development, consulting trade plans, advertising, business administration or know-how related to selling the photo of corporations.

They are an major lever to launch the regional entrepreneurial initiatives that can have a giant impact on a nation′s economy and may lead to the creation of giant numbers of jobs. With a view to have a strong network of incubators it is vital to use on hand resources effectually, consequently, to be mobilized in organisations productive from economic factor of view, aggressive, but also capable to proceed their work after leaving the incubator. To develop the incubators network it′s essential to toughen the legal framework, to determine carefully incubated businesses and framing with the bounds of efficiency parameters and diversification of trade areas.

Given their sheer numbers and propensity to fail, one may just argue that making certain that Small and Medium measurement organizations (SMEs) are self-sustaining, will be the proper step closer to making sure fiscal sustainability in any economic climate. Business incubators had been verified to provide the platform for nurturing businesses. Actually, business incubators are obvious globally as an predominant tool for the progress of SMEs and considerable amounts of assets are invested in them at present.

Prior researchers stated that industry incubators in constructing countries face a quantity of challenges regarding innovation and creativity. Remarkable among these challenges are:

Lack of entrepreneurial talents,

Lack of enterprise capital,

Bad progress expense,

Productiveness falling at the back of,

Aging populace,

Downsizing, and the dearth of actual entrepreneurship

Due to the foregoing challenges, industry incubators find it complex to uphold their mandates as development retailers and in, some cases; their lengthy-time period survival becomes threatened. Of direction, this may increasingly negatively impact SMEs who depend on them for survival.

**Problem statement**

The institution census validated that SMEs have a principal position to play in growing jobs for Lebanese, whereby SMEs include approximately 98% of the total corporations and account forty 1% of all exclusive sector employments.

The SME sector, with formal and casual firms, plays an important role in the country′s development; it has an advantage to cut back lebanon′s trade imbalance and generate off farm employment. Strengthening this sector has been highlighted as a positive tool in achieving fiscal objectives for this reason the government has taken the lead in SMEs sector development. Focusing on this priority, clustering method will function as a car for boosting competitiveness amongst Lebanese SMEs. When SMEs work collaboratively within a cluster, they can take competencies of market opportunities that they would not acquire by myself and share certification or monitoring techniques which reduces fee and rises studying.

Cluster situated intervention engenders collective action, communicate, trust, experiences transfer and potential constructing inside clusters and with other linked firms and sectors. Clusters organization may additionally present a useful entry factor for stakeholders seeking to help industry and private sector progress.

The fact is that organizations working together in a cluster will have to be in a position to reply to the challenges of global market than isolated ones that is the intent that the Ministry of exchange and industry has in run of linking SMEs together in cluster.

Regardless of the position of SMEs in the Lebanese financial system, the monetary constraints they face of their operations are daunting and this has had a bad have an effect on their progress and likewise restrained their advantage to drive the national financial system as anticipated. This is disturbing for a developing economy without the requisite infrastructure and science to draw enormous organizations in significant numbers.

Most SMEs in the Lebanon lack the capability in terms of certified personnel to manage their events. Accordingly, they′re unable to put up the identical quality of monetary know-how as

these massive corporations and as such are not competent to furnish audited fiscal announcement, which is among the principal requisites in accessing credit from the monetary tuition.

That is buttressed through the announcement that privately held firms don′t post the same variety or quality of fiscal understanding that publicly held businesses are required to produce. Accordingly, understanding on their fiscal condition, profits, and gains prospect may be incomplete or inaccurate. Confronted with this sort of uncertainty, a lender may just deny credit score, routinely to the businesses which might be credit worthy but unable to record their results.

Another issue has to do with the insufficient capital base of most SMEs within the country to fulfill the collateral requirement via the banks earlier than credit score is given out. In the crisis the place some SMEs are equipped to provide collateral, they traditionally become being insufficient for the amount they needed to embark on their projects as SMEs property- backed collateral are traditionally rated at `carcass price′ to make certain that the loan is realistically included within the case of default because of the uncertainty surrounding the survival and progress of SMEs (Binks et al., 1992).

These are one of the most causes already mentioned via some researchers as blockading most SMEs in accessing credit from the fiscal institution in the country. However are these relatively the case in Rwanda?

SMEs in Lebanon do not even have the posh of determining a financing scheme with a purpose to be appropriate for their companies. The main type of financing open to them is debt financing from the fiscal associations, which most commonly comes with a long list of necessities that most SMEs to find them tricky to meet. The other form that is Asset financing, apart the long record of criteria additionally requires operators of SMEs to provide 50% of the dollars and the financing institution offering the opposite half of to fund the purchases of the assets.

This sort of financing don′t enable for progress of the SMEs sector considering the fact that they′re all brief time period in nature (John Ackah and Sylvester Vuvor , June 2011).

This gain knowledge of tried to furnish answers to questions that function recommendations to be addressed:

* What's the nature and traits of small and medium firms in Lebanon?

* What are the roles of small and medium firms in the economic progress in Lebanon?

o What are the obstacles of small and medium enterprises?
o What are the supports wanted for selling the small and medium corporations in Lebanon?

**Study objectives**

The study seeks to understand what has been researched and written on assessment of the contribution of SMEs to the economic development of Lebanon

**Specific objectives**

To understand the contribution of SMEs to the economic development of Lebanon and it function roles relevant to the public and private organization.

To analyze the nature, scope and working Small and Medium Enterprises in Lebanon, to examine the Government policies on small and medium enterprises.

3. To assess the barriers hindering small and medium enterprises in the economic development of Lebanon, and make recommendations and conclusion for future research

**Significance of the study**

The study will establish the major problems, which small and medium enterprises face. The study tries to establish how a small and medium enterprises can worked and managed in order to play a significant and effective role in the economic development of Lebanon.It will be useful in making major contributions to policy makers on the promotion of small and medium enterprises strategy.

The study will attempt to fill some gaps on the limited research on small and medium scale enterprises.

The study will analyze carefully the present roles of small and medium enterprises in the economic development of Lebanon and also provide a basis for other studies on small and medium of enterprises on top of being a contribution to the already existing academic development.

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# IS THERE A FINITE DEBT ACCUMULATION HORIZON IN THE EUROZONE?

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ABSTRACT

*Currently, the issue of the high indebtedness of many countries in the Euro Area is one of the most significant ones. Many quantitative studies have been created to analyse the debt sustainability. However, we argue that the results are possibly inaccurate as the environment is highly unstable. We try to further investigate the problem and contribute to the discussion by analysing debt channels which are leading to a possibly endless debt accumulation in the EMU. These are as follows: Keynesian stabilisation, strict preferences, the role of democracy and political cycles, information asymmetry and fiscal illusion, the institutional characteristics of the EMU, reputation and expectations, the current economic conditions of the countries, and future prospects, mainly the population ageing. We show that the current indebtedness is unlikely to be decreased by raising GDP growth or inflation. First, the historical averages of output growth in the EMU in the nearly last 20 years are very low, comparable only to Japan. Second, today's environment is rather deflationary. We conclude that under the current circumstances, there is no finite debt accumulation horizon in the EMU. The situation needs to be solved by making structural changes in the Union. Political integration efforts will not be able to solve the situation and make the debt environment sustainable in the long-term.*

**Keywords**: European Union, Euro Area, indebtedness, debt channels, debt sustainability, debt horizon

**JEL Classification**: E60, F30, F40, H60

## INTRODUCTION

Historically, government debt has played a major role in the development of today's economies. We have seen a trend of its dramatic rise since the Second World War as a result of various factors. The first-level causes may be seen as a result of preferences or information asymmetry. The upward trend is also connected to a given institutional setting. Historically, some portions of debt were created as a result of wars or political conflicts, however, the trend in the last two decards have diverged from the earlier experience and many countries are experiencing peacetime deficits. These are shown to be linked to the expansion of social programs, umatched by tax revenue increases (Masson and Mussa, 1995). Moreover, we may also see the current deficits as a consequence of economic crises. We will examine the last possibility which occurred after the global financial crisis in the Eurozone, i.e. as the most relevant characteristic connected to the core problems of the EMU. There is an indisputable evidence that too much debt harms the economies. A widespread discussion about the sustainability of the debt has taken place, especially in the European Monetary and Economic Union (EMU). According to the European Comission (2018) the medium and long-term risks are still significant in many countries. The current reduction of public deficits is mostly attributable to the cyclical conditions and lower interest rates. In case of new adverse shocks which affect the growth of the economies or real interest rates, the situation could easily get out control (Dabrowski, 2016).

A high number of articles were dedicated to various debt decomposition analyses. However, we raise a concern about the validity of long-term quantitative analyses because the environment is highly unstable, which is affecting the quality of the forecasts.[1] Moreover, only a few studies tried to identify the debt channels and future prospects connected to them. This article aims to provide such theoretical analysis and answer the question if there is a finite horizon of debt accumulation in the EMU. The analysis should provide us with an answer whether this institutional setting is sustainable or not.

[1] The Euro Area may even change its institutional design over a longer period of time.

Nowadays, austerity policy measures are heavily criticised due to its poor results (Prisecaru, 2013). Nickel, Rother, and Zimmermann (2010) show that major debt reductions are mainly driven by significant and long-lasting fiscal consolidation efforts focused on reducing government expenditures, mainly cuts in social benefits and public wages. In addition, episodes of persistent high primary surpluses which would bring down the debt ratios to acceptable levels are rare (Eichengreen and Panizza, 2016). Therefore, we must shift our focus on institutional features. In the case of high debt accumulation inertia, fiscal regulation and austerity measures are inefficient, the countries are bound to be less competitive and the welfare of the citizens is weakened.

## 1. DEBT AND OUTPUT GROWTH IN THE EMU

High indebtedness is usually taken as an indicator of economic problems or unreliable policies with harmful effects even though, currently, many individuals probably take the current situation as the "new normal". The negative long-run effect of excessive public debt on output growth has been well examined both theoretically and empirically. For example, the works of Rogoff and Reinhart (2010) are very well known, despite some lapses in their original study. The other literature includes Baboš and Gál (2014) who summarised the results of 9 comprehensive empirical studies, Égert (2015), or Woo and Kumar (2015).

The relationship between debt and growth in the Euro Area has been examined by few papers only. The empirical research supports the claim about the presence of a debt threshold (Gómez-Puig and Sosvilla-Rivero, 2016). However, the research usually does not distinguish between short- and long-term effects. According to Annicchiarico, Giammarioli, and Piergallini (2006) the positive effects of fiscal expansions in the Euro Area are likely to be significantly reversed in the medium run, forming a tradeoff between short-term gains and medium-term losses. Recently, Gómez-Puig and Sosvilla-Rivero (ibid.) empirically verified the negative effect of public debt on output in the long run as well, by using the ARDL bounds testing approach. According to their findings, the debt in the EMU tends to weaken output growth by increasing uncertainty over future

taxation, crowding out private investment, and weakening a country's resilience to economic shocks. Nevertheless, they support the idea that the debt effects are country specific. We may expect that countries in economic problems of low GDP growth and high debt are in a much worse situation.

However, it may be argued that not every increase in debt is necessarily harmful. First, the debt may be seen as an investment. Nevertheless, this is clearly not the case of the debt accumulation in the EMU as it aims to fulfil different objectives and political agendas. Second, the argument is invalid when it comes to longer horizons and the analysis of overall debt trend. In order to tackle the problem of debt accumulation in the EMU, we need to analyse the different motivations and channels of possibly endless debt creation in the EMU and evaluate its prospects. Such applied analysis is missing in the current literature. Moreover, we argue that this approach should be the starting point in analysing debt dynamics in the Euro Area because strictly quantitative methods may not provide us with sufficient and accurate answers.

We also need to address concerns that the excessive indebtedness in the EMU[2] may be lowered by raising inflation and GDP growth. Output growth usually plays a major role in determining fiscal balances in both downturn and recovery episodes (Echevarria-Icaza, 2018). Moreover, it increases the country's likelihood of a major debt reduction (Nickel, Rother, and Zimmermann, 2010). Arguably, under the current institutional design of the EMU, this is not a possibility. Table no. 1 summarises average annual growth rates of GDP. We can see that the EU, and notably the Euro Area are showing nearly the worst performance, only Japan exhibited lowest growth rates[3].

[2] This is especially the case of the Southern wing of the EU/EMU.

[3] Some Keynesian economists state that the low-growth of the economies is caused by the so-called Secular Stagnation (Teulings, 2014), which may be an intrinsic characteristic of developed economies. Unfortunately, the claim draws attention out of the main structural issues of the economies (e.g. inflated public sector, harmful regulatory practices, and a strong bureaucracy).

**Table no. 1 – Average GDP growth rates of selected countries**
(sorted by lowest growth rates in the recession and post-recession period)

| Country / group of countries | Since 2000 (2000-2017) | Recession and post-recession period (2008-2017) |
|---|---|---|
| Japan | 0.94% | 0.52% |
| **Euro Area** | 1.31% | 0.58% |
| **European Union** | 1.66% | 0.90% |
| Russia | 3.77% | 1.13% |
| Switzerland | 1.83% | 1.35% |
| United States | 1.95% | 1.40% |
| Brazil | 2.45% | 1.53% |
| South Africa | 2.88% | 1.76% |
| Australia | 2.91% | 2.57% |
| **World** | 3.84% | 3.34% |
| Turkey | 5.13% | 4.96% |
| India | 7.07% | 7.04% |
| China | 9.23% | 8.23% |

**Note:** Geometric mean has been applied. The data for the European Union and the Euro Area consists of a fixed number of countries (without the change of the composition over the time), 28 and 19 countries respectively.
**Source:** The International Monetary Fund – WEO July 2018, own calculations and processing.

The same situation applies to inflationary debt reductions. Today's environment is rather deflationary even though the interest rates are very low. Arguably, the fact has been caused by many factors, for example: the current economic situation of the countries (high indebtedness with less space for aggregate demand to further stimulate inflation), tightening of financial regulation, loss of competitiveness in the case of open markets, vivid market competition, overall technological progress, low oil prices, relatively higher demand saturation when compared to the past, increased risk or uncertainty, and liquidity trap conditions.

## 2. DEBT CHANNELS IN THE EURO AREA

First of all, we propose distinguishing between debt mechanisms that are working under the condition of full information, under information asymmetry, or under the combination of both factors. In total, we have identified eight key mechanisms of debt accumulation in the EMU.

### 2.1. KEYNESIAN STABILIZATION

Keynesian theories prescribe the pursuit of smoothing economic cycles and, thus, promoting efficiency. Notably, during periods of recession, a higher government spending or lower taxes may help the economic recovery. The idea is accompanied by many issues. First, it poses characteristics of central planning the economy which is intrinsically problematic, and, in reality, hardly achievable. This is due to many factors, for example, correct interpretation of data, time lags, the effectiveness of such policies etc. Second, in economic practice, it usually does not correctly interpret structural factors, i.e. those which are not connected to the Keynesian idea of suboptimal demand. Paradoxically, such characteristics are taken as a support to the central idea of fiscal stimulus. This is very apparent in the current Euro Area as its structural and institutional faults are overlooked. Third, the argument of stabilisation lacks seriousness when the policies continue to be highly expansive even in the "better times". The Keynesian idea is connected to many issues arising from political motivations. This is the problem of the misuse as the policies should be countercyclical, and the debt to GDP ratio should not follow an upward trend (Alesina and Passalacqua, 2016). In this case, some theoretical explanations were also used to support the fact of rising government debt. For instance, Barro's tax smoothing hypothesis which implies a distribution of tax burden across generations[4]. However, the proposition of government as a strictly rational central planner seems not to be plausible. In addition, the motivations in the current EMU follow different objective of preserving the current status quo by using "all what it takes". Finally, this debt channel poses an unlimited horizon for a debt increase in the EMU.

### 2.2. STRICT PREFERENCES

A possibly powerful argument and debt channel may be a thesis that the debt is a cause of nation's preference, i.e. not only an economic choice. A simple explanation is that people are willing to be better off in the short term at the expense of long-run problems because their life is finite, and they have a strong short-time preference.

[4] Even though the basis of this idea is strictly non-Keynesian.

Fochmann, Sadrieh, and Weimann (2014) conducted a behavioural experiment and found that the main behavioural force behind public debt is the intergenerational transmission of the tax burden. Even though a massive portion of accumulated debt in the experiment was explicitly connected to serious risks of financial meltdown, followed by penalty taxations, the individuals did not vote for its reduction. This was also a case of small groups with strong social ties. Furthermore, the authors found that the size and speed of debt accumulation is not affected by debt ceilings. The authors concluded that they observed much less sense for intergenerational fairness or altruistic concerns than expected. As long as it is in their own selfish interest, individuals do not hesitate to shift the heavy burden of public debt to the next generation. Without the transmission possibility, the individuals voted for a prudent debt policy and wanted to avoid excessive indebtedness by all means (ibid.). Their observation follows the debt trend of many developed economies and puts into question standard economic rationale.

Other authors mention the role of "fiscal fatigue" when primary balances stop adjusting after a certain level of debt because such countries are no longer willing to continue improving the balances in response to the rising debt (Echevarria-Icaza, 2018). However, this is probably not the case of all the EMU countries as a non-negligible part of them[5] show low debt to GDP ratios. Kahn and Lim (2001) concluded that when individuals have finite horizons, the markets may not provide sufficient reward for actions whose benefits spill over onto future generations. Another theoretical economic explanation is that the consumption in the first period of life yields higher utility and is, therefore, higher, putting pressure on the debt to GDP ratio (Cukierman and Meltzer, 1989). In addition, Drazen (1978) claims the debt also more likely occurs if the rate of return on investment in human capital is higher than the return on physical capital. In other words, the government deficits and possible debts may fulfil the characteristics of

[5] In 2017, seven EMU countries exhibited debt ratio lower than the 60% as set by the corresponding Maastricht criterion. These were: Estonia, Luxembourg, Slovakia, Latvia, Lithuania, Malta, and the Netherlands.

an investment[6]. First, the investment motive is not present in the current EMU. Second, it is also connected to many issues which, arguably, are more significant than the investment motive. The resulting outcome is the short-run vs. long-run tradeoff between output growth. In the case of voters, the issue may be aggravated by information asymmetry. Furthermore, some countries are benefiting from the socialisation of risks in the EMU. To sum it up, the channel of strict preferences represents unclear and unstable characteristic which is, possibly, valid for only some countries.

### 2.3. THE ROLE OF DEMOCRACY AND POLITICAL CYCLES

According to Posner (2015), some researchers claim that a democracy is bound to debt hoarding. When government policies have a significant distributional impact, various interest groups attempt to influence the outcome in line with their aims. Smaller and coordinated interest groups are always more powerful than the majority. More specifically, there is a case when a stabilisation may have significant impacts as well, especially in the Euro Area. Various groups may try to shift the burden of stabilisation onto other groups, the process is called the "War of attrition". As a result, the groups may try to wait the others out, prolonging the period without stabilisation (Alesina and Drazen, 1991). Arguably, these groups may consist of the financial sector and large companies who face the greatest prospects of fallen demand. The theory cannot explain how deficit or debt reduction arises, however, it describes how the solution is postponed. A possibly balancing democratic mechanism is represented by strong leaders who can push uncomfortable policies (Posner, 2015). Nevertheless, it is clear that most of the current EMU leaders are not able to make such a change. The characteristics of democracy and the competition between interest groups in the Euro Area may provide another significant channel of debt accumulation. On the other hand, political cycles may also influence the debt situation. Debt may be used as a strategic variable. For instance, if the current government is not sure of its reappointment, it may want to choose to run budget deficits in order to influence the fiscal choices of future governments (Alesina and

[6] In the case of investing in children. Moreover, their parents may also be concerned about their future well-being.

Tabellini, 1990). In addition, we argue that the debt is being snowballed as the next government may want to use the expenses to make the economy perform the same or even better than the previous government. Finally, the so-called political budget cycles consider the role of government deficits (and possible debts) before elections for the representatives to be re-elected. Yet, this proposition may explain only a relatively small departure from optimal policy. It cannot explain the long-lasting trend of debt accumulation (Alesina and Passalacqua, 2016).

### 2.4. INFORMATION ASYMMETRY AND FISCAL ILLUSION

We believe that it is possible that many decisions would not be made with perfect information, this also applies to the emergence of high government debts. The transmission mechanisms in the political market are arguably slower and less elastic. However, the outcomes are always demonstrated by the elections. It will always be easier trying to maintain the current status quo by claiming that we are living in very prosperous times and a significant change could be harmful. This fallacy, directly connected to the effect of fiscal illusion, represents the argumentum ad antiquitatem. It completely ignores how a situation has evolved and neglects proper analysis of the problem. The issue is, again, very apparent in the Euro Area. The fallacy is very problematic, and, debatably, was escalated by the "Keynesian" policy stand over the time. Politicians are eager to implement Keynesian stimulus in recessions, however, they do not counter-balance it in the times of expansion by creating budget surpluses (Alesina and Passalacqua, 2016). The information asymmetry can affect both politicians and voters. Nevertheless, politicians have also motivations to act accordingly to a political cycle.

### 2.5. THE INSTITUTIONAL CHARACTERISTICS OF THE EMU

Policymakers and analysts need to recognize that the origin of debt crises is not always fiscal. Fiscal austerity is a necessary but not sufficient condition for the prevention of a debt crisis (Panizza, 2013). Masuch, Moshammer, and Pierluigi (2017) collected an empirical evidence from the years 1999-2014 and claim that the quality of institutions is an important determinant of long-term growth in European countries.

Moreover, they argue that sound institutions can mitigate the negative impacts of high indebtedness. We argue that the institutional design of the EMU plays an important role in deficits and the debt accumulation, significantly influencing the overall debt trend. According to Coccia (2018), statistical evidence shows that the dynamics of government gross debt is significantly different between countries within and outside the EMU. Moreover, the results suggest that the divergence is increasing.

The Euro Area suffers from significant heterogeneity between the member countries,[7] and the fact has many consequences. In short, one measure cannot fit all, which poses problems for both the functioning of the EMU and policy-making decisions. For instance, the European Central Bank is not an independent entity, because its national constituencies have different interest and do not share a common understanding of central banking (Wyplosz, 2016). Moreover, the fiscal regulations in the EMU are in direct conflict with the current situation and practices. On one hand, the ECB‘s monetary policy is expansive and the EU pursues policies of unemployment reduction or GDP growth. On the other hand, the EU’s constitutional balanced-budget amendment, the Stability and Growth Pact (and the so-called Fiscal Compact) aim for countries to keep their budget deficits and overall indebtedness in range. The approach seems schizophrenic at first sight, but it is, again, a result of finding compromises within a highly heterogeneous entity[8].

The EMU does not form an optimum currency area[9]. The countries’ economies are not resilient against asymmetric shocks, which was revealed during the recent global financial crisis which lead to the sovereign debt crisis in the EMU. Another direct consequence of this mechanism is that the system requires constant interventions,[10] making it unsustainable in this regard. Moreover, the recovery mechanisms of many

[7] Some specific countries (e.g. Greece, Portugal, Italy, Spain) should not share the common currency.

[8] Another direct consequence of the fact is that the fiscal rules are, historically, not taken very seriously.

[9] The well-known issue is explained, for example, by Jager and Hafner (2013).

[10] Please note, that creating offset mechanisms such as forming a fiscal union in the EMU would not solve the core of the problem. The direct interventions would still be necessary. Nevertheless, the option is not politically achievable.

economies[11] are significantly weakened. The fact further escalates the institutional and political problems.

Another important institutional characteristic of the EMU is the socialisation of risks[12]. This also applies to rescue mechanisms. Without costs being fully internalised, there will always be motivations for some countries not to run sustainable fiscal policies and adhere to debt accumulation. The issue may be addressed as the so-called Common Pool Problem, where agents do not fully internalize the tax burden of spending decisions (Alesina and Passalacqua, 2016). Some researches, for example, Claeys (2017), propose that Europe should ultimately pursue the U.S. model of federalism. However, even if this was done, the result would be unsustainable as some parts of Europe would permanently finance others. This is a demonstration of a fact that political unification cannot be forced without economic and social ties between the regions. All in all, the institutional design and the composition of the current Euro Area are forming the possibly strongest channel of debt accumulation.

### 2.6. REPUTATION AND EXPECTATIONS

A good reputation of an entity helps to maintain large amounts of sovereign debt by inducing a better reaction from lending subjects (Cole and Kehoe, 1998). The same concept concerns groups of states as well. However, in the case of major structural problems in the EMU, the reputation is diminishing, progressively putting more pressure on the most indebted countries. There is an argument that the structure of the debt is changing over time, as more of the debt is now being "internal" debt. Nevertheless, it does not support the standard definition of what internal debt is because the EMU is not a single country, but an entity made of many heterogeneous states.

Lenders' expectations about the politico-financial outcome are self-fulfilling and can increase the likelihood of financial and political crises (Vaugirard, 2005). As a result, they may be willing to lend less and require higher interest rates. The former is mitigated

[11] Notably, this is the case of the Southern EMU countries.

[12] This factor would not be a problem if the EMU consisted of a relatively homogeneous group of countries.

by the current monetary policies, keeping the interest rates low. But, ultimately, negative expectations of the general public could weaken aggregate demand, putting even more pressure on public stimulus, i.e. raising indebtedness. These two channels represent another debt channel, making it worse over time.

### 2.7. THE CURRENT ECONOMIC CONDITIONS OF THE COUNTRIES

Most of the EMU countries have already accumulated substantial debt, making it more difficult to maintain it, and lower it. The sovereign debt crisis has not been solved, and, in the case of another crisis episode, the indebtedness would probably grow even more. The issue is linked to the non-optimality of the currency area, another significant asymmetric shock would trigger the same mechanism and consequences as we have seen in the years 2008-2009.

Furthermore, high initial indebtedness along with institutional dysfunctionality of the EMU creates a stronger demand for a more politically controlled union and for more expansive economic policies (Bordo and James, 2008). To sum it up, the current economic conditions represent a channel which is pushing indebtedness higher progressively over time.

### 2.8. FUTURE PROSPECTS – POPULATION AGEING

The future may bring both unexpected and expected economic shocks. While the unexpected events cannot be predicted, we already have an indisputable evidence of a factor which will constantly put more and more pressure on government finances, the aspect is a population ageing[13]. The phenomenon has various channels of influence over the indebtedness of the countries. First, it will encourage more public spending on social benefits and pensions as the population structures will be older. Second, there is an evidence, that older people prefer an increase in government's debt to a rise in tax rates. The problem was theoretically evaluated by Brennan (2012) and empirically validated by Fochmann, Sadrieh, and Weimann (2014).

[13] See, for example, Auerbach (2016).

## CONCLUSIONS

There is little doubt that high levels of government debt have significant negative effects for an economy in a long term. The same theoretical concept has been empirically verified in the Euro Area as well. However, the number of studies dealing with the topic is rather limited. On the other hand, we argued that dealing with debt prospects and sustainability in the EMU quantitatively is extremely difficult to do so, and, under current circumstances, possibly very inaccurate due to unstable conditions in the monetary union. Moreover, we have shown that it is not very likely to reduce indebtedness in the EMU by raising GDP growth or inflation. The historical averages of output growth in the EMU in the approximately last 20 years are very low, comparable only to Japan. Furthermore, today's environment is rather deflationary.

We have proposed and analysed eight debt channels in the EMU, which can be working in the situation of either full or none information asymmetry. In addition, institutional setting plays an important role as well. The first channel is represented by the Keynesian stabilisation efforts which are possibly misused as we do not see substantial surpluses in the after-crisis period and the policies are still expansive, contributing to the indebtedness. Moreover, important structural factors (such as the institutional design of the EMU) are arguably misinterpreted and used as an argument to promote the policies. Second, we identified strict preferences as another potential channel of indebtedness growth. There may be various motives for people preferring to shift the burden to other generation, however, there is a substantial body of evidence ranging from theoretical to empirical contributions. The third channel suggests the impact of democracy and political cycles in the economies on the debt. Arguably, the current democracies, combined with the issue of political cycles, are bound to debt hoarding as politicians prefer short-term policies at the expense of sustainability. Furthermore, we may argue that the debt is being snowballed as the next government may want to use the expenses to make the economy perform the same or even better than the previous government. Fourth, we propose the direct role of information asymmetry and fiscal illusion. The phenomenon affects both voters and politicians. But the former group is

more prone to be willing to accept invalid conclusions based on a short-term stimulus. Arguably, there is also a try to maintain the current status quo because we are living in very prosperous times despite the serious structural issues of the EMU. The fifth channel is represented by the institutional characteristics of the Euro Area and is arguably the most important cause of the indebtedness. The significant heterogeneity among the EMU members has many consequences. The monetary policy of the ECB is not independent, and there are fiscal-monetary policy conflicts as a result of political compromises. Moreover, the countries are not resilient to asymmetric shocks, the system requires constant interventions making it unsustainable, and the recovery mechanism are significantly weakened. Political strengthening of the Union would help the situation because the solutions need to be structural, i.e. changing the member structure of the EMU. The sixth channel is comprised of reputation and expectations. We argue that there is being put more and more pressure on the most indebted countries as the Euro Area's reputation is slowly diminishing. As a result, the aggregate demand in the EMU may be further weakened as there are negative expectations from the general public. Seventh, the current situation of the countries is not favourable as significant debts have been already accumulated, making it more difficult to sustain it and possibly lower it. The last point is the future and its prospects. We may witness both expected and unexpected events which will contribute to the indebtedness. However, we already know about the phenomenon of population ageing which is progressively putting more pressure on government expenditures. To sum it up, we came to a conclusion that under the current circumstances, there is no finite debt accumulation horizon in the EMU, thus, austerity measures are ineffective if they are not combined with structural changes in the Euro Area. It is obvious that the situation cannot be solved politically, to make the debt environment efficient and sustainable in the long-term.

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# IS THERE A FINITE DEBT ACCUMULATION HORIZON IN THE EUROZONE?

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ABSTRACT

*In this study, we use autoregressive distributed lag (ARDL) bounds test to determine the appropriate advanced time series model for the analysis of the relationship between macroeconomic and financial stability and country risk. By using error correction model (ECM), we particularly examine the impacts of consumer prices, exchange rates and stock indices on credit default swap (CDS) of Brazil, China, Mexico, Russia and Turkey. ECM does not verify the short-run impacts of consumer price index (CPI) on CDS, while inflation may have causality effects in the long-run according to the coefficients of error correction term in each case. On the other hand, our ECM estimations stress the deteriorating effect of currency depreciation on CDS except for Brazil. In Brazil, increase of nominal exchange rate may have positive impacts on export sector in terms of international competitiveness which in turn positively affect economic stability and lower country risk. Additionally, this study exposes that foreign currency denominated debt can be another destabilizing factor increasing CDS in China, Mexico, Russia and Turkey. The findings of our study emphasize the country risk-reducing role of foreign capital inflows which also maintains stock market development.*

**Keywords**: CDS, ARDL bounds test, ECM, macroeconomic stability, financial stability

**JEL Classification**: E32, E44, F31

## 1. INTRODUCTION

The deterioration in US financial markets in 2007, emerging from the mortgage market, led to the 2008-2009 global financial crisis which brings financial instability. The subprime mortgage crisis had also contagion effects on major financial markets; more precisely, the process after the financial crisis in 2008-2009 can include sovereign debt crisis in the European countries. In this respect, the credit default swap (CDS), which highlights the risk of the debt management of the country, has been the subject of many academic researches. Macroeconomic and financial developments can explain the CDS movement as well as their effects on macroeconomic and financial stability. CDS can be derived from different financial indicators. However, the sovereign CDS spread 5-year has come to the forefront for emerging markets from 2007, and it has become the most traded in the CDS market due to its liquidity.

Many macroeconomic variables can be used to explain CDS movements, while inflation, which shows price stability, is taken into consideration in scientific studies. The macroeconomic stability and risks concerning debt management are closely related and it can be inferred that movements in financial markets are also determinants of the sovereign CDS spread 5-year. In the aftermath of the 2008-2009 global financial crisis, it can be said that the level of development and integration of currency markets is increased and has inevitable consequences on macroeconomic conditions. Thus, there are studies in the literature analyzing the effects of exchange rates on CDS movements (Grammatikos and Vermeulen, 2012; Özmen and Yılmaz, 2017; Hui et al., 2018; Gadanecz et al., 2018). Bonds can be issued by corporations where financial information is reflected in their stock prices; therefore, it can be suggested that stock movements can have influential impacts on CDS. Additionally, it can be acknowledged that stock movements may have effects on country's debt management via capital flows and the relationship between stock prices and the sovereign CDS can be investigated (Narayan et al., 2014; Lim et al., 2017; Tolikas and Topaloglou, 2017; Kryzanowski et al., 2017; Chau et al., 2018).

In this paper, we employ Autoregressive Distributed Lag (ARDL) model and error correction model (ECM) to take into account the interactions between CDS spread 5-year, stock prices, exchange rates and consumer price index (CPI) in 5 developing countries (Brazil, China, Mexico, Russia and Turkey). More specifically, the role of macroeconomic and financial variables on the sovereign CDS spread 5-year is investigated using monthly data from 2010:01 to 2018:03. The countries subject to empirical analysis were selected among the Eagle countries since they are accepted as growth-leading economies that are expected to trigger global growth in the next 10 years by the BBVA Research. Within this empirical framework, the aim of this study is twofold: (i) to show the contribution of stock prices, exchange rates and inflation to the changes in the CDS and (ii) to determine whether stock prices, exchange rates and inflation causality effect on CDS in the short and long-run dynamics. The main hypothesis of this paper is to test whether changes in the variables under investigation should lead to significant changes in country risk (in terms of credits) that monetary policy authority should consider when determining macroprudential policy in Brazil, China, Mexico, Russia and Turkey. All the data used in our empirical exercise are extracted and derived from the statistical database of the Thompson and Reuters.

The remainder of the paper is structured as follows: Section I constitutes the introduction section. Section II exposes the theoretical background of the study with the existing literature. Section III presents the model to investigate the relationship between CDS, stock prices, exchange rates and consumer price index (CPI). Empirical findings are presented in Section IV. Finally, Section V discusses policy implications and concludes the paper.

## 2. LITERATURE REVIEW

The risks arising from financial institutions as seen in the recent global crisis has primarily affected the other financial institutions in the US economy and the real sector businesses and has also had a widespread spillover effect. The outset of the crisis is related to high debt level in the financial sector and the role of financial instruments derived from credit has increased in the global financial system. At this point, the CDS indicator has also come to the forefront as a country risk indicator and it has become important to determine spill-over effects of CDS spread in the recent global financial crisis. In this respect, Galariotis et al. (2016) analyzed the potential spillover effects for Eurozone countries with panel vector autoregressive (PVAR) model. It was found that there existed a major importance of spillover effects from larger peripheral economies such as Spain and Italy to core countries. Another issue that comes to the

forefront after the global financial crisis is to determine the effects of macroeconomic and financial dynamics on CDS spreads (Lahiani et al., 2016).

In terms of macroeconomic dynamics, it can be assumed that price movements and particularly high inflation are determinative factors affecting macroeconomic conditions and country risk. In particular, the negative consequences of high inflation disrupt internal and external macroeconomic balances and make the debt crisis a major financial crisis type, depending on the increasing financing needs of the country. Thus, debt management is a crucial issue since the perception of credit risk has dramatically increased after the 2008-2009 global financial crisis when CDS spreads peak in most financial markets. Many indicators that show the country's risk can be derived, among which the CDS's reflexive nature of the country's financial crisis is acknowledged by many academics. According to Benbouzid et al. (2017a), there is a general tendency to categorize the determinants of CDS spreads in two groups, namely macroeconomic drivers and bank-level characteristics. However, Benbouzid et al. (2017a) combined both sets of factors in a unified framework and looked for country-level financial structures explaining bank-level CDS spreads. By using various panel data techniques; Benbouzid et al. (2017a) found that country-level financial instability is under the influence of high credit risk whereas, lower risk is associated with liquidity, improved asset quality and bank-level profitability. Benbouzid et al. (2017b) underlined the importance of economic and legal institutions could decrease banks' CDS spreads based on the data for 118 banks of 30 countries over the period 2004–2011.

Changes in the overall level of prices are regarded as the main reason for many macroeconomic developments and thus inflationary dynamics have a significant effect on the country's risk and pricing in financial markets. Accordingly, it can be said that the exchange rate, which shows the value of domestic money in a selected foreign currency, can also cause significant changes in debt management risk and CDS of the country. For instance, Della Posta (2016) adopted a theoretical unifying approach in terms of currency and external debt crises and attempted to determine the macroeconomic factors that may influence financial crisis risk of country. There are also studies in the literature using quantitative models to examine the impacts of exchange rates in that respect. Because CDS is closely related to bond prices, it is also important to understand the dynamics relating exchange rates and bond prices. Within this context, Hui et.al (2018) studied the emerging markets with regression analysis and revealed that exchange rates had explanatory power for the variations in the US dollar-denominated sovereign bonds of Brazil, Colombia, Mexico, the Philippines, Russia and Turkey, particularly in the post-global financial crisis period.

The UIP condition has been acknowledged as the major channel linking the exchange rates with interest rates, while it can be assumed that currency appreciation/deprecation can determine the creditworthiness of borrowers in emerging market economies (EMEs) who have incurred debt in foreign currency. According to Gadanecz et.al (2018), the improvements in the EME sovereign's fiscal position and can directly affect the sovereign's local currency yields and decrease CDS spreads. More specifically, Gadanecz et.al (2018) studied the impacts of exchange rate risk on local currency sovereign bond yields in emerging market EMEs. It was found that EME local currency sovereign bond yields were affected by exchange rate risk volatility and expected depreciation of the exchange rate. Gadanecz et.al (2018) also revealed that exchange rate volatility was more consistent in EMEs with higher shares of foreign ownership of local currency sovereign bonds, large capital account openness and greater exchange rate flexibility. The results of Gadanecz et.al (2018) implied that the increase in financial development will cause the CDS spreads to fall as well by reducing the volatility in exchange rates. Following the conventional UIP condition, Özmen and Yılmaz (2017) employed a wavelet coherency analysis to make implications regarding the relationship between exchange rates, interest rate differential and risk premium in fragile economies. Özmen and Yılmaz (2017) obtained results stressing that the strongest co-movement of exchange rate changes was with the risk premium in all fragile countries. Thus, it can be inferred that there may be causality relationship between exchange rates and CDS spreads particularly in emerging markets. Their results of Özmen and Yılmaz (2017) also showed that uncertainties in the FED's monetary policy was a crucial variable correlated with the exchange rate.

Macroeconomic and financial stability together have become increasingly important in improving the economic situation of a country, while some macroeconomic variables are assumed to be covered by both stability indicators. For instance, inflation is regarded as a critical indicator of macroeconomic stability and it is accepted theoretically that exchange rate is affected both by macroeconomic developments and by financial market dynamics. Wang et al. (2013) construed a model enhancing the

analysis by the inclusion of daily Latin America sovereign CDS returns and other financial sovereign debt spread determinants. Wang et al. (2013) classified financial variables as country specific (exchange rates and lending spreads) and global (10-U.S. Treasury yields, VIX and TED spreads) and verified the role of those factors with vector error correction (VEC) model estimations. Similarly, Kocsis and Monostori (2016) combined domestic and global factors in their empirical model. By using a dynamic hierarchical factor model, they found that domestic fundamentals explain more of CDS spread variance than global factors and the impacts on CDS spreads were found to be time-varying. One of the most recent contributions in that extent was conducted by Ho (2016). With the Pooled Mean Group cointegration approach, Ho (2016) explored the long and short-run factors of sovereign CDS spread for eight emerging countries by incorporating current account, external debt and international reserves in the model. Results of Ho (2016) revealed that the above-mentioned variables were highly significant to show the long-run sovereign CDS spread. International reserves were found to be the most important factor reducing the sovereign CDS spread, while any short-run effects were detected. Ho (2016) stressed the importance of global and foreign factors for the explanation of CDS movements.

Additionally, stock prices can be classified as financial variables since stock prices can be assumed to be predominantly related to the financial structure of the firms and dynamics of stock markets. It can also be asserted that the classification of Benbouzid et al. (2017a) was handled differently by Galil et al. (2014) who analyzed the determinants of CDS spreads and spread changes using broad database of 718 US firms during the period from early 2002 to early 2013. The results of Galil et al. (2014) confirmed that market variables had explanatory power after controlling for firm-specific variables and stock return, the change in stock return volatility had crucial impacts. Thus, one can suggest that possible impacts of financial stability on CDS can be studied via including stock price index into empirical models. Within this context, Lahiani et al. (2016) examined the effects of financial and energy prices on US five-year financial CDS sector index spreads for the banking, financial services and insurance sectors both in the short- and long-run. By employing nonlinear ARDL (NARDL) model to consider asymmetries in the sensitivity of CDS sector index spreads to other variables of the model, Lahiani et al. (2016) short and long-run asymmetries in the influences of macroeconomic and financial variables on the CDS sector spreads. Most recently, Guesmi et al. (2018) assessed the sector indices of the S&P500 and some financial variables to examine their dynamic interaction with industry CDSs. Likewise Lahiani et al. (2016), NARDL was employed and it was indicated that CDS spreads were sensitive to positive and negative shocks in the respective industry stock price as well as the sensitivity of CDS spreads to positive and negative unit changes in the rest of the financial determinants were sector dependent.

On the other hand, the CDS and the stock market can be affected by a common factor, the financial risk of a country. A major contribution to the literature in that respect was conducted by Tolikas and Topaloglou (2017) who explored whether default risk was priced equally fast in the CDS and the stock markets in the main economic sectors of North America, Europe, the UK, and Asia. Tolikas and Topaloglou (2017) found that stock market reacted to default risk faster than the CDS market, however the documented lead-lag relation was not regime-dependent and stronger for negative stock market news. More specifically, Tolikas and Topaloglou (2017) obtained results consistent to the market selection theories, indicating that informed/ uninformed traders prefer to trade default risk mostly in the stock market/ the CDS market.

The existence of a mutual long-term interaction relationship between the CDS and the stock market also has significant effects on financial markets. In this regard, price discovery process is defined as a process by which new information is embodied in trading activity when several financial instruments deriving from the same reference entity traded in different markets. In line with the general assumption that the illiquid bond market was under the influence of both by the CDS and equity markets, Kryzanowski et.al (2017) studied the price discovery contributions of the CDS and equity markets for U.S. firms. They used intraday trading data after the 2007-2009 financial crisis for the two instruments and derived information shares and component shares discovery metric to expose the evolution of relative price discovery across firms and time periods. The results of Kryzanowski et.al (2017) showed that none of these two markets had a price discovery advantage, while the CDS market's advantage raised significantly for negative earnings surprises, especially with high firm-specific uncertainty. The approach by Narayan (2014) is partially parallel to Kryzanowski et al (2017) in terms of the contributions of stock market and CDS to price discovery in most sectors of the US. By using a panel VEC model, Narayan (2014) found that the stock market affected price discovery in most sectors, whereas the CDS market influenced price discovery in only a few sectors. Narayan (2014) also revealed that market dominated the price discovery process in

sectors where both the stock market and the CDS market had joint effects on price discovery. CDS spread, which is under the influence of many variables, shows the risk of the country; while, the effects of CDS spread on the credit risk that the economic agents could be subject to, is increasingly important after the 2008-2009 global financial crisis. According to the findings of Chau et.al (2018), there existed no one-to-one cointegration between CDS spread and stock prices in the US and that possible causality relationship between CDS spread and financial variables cannot be examined with models incorporating long-term relationship.

## 3.EMPRICAL METHODOLOGY

### 3.1.Empirical Model

As for the empirical exercise, we address the relationship between stock prices, exchange rates, consumer price and CDS based on the estimation of a ARDL model for Brazil, China, Mexico, Russia and Turkey over the period 2010:M1 to 2018:M3. We also consider the usage of long-run ECM model according to the results of bounds test, exposing the possible cointegration relationship among the variables under investigation. In terms of the variables attempted to be included in the ARDL model, dependent and independent variables of can be distinguished according to the theoretical assumptions. The number of variables in the ARDL model also indicates the number of possible dependent variables at the same time. For instance; if there are 3 variables are considered in the empirical exercise, 3 equations are obtained, and each equation can be subjected to bounds test to determine cointegration relationship. Because we attempt to analyze the possible effects of stock prices, exchange rates, consumer price and CDS spread 5-year, the vector $(cds_t, cpi_t, fx_t, sto_t)'$ is evaluated within framework. More spherically, it is assumed CDS spread is the dependent variable of the models and it is under the influence of exchange rate, stock prices and CPI that by using the $cds_t = f(fx_t, sto_t, cpi_t)$.

In this respect, CDS spread ($cds_t$) is included in the model as a dependent variable. The independent variables of models are stock market index ($sto_t$) and consumer price index ($cpi_t$) which are both 2010=100, while the nominal exchange rates ($fx_t$) which are defined in units of the national currencies of Brazil, China, Mexico, Russia and Turkey per unit of USD are also used as independent variables of the models. All variables are gathered from the database of Thomson and Reuters and they are transformed into in logarithms.

### 3.2.Identification of the ARDL Model

In terms of analyzing the relationship between variables, various advanced time series models can be employed. Unlike models that are dependent on simultaneous interactions, ARDL model includes the lagged value(s) of the dependent variables as well as the lagged values of regressors as explanatory variables. Additionally, ARDL model considers a combination of endogenous and exogenous variables provided that no variables intended to be included in the model is *I*(2). More specifically, an ARDL model can included variables with *I*(0) and *I*(1). Likewise, an ARDL model can be specified when the variables of the model become stationary in first-differences. A general form of short-run ARDL model can be expressed as below, when there exist no cointegration among variables.

$$Y_t = \gamma_{0i} + \sum_{i=1}^{p} \delta_i Y_{t-i} + \sum_{i=0}^{q} \beta_i X_{t-i} + \varepsilon_{it} \quad (1)$$

In equation (1); $Y_t$ is vector of dependent variables, while $X_t$ contains the independent variables of the ARDL model. More specifically, the dependent variable is a function of its lagged values, the current and lagged values of other exogenous variables in the model. $Y_t$ and $X_t$ vectors can be *I*(0) or *I*(1), another

possibility is that they can be cointegrated. $\gamma_{0i}$ refers to the constant of the model, while $i = 1,...,k$ and the $p$ , $q$ denotes the optimal lag order suggested by the plausible statistical criteria. Finally, $\varepsilon_{it}$ is a vector of error terms, having an unobservable zero mean white noise process.

The most important feature of the approach is to derive difference model specification according to the bounds test results. For instance, both short-run and long-run ECM or VEC model can be derived if the variables are cointegrated. Otherwise, only short-run models are expressed to make inferences about the impacts of independent variables on the dependent variable. Nevertheless, unbiased long-run estimates are exposed by the usage of ARDL technique. The conditional ARDL model ($p$ , $q_1$, $q_2$) with 3 variables constituting a base for the bounds test for cointegration can be expressed as below;

$$\Delta y_{1t} = a_{01} + b_{11}y_{1t} + b_{21}x_{1t} + b_{31}x_{2t} + \sum_{i=1}^{p} a_{11}\Delta y_{1t-1} + \sum_{i=1}^{p} a_{21}\Delta x_{1t-1} \sum_{i=1}^{p} a_{31}\Delta x_{2t-1} + e_{1t} \quad (2)$$

Within this context, an ARDL model with 1 endogenous and 2 exogenous variables can be specified as above. The two other models can be derived and error terms $e_{2t}$ and $e_{3t}$ when the combination of endogenous and exogeneous variables are changed. If there exist cointegration in all three models, simultaneous relationship between variables is consistent and VEC model is to estimated. Based on the model (2), the hypotheses below are tested for bounds test;

$$H_0 : b_{1i} = b_{2i} = b_{3i}$$
$$H_1 : b_{1i} \neq b_{2i} \neq b_{3i} \quad (3)$$

The null hypothesis points that coefficients of the long-run equation are all equal to 0, revealing there is no cointegration. If the null hypothesis is rejected, only the short-run model is constructed for the variables. Otherwise, ECM or VEC models can be estimated for model variables. The ARDL model ($p$ , $q_1$, $q_2$) can be written as in (4) if no cointegration is found for the variables $y_{1t}$ , $x_{1t}$ and $x_{2t}$ , respectively.

$$\Delta y_{1t} = a_{01} + \sum_{i=1}^{p} a_{11}\Delta y_{1t-1} + \sum_{i=1}^{p} a_{21}\Delta x_{1t-1} \sum_{i=1}^{p} a_{31}\Delta x_{2t-1} + e_{1t} \quad (4)$$

If cointegration relationship is detected for model variables in $(y_{1t}, x_{1t}, x_{2t})'$ , the ECM model is denoted in (5) is consistent.

$$\Delta y_{1t} = a_{01} + \sum_{i=1}^{p} a_{11}\Delta y_{1t-1} + \sum_{i=1}^{p} a_{21}\Delta x_{1t-1} \sum_{i=1}^{p} a_{31}\Delta x_{2t-1} + \lambda ect_{t-1} + e_{1t} \quad (5)$$

In equation (5) both short and long-run are considered and thus the first lag of error correction term ($ect_{t-1}$) is included in the model. The long-run is represented by the $ect_{t-1}$ , while $\lambda$ parameter, showing the speed of adjustment with a negative sign. The negative $\lambda$ implies that there is convergence in the long-run, whereas the model is explosive in the case of a positive $\lambda$. The long-run relationship among the variables shows that there is Granger-causality in at least one direction which is determined by the t-statistic on the coefficient if $ect_{t-1}$ is negative and statistically significant. On the other hand, $a_{11}$ , $a_{21}$

and $a_{31}$ refer to the short-run dynamic coefficients of the model's adjustment long-run equilibrium. Accordingly, the short-run casual effect is represented by the *t*-statistic on the explanatory variables.

## 4. Empirical Data and Analysis

### 4.1. Empirical Data

The selection of appropriate model type among alternative advanced time series models depend on the unit root properties of the variables under investigation. In this content, cointegration relationship between variables can also be studied and the relationship between variables can be interpreted with the help of each model's typical tool. Because structural breaks in the time series will significantly affect the interplay among variables, unit root tests are also being developed in this direction. In this study, stationarity properties of variables were determined by using structural break unit root test developed on the basis of Augmented Dickey–Fuller (ADF) test. According to the selection of the inclusion of deterministic variables, the critical values of the structural break unit root test can also change. Thus, the graphs of the variables to be subjected to the test were examined and it was decided that the test would include trend term.

**Table 1:** Structural Break Unit Root Test Results

| Variables | Test Statistic | Lag Length | Suggested Break Date |
|---|---|---|---|
| $cds_t^{br}\ (c)$ | -2.82 | 3 | 2014 M10 |
| $\Delta cds_t^{br}$ | -10.33 | 0 | 2015 M12 |
| $cds_t^{ch}\ (c)$ | -3.61 | 0 | 2016 M12 |
| $\Delta cds_t^{ch}$ | -15.01 | 0 | 2011 M09 |
| $cds_t^{mex}\ (c)$ | -3.58 | 0 | 2014 M10 |
| $\Delta cds_t^{mex}$ | -13.66 | 0 | 2011 M09 |
| $cds_t^{rus}\ (c)$ | -2.91 | 1 | 2014 M06 |
| $\Delta cds_t^{rus}$ | -8.95 | 0 | 2010 M05 |
| $cds_t^{tr}\ (c)$ | -4.31 | 8 | 2015 M01 |
| $\Delta cds_t^{tr}$ | -11.21 | 0 | 2012 M07 |
| $fx_t^{br}\ (c,t)$ | -4.70 | 6 | 2015 M06 |
| $\Delta fx_t^{br}\ (c)$ | -12.15 | 0 | 2011 M09 |
| $fx_t^{ch}\ (c)$ | -3.50 | 11 | 2012 M08 |
| $\Delta fx_t^{ch}$ | -8.65 | 0 | 2018 M01 |
| $fx_t^{mex}\ (c,t)$ | -3.48 | 0 | 2014 M01 |
| $\Delta fx_t^{mex}\ (c)$ | -11.86 | 0 | 2011 M09 |
| $fx_t^{rus}\ (c,t)$ | -5.04 | 7 | 2014 M10 |
| $\Delta fx_t^{rus}\ (c)$ | -7.68 | 0 | 2015 M04 |
| $fx_t^{tr}\ (c,t)$ | -4.72 | 8 | 2012 M10 |
| $\Delta fx_t^{tr}\ (c)$ | -9.99 | 0 | 2016 M11 |
| $sto_t^{br}\ (c)$ | -2.73 | 2 | 2017 M07 |

| | | | |
|---|---|---|---|
| $\Delta sto_t^{br}$ | -8.42 | 1 | 2015 M12 |
| $sto_t^{ch}\ (c)$ | -3.73 | 4 | 2014 M10 |
| $\Delta sto_t^{ch}$ | -8.05 | 0 | 2015 M04 |
| $sto_t^{mex}\ (c,t)$ | -4.93 | 3 | 2013 M04 |
| $\Delta sto_t^{mex}\ (c)$ | -8.94 | 0 | 2010 M12 |
| $sto_t^{rus}\ (c,t)$ | -5.45 | 9 | 2014 M01 |
| $\Delta sto_t^{rus}\ (c)$ | -10.20 | 0 | 2015 M02 |
| $sto_t^{tr}\ (c,t)$ | -5.12 | 9 | 2016 M04 |
| $\Delta sto_t^{tr}\ (c)$ | -8.68 | 0 | 2010 M10 |
| $cpi_t^{br}\ (c,t)$ | -4.15 | 1 | 2015 M09 |
| $\Delta cpi_t^{br}\ (c)$ | -5.07 | 0 | 2016 M01 |
| $cpi_t^{ch}\ (c,t)$ | -5.45 | 11 | 2017 M01 |
| $\Delta cpi_t^{ch}\ (c)$ | -9.22 | 0 | 2011 M02 |
| $cpi_t^{mex}\ (c,t)$ | -4.54 | 1 | 2017 M10 |
| $\Delta cpi_t^{mex}\ (c)$ | -8.30 | 6 | 2016 M05 |
| $cpi_t^{rus}\ (c,t)$ | -5.38 | 7 | 2014 M11 |
| $\Delta cpi_t^{rus}$ | -6.77 | 0 | 2015 M01 |
| $cpi_t^{tr}\ (c,t)$ | -5.27 | 6 | 2016 M07 |
| $\Delta cpi_t^{tr}\ (c)$ | -8.61 | 0 | 2010 M10 |

**Notes:** The 1%, 5% and 10% critical values for the test with constant term ( $c$ ) are −3,48, −2,88 and −2,58, respectively,. On the other hand, the test with constant and trend terms have critical values as –3,55, −3,03 and −2,76 for the 1%, 5% and 10% levels of significance. The lag length of the test regression model was determined by the Akaike Information Criteria (AIC).

As shown Table 1, all variables belonging to Brazil, China, Mexico, Russia and Turkey have unit roots at levels, and when the first differences of the series are taken, they become stationary. In this respect, cointegration relationship among variables can be investigated and thus the ARDL can be enhanced by the inclusion of long-run effects. In order to determine whether ARDL or ECM models can be used to show the impacts of stock prices, exchange rates and CPI on the CDS spread, we implemented bounds test on the basis of ARDL model for each country. According to the vector specified as $(cds_t, cpi_t, fx_t, sto_t)'$, the lag lengths of ARDL model are determined. More specifically, ARDL(10, 12, 9, 6), ARDL(4, 5, 7, 10), ARDL(12, 1, 3, 5), ARDL(12, 1, 1, 10), ARDL(12, 1, 2, 1) are imposed for Brazil, China, Mexico, Russia and Turkey, respectively. The lag values of the model variables were determined according to the AIC, and the lag values of the dependent and independent variables varied among countries. According to the ARDL bounds test, it is exposed that ECM models can be estimated for each country considering the 5% significance level.

**Table 2:** ARDL Model Bounds Test Results

| F-Bounds Test Statistic | Value | Signif. | I(0) | I(1) |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| F-statistic (Brazil) | 5.99 | 10% | 2.37 | 3.20 |
| | | 5% | 2.79 | 3.67 |
| | | 1% | 3.65 | 4.66 |
| F-statistic (China) | 5.32 | 10% | 2.37 | 3.20 |
| | | 5% | 2.79 | 3.67 |
| | | 1% | 3.65 | 4.66 |
| F-statistic (Mexico) | 3.90 | 10% | 2.37 | 3.20 |
| | | 5% | 2.79 | 3.67 |
| | | 1% | 3.65 | 4.66 |
| F-statistic (Russia) | 7.52 | 10% | 2.37 | 3.20 |
| | | 5% | 2.79 | 3.67 |
| | | 1% | 3.65 | 4.66 |
| F-statistic (Turkey) | 3.27 | 10% | 2.37 | 3.20 |
| | | 5% | 2.79 | 3.67 |
| | | 1% | 3.65 | 4.66 |

### 4.2. Empirical Analysis

ARDL model has been acknowledge as an efficient tool in terms of macroeconomic policy research because there is no need of imposing restrictions on coefficient unlike structural VAR (SVAR) and structural VEC (SVEC) models. More precisely, imposing constraints deriving from economic assumptions cannot reflect the dynamic relationships between variables; thus, the risk of avoiding them is minimized. In this study, we estimate ARDL models for Brazil, China, Mexico, Russia and Turkey to show the short-run impacts of stock prices, exchange rates and CPI on CDS spread. The ARDL model has also been extended to ECM model due to the ARDL bounds tests' results and thus long-run effects are taken into account for each case. The majority of information criteria (AIC, Schwarz Information Criterion-SIC, Hannan-Quinn-Information Criterion, Final Prediction Error-FPE and the Likelihood Ratio-LR) suggested a lag length of 1 for the VAR models with the time-series vectors as, $(cds_t, cpi_t, fx_t, sto_t)'$ for each country. In this respect, the lag length of the ECM for each case is determined and the estimations are carried within this framework.

**Table 3:** ECM Estimation Results for $\Delta cds_t(-1)$

| | **Brazil** | | **China** | | **Mexico** | | **Russia** | | **Turkey** | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Coef.** | **p-value** | **Coef.** | **p-value** | **Coef.** | **p-value** | **Coef.** | **p-value** | **Coef.** | **p-value** |
| $\Delta cpi_t(-1)$ | 882.88 | 0.31 | 7.29 | 0.97 | 123.28 | 0.66 | 901.39 | 0.11 | -94.38 | 0.65 |
| $\Delta fx_t(-1)$ | -169.19 | 0.01 | 493.85 | 0.00 | 334.62 | 0.00 | 624.52 | 0.00 | 474.52 | 0.00 |
| $\Delta sto_t(-1)$ | -147.57 | 0.02 | -39.86 | 0.05 | -97.98 | 0.02 | -110.16 | 0.10 | -175.98 | 0.00 |
| $ect(-1)$ | -0.10 | 0.05 | -0.27 | 0.00 | -0.19 | 0.00 | -0.15 | 0.00 | -0.15 | 0.01 |
| $c$ | -2.26 | 0.65 | -0.68 | 0.59 | -1.36 | 0.33 | -9.33 | 0.02 | -2.51 | 0.24 |

Table 3 shows the ECM results and presents the effects of CPI, nominal exchange rate and stock index on CDS spread for short and long-run. Apart from the coefficient of $ect_{t-1}$, remaining coefficients indicate short-run impacts, in other words short-run causality. By assuming CDS spread 5 year as a dependent variable, ECM estimations expose that CPI does not have a statistically significant impact on CDS spread. More specifically, it is determined that inflation, which is the most basic indicator of macroeconomic stability, does not have short term consequences on the country risk. It can also be asserted that increases/decreases in inflation may not lead to theoretically assumed changes in CDS spread. However, it has been generally acknowledged by researchers and policy makers that particularly increases

in CPI deteriorate macroeconomic stability and raises country risk in terms of debt management. On the other hand, negative and statistically significant coefficient of $ect_{t-1}$ in each model implies that CPI may have a causal effect on the CDS spread in the long-run. Because $ect_{t-1}$ also includes long-run impacts of models' other variables, it is revealed that nominal exchange rate and stock price index may have causality effects on CDS spread in the long-run. Furthermore, the negative and statistically significant coefficient of $ect_{t-1}$ terms in each case implies that when the system is out of equilibrium it has dynamics that helps to converge itself to equilibrium in a short time.

In terms of the short-run effects of nominal exchange rate on CDS spread, the majority of the coefficients indicate that depreciation of home currency against USD leads to an increase in CDS spread in China, Mexico, Russia and Turkey. This finding can be interpreted as the fact that in countries where economic agents are opposed to a considerable amount of foreign exchange denominated debt; the increase in the exchange rate raises the credit risk and makes debt management more difficult. In order for the effects of the exchange rate on the country risk to be clearly understood, it can be assumed that the structure of the export sector of a country is important as well as the foreign exchange denominated debts of economic agents. The ECM results show that short-term increases in exchange rates will reduce country risk in the Brazilian economy. Accordingly, it can be said that depreciation of the domestic currency has positive impacts on macroeconomic stability because economic policies in Brazil has been aimed to strengthen its export potential. Conversely, export is significantly dependent on the input of imports in China, Mexico, Russia and Turkey and as a result of the exchange rate depreciation; requisite imports will deteriorate current account balance and raise CDS spread.

As an indicator of financial stability, price changes in the stock market also reflect countries' risk of debt management. The estimated ECM equations for five countries also includes stock indices, while the majority of the coefficients indicated that the increase in stock returns would ease debt management and reduce country risk. This exposes that the foreign capital inflows to emerging markets such as Brazil, Mexico and Turkey reduce the CDS spread by improving the liquidity conditions in those countries. In Russia and China, which have a relatively closed capital regime according to the IMF, no statistically significant effects of stock exchange change have been obtained. The finding suggests that capital flows to Russian and Chinese markets can be explained by interest rates, exchange rate and political factors.

**5.Conclusion**

In this study, bounds test approach was implemented based on the ARDL model and relationships between CPI, nominal exchange rate, stock index and CDS spread 5 year were evaluated. Unlike simultaneous equations method, the effects of other variables were estimated by assuming CDS spread as a dependent variable for Brazil, China, Mexico, Russia and Turkey. Because the results of bounds test underlined that there is a cointegration relationship, ECM was used to determine the possible impacts on CDS spread in terms of macroeconomic and financial stability.

Changes in economic activity are considered as an important indicator of macroeconomic stability and whether an economy is warmed or cooled by supply and/or demand is assessed by the inflation. However, pricing in financial markets is mostly under the influence of CPI and country risk is analyzed in this framework. Therefore, CPI is also included as a variable which examines the effects on CDS spread. Additionally, ECM results show that CPI does not have a short term causality relationship on CDS spread. In other words, the inflation indicator is not considered to have a news effect in this context. In all countries, ECM emphasizes that CPI could have long-run effects on CDS spread.

ECM also takes into consideration the changes in the exchange rate which had indirect effects on price stability over the producer prices. Accordingly, it is revealed that the depreciation of the national currency against USD, which is a risk in terms of macroeconomic and financial stability, will raise CDS spread in China, Mexico, Russia and Turkey. This finding reflects the fact that economic agents in those countries are subject to significant currency risk. Model results also reflect that the international competitiveness level of China, Mexico, Russia and Turkey is relatively low. In Brazil, opposite results are obtained and it is emphasized that investments increasing total factor productivity will reduce country risk. The most significant finding of our study is that the development of the export sector will reduce the country risk and decrease CDS spread.

In this study, possible consequences of financial stability were also evaluated by means of stock indices and it is revealed that increases in stock indices of Brazil, Mexico and Turkey would raise liquidity and lower country risk in the short-run by triggering capital inflows. On the other hand, similar inferences cannot be made for China and Russia, and it can be said that exchange rate, interest rates and political factors may be important for those countries. ECM results also show that CPI, nominal exchange rate, and stock index may have causality effects on CDS spread in the long-run. Moreover, the role of long term coefficients and probable asymmetric effects may be the subject of further studies.

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# TEACHING INTRODUCTORY ECONOMICS: CRITIQUE OF THE TRADITIONAL WAY OF TEACHING "PRODUCTION COSTS"

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ABSTRACT

The paper critically examines the current method of teaching one of the core topics in Introductory Economics. The area of my criticism of the traditional Production Costs theory as it had been taught in many universities across the world is that it inevitably creates in the minds of beginning students a false perception that "things have costs". The Economic Way of Thinking as the alternative approach to the traditional way of teaching Introductory Economics disarms this popular idea and affirms that "only actions have costs" . The discussion is done in the form of dialogue between the author and a reader.

If you flip through the pages of any classical textbook on Introductory Economics written by G. Mankiv, P. Krugman, R. Lipsey, M. Parkin or A. Layton and taught in North American, European or Australian universities you will discover that practically every page of it is riddled with formulas or graphs. Some Introductory Economics textbooks have been converted into a course on analytic geometry or calculus. This approach would create no problems if all the beginning students were destined to apply to graduate schools and pass PhD exams. But in reality only a few of them follow that path.

After studying the Production Costs theory using one of the classical textbooks mentioned above the beginning students will be able to derive rigorously the behaviour of the marginal and the average cost curves. They get a good understanding of the relationship between these two types of costs. Students also can do calculation of different elements of costs of production and they are equipped well enough to express them in monerary terms. But they have no clue how to

apply that knowledge to everyday practice of business firms. And not because they did not grasp well enough the production costs theory but because that theory by its nature – which is perfectly flawless in the realm of its assumptions - can not be immediately applied to real world issues. That is why many students who successfully passed "rigorous" economics tests based on the use of math failed the tests when they asked to apply the principle of opportunity cost to everyday economic problems.

The paper identifies the most important area of the analysis of the costs of production that draws a borderline between the current traditional method referred to as "The Traditional Approach" and its alternative - "The Economic Way of Thinking". For that purpose the two most popular in North America textbooks written by R. Lipsey and R. Frank/ R. Bernanke – they represent the "The Traditional Approach" - are contrasted with the Paul Heyne's textbook which speaks on behalf of "The Economic Way of Thinking". The area of the analysis is associated with the question :" Do "things" have costs?"

We track the origin of the popular belief that "things have costs" to the early childhood: many of us remembered that day when for the first time in our lives our Dads gave us about fifty cents to come to our favorite candy store to purchase a little box of our favorite candies. That idea is strengthened later on when you were taking Introductory Microeconomics during your undergraduate studies. The paper walks you through the relevant pages of textbooks written by R. Lipsey and R. Frank/R. Bernanke to see how both authors treat the concept of "costs of production". The detailed and careful analysis of the definitions of different types of production costs makes it evident to an objective reader that both textbooks put into the mind of an undergraduate student an idea about strong correlation between "output" and "costs". The idea that "output" has "costs" is strengthened when both authors present the graphical relationship between different cost curves . Many undergraduate students who studied the cost of production concept are familiar with a famous graph with the three types of cost curves – MC, AVC,ATC - where you see " output" on the horizontal axes and "cost" on the vertical axes.

Students that learnt the concept of the costs of production by the traditional way of teaching of Principles of Economics were trained well enough not to miss raw materials, labour time, the machinery or tools when they do calculation of costs of production. They also know how to express the value of these inputs in monetary terms. They were taught that the sum of these values is the cost of production of a good in question . "The Economic Way of Thinking" teaches

that the calculation the costs of production that way is not necessarily wrong. But it leaves one very important question unanswered: "Why did it cost the producers whatever it did cost, in monetary terms, to use these inputs? ". A dialog between the owner of a small Calgarian company "After Eight Inc." and a currently hired manager John Smith reveals that the theory of the costs of production which John had learnt in his Business School did not help him to give a proper answer to that question. The reason why "The Traditional Approach" to the theory of costs of production was impotent to shed light on the above question is that "The Traditional Approach" takes into consideration only quantitative side of the theory leaving aside the most important qualitative side of it – opportunity cost- which reflects the deep economic nature of the costs of production. That focus has its logical consequences. It inevitably produces in the mind of an undergraduate student a strong impression that "things" per se have costs.

At the end we are coming to the most fundamental area which serves as a borderline that separates "The Traditional Approach " from "The Economic Way of Thinking" with respect to the concept of production costs – the relationship between "actions" and "things". The reason why John Smith was not able to find an answer to his boss' question is because neither R. Lipsey not R. Frank/R. Bernanke never payed attention to the difference between " actions" and "things". The economic soil of "The Traditional Approach " where "actions" and "things" are merged together inevitably produces its fruit – the idea that "things" have costs. The tree of "The Economic Way of Thinking" is rooted in totally different type of economic soil where "actions" are separated from "things". Therefore, it produces totally different type of fruit – the idea that "things" have no costs at all. Only "actions" have.

# PRIORITY DIRECTIONS OF DEVELOPMENT OF RECREATIONAL ACTIVITY IN THE NIZHNY NOVGOROD REGION

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## ABSTRACT

The article examines the priority directions of recreational activity in the Nizhny Novgorod region and reveals the tourist industry potential on a national scale and its percent utilization. The tourist potential of the Nizhny Novgorod region, kinds of recreational resources and possibilities of their application in the interests of the industry are studied. The article gives an analysis of the tourist flow and other statistical indicators of the region for the last 5-6 years and the conclusions about the stable growth of the rendered tourist services are drawn and the reasons for the growth of the tourist service volume in the region are revealed. The impact of the FIFA World Cup on the development of sports and event tourism in the region is determined. Kinds of tourism in the Nizhny Novgorod region are classified and the main directions of tourism development in the region are identified based on general trends in the development of the tourist industry in Russia. Priority directions of development of certain kinds of tourism in the Nizhny Novgorod region are investigated. The negative factors hampering the development of tourism in the Nizhny Novgorod region are identified, the main directions of the industry development contributing to the increase in the tourist flow to the Nizhny Novgorod region are proposed,. There is a comprehensive proposal made to create and develop a tourist cluster in the Nizhny Novgorod region forming a single innovative and economic space for the development of tourism in the region.

**Keywords**: Tourism, kinds of tourism in the Nizhny Novgorod region, innovative tourism, tourist flow, tourist cluster.

## Introduction

The development of tourism is one of the most important directions of social and economic development of the region. Tourism, as a complex of goods and services in the field of transfer, accommodation, catering, and entertainment, cognitive or sporting services, is the interaction of various economic entities regarding the formation and distribution of income from tourists entering the region. Tourist activities can be described as a single space uniting the institutes of nutrition, education, hotel business, sports and many other companies that form a significant part of the regional GRP and ensure its sustainable functioning.

## Quantitative and qualitative indicators

Currently, in most countries tourism provides 3-10% of GDP and up to 40% in especially unique ones. The share of tourism in Russia reaches just over 1%. At the same time, Russia has rich and diverse tourist resources, which are not fully used [1]. The Nizhny Novgorod region is a unique region uniting the opportunities for the development of various types of tourism: cultural, cognitive, cruise, therapeutic and recreational, business and event, environmental and adventure, rural tourism and a system of private hotels, hunting and fishing. It is rich in natural landscape and climatic resources, located in the taiga, broad-leaved forests and in the steppe. A huge role is played by the presence of about 400 natural heritage sites, including 17 reserves, 1 nature reserve, more than 8000 rivers and lakes. The cultural and historical heritage of the Nizhny Novgorod region is represented by more than 3 thousand monuments of history, culture and architecture, 396 of which are monuments of federal significance. Also in the region there are ancient fortress cities, monasteries, museums, manors, etc. A large number of different nationalities with their unique culture living in the territory of the Nizhny Novgorod region (Russians, the Chuvashes, the Mordovians, the Tatars, etc.) create conditions for the cultivation of folk crafts, the development of which is supported by numerous exhibitions and folk festivals organized in the region.

The Nizhny Novgorod region took the eighth position in the national tourism rating in 2017. Experts estimate that the region is among the ten most promising regions of Russia, where tourism can become a budget-forming industry. Over the past year, there has been a steady increase in the tourist flow to the Nizhny Novgorod region (Figure 1.2). The flow of tourists is especially increasing after 2014, when the program for preparing for the 2018 FIFA World Cup started, and a huge stadium was built for 45,000 seats, the new STRELKA metro station, as well as four new hotels designed for 541 rooms were built in Nizhny Novgorod for the 2018 World Cup. Among them there are Five Star Sheraton Nizhny Novgorod Kremlin hotel for 176 rooms and Four Star Courtyard by Marriott hotel for 143 rooms.

Tourist flow to the Nizhny Novgorod region in 2013-2018, K people


Fig. 1 Tourist flow to the Nizhny Novgorod region in 2013-2018, K people (Source: compiled by the author).

In 2016, 2017, the tourist flow remains almost the same, but the growth compared to the base year of 2013 is 220 percent and 228 percent, respectively. Data for 2018 are not yet complete, because the tourist season in the region has not been over yet.

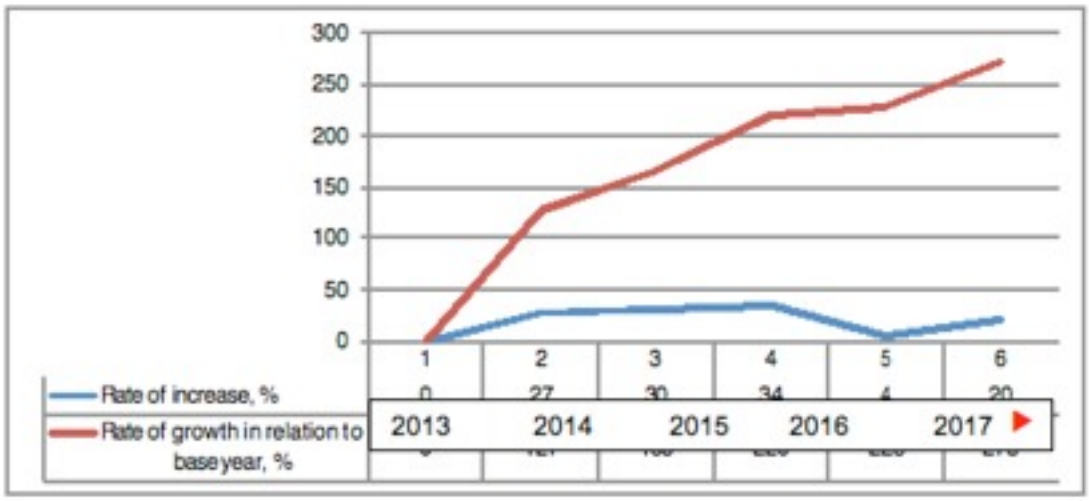


Fig. 2 The growth rate of the tourist flow to the Nizhny Novgorod region, % (Source: compiled by the author).

According to the survey conducted (320 respondents), the intensity of consumption of various types of tourism in the Nizhny Novgorod region (by the number of consumers) is as follows: sports - 43.8%, commercial (hunting, fishing, etc.) - 40.0%,

medical - healthy - 29,1%, scientific-cognitive - 22,2%, ecological tourism - 17,2%, extreme - 15,0%, cruise, event and rural - 12,2%, religious - 8,1% and business - 4.1% [2].

From the point of view of classification of the types of tourism, it is interesting to distribute each type in the coordinate system between nature, i.e. geographic tourism, beach, cruise vacation and culture (sightseeing, pilgrimage to holy places, etc.). Each type of tourism can be eventful, i.e. associated with an event and having a clear goal, and weakly structured, not having a clear goal and untied to any events (Figure 3).

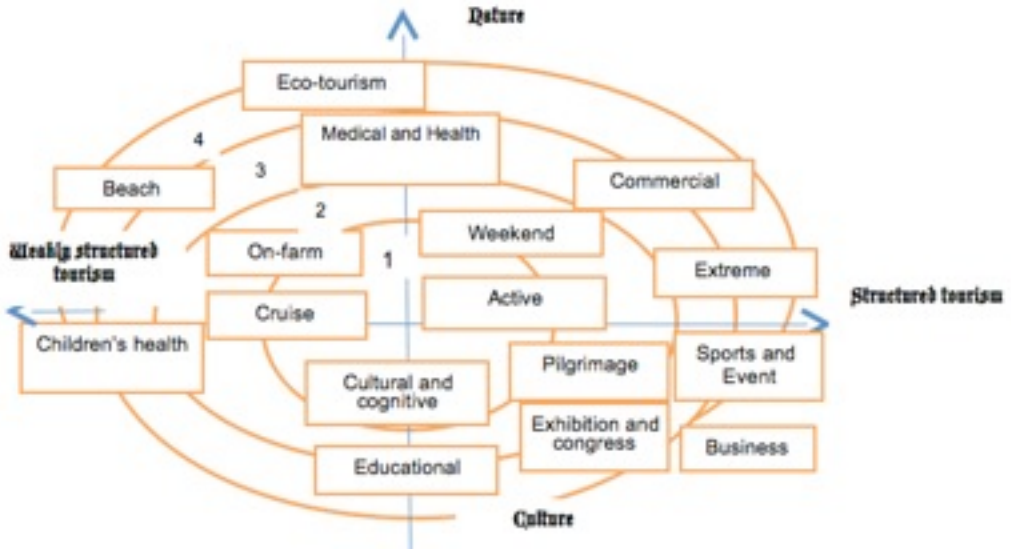


Fig. 3 Main types of tourism in the Nizhny Novgorod region [3]

**Priority directions of recreational activities in the Nizhny Novgorod region**

The proposed classification helps to highlight the priority areas of recreational activities in the Nizhny Novgorod region, based on general trends of tourism development in Russia:

1. According to the expert studies [4], the number of tourist services consumed in Russia in 2017 decreased by 30% compared to the level of 2014. However, the number of hotel services increased by 30% in 2017 compared to the level of 2014. This means that many tourists have stopped using the services of travel agencies and prefer to arrange their vacation themselves. In this regard, the demand for recreational opportunities of the Nizhny Novgorod region is shifting towards the weakly structured tourism, when tourists choose the route themselves and are not tied to any events. At the same time, the choice between nature and culture among Russian tourists most often turns next to the nature. Therefore, beach, ecological and medical and health tourism will be popular.

2. On the other hand, the largest flow of tourists to the Nizhny Novgorod region was observed in 2018 during the 2018 World Cup. Data on the choice of event tourism for 2018 will be the highest ones. The Nizhny Novgorod region was visited by about 355 thousand people, among them about 150 thousand are foreign tourists, and 205 thousand are Russians from other regions of the country. Hotel occupancy in the region reached 95% compared to the usual level of 45%. In addition, the construction of new sports facilities and structures will attract a huge number of tourists (both Russians and foreigners) for training and visiting large-scale sporting events. In this regard, sports and sports-event tourism will also be the predominant direction in the development of recreational services in the region.
3. By the end of 2016, according to the TurStat analytical agency, the most developed kind of tourism in the Nizhny Novgorod region remains pilgrimage tourism, as evidenced by the rating of popular places for pilgrimage and regions of Russia [5]. Religious tourism, for the development of which in the region there are 3 active monasteries in Nizhny Novgorod: Pechersky, Blagoveshchensky, Krestovozdvizhensky Monasteries and 9 active monasteries in the region: the Holy Trinity-Seraphim-Diveyevsky Monastery, where the relict of St. Seraphim of Sarov lies; Nikolayevsky Georgievsky Ababkovsky Monastery; Nikolsky and Spassky Monastery in Arzamas, as well as Florischeva Pustyn (the Monastery of the Holy Dormition) and a number of inactive almost half-ruined monasteries, attract many people who wish to venerate relics and sacred images. The development of pilgrimage tourism will also contribute to the increase of tourist flows to the region.
4. Currently innovative tourism is very popular i.e. new unknown areas of tourism, the creation of resources with pre-defined properties and a new objective function, or the attraction of new types of resources for the tourist process, the development of new segments of the tourist market. Examples of innovative tourism would be marriage ceremonies on the ice of Lake Baikal, under water or during a parachute jump; accommodation of hotels in trees (Germany), beacons (Friesland province, the Netherlands), in wine barrels (Rüdsheim, Germany), underwater (Key Largo, Florida USA); holding business conferences in the inflatable conference hall (Sfera, (Moscow region), visiting both disestablished and operational military facilities (Balaklava, Crimea), etc. [6]. In addition, according to the Governor's statement, the Nizhny Novgorod region in 2016 took the 4$^{th}$ position in the innovative potential [7].

**Factors restraining the development of tourism in the region**

To effectively use the recreational opportunities of the Nizhny Novgorod region, it is necessary to pay attention to the following factors hindering the development of tourism in the region.

1. Lack of an integrated approach to the conservation and development of tourist resources.

2. Insufficient positioning of the city of Nizhny Novgorod in the world and domestic tourist markets as a tourist destination;

3. Problems with poor quality of roads and communication between historical monuments in the region.

4. The unsatisfactory condition of many monuments of architecture;

5. Insufficient level of qualification of the personnel of tourist industry businesses, including knowledge of foreign languages;

6. Deficiency of statistical information characterizing the state of affairs in the industry [8];

Despite the fact that 71 billion dollars were spent for the development of the region infrastructure for the 2018 World Cup, which were used, among other things, for the development and improvement of roads, motor highways, repair of the airport, etc., the roads of the Nizhny Novgorod region still remain in a sad condition. There are not enough budgetary funds for comprehensive reconstruction of architectural monuments, although the reconstruction of monasteries and places of pilgrimage is included in the Strategy for the development of the Nizhny Novgorod region till the year of 2035.

A fairly serious problem is information about the tourist directions of the Nizhny Novgorod region in media resources. Even at the end of the 2018 World Cup, a low degree of media activity of the host cities was noted. Evaluation of the popularity of the host cities was conducted by the number of references to the name of the city in the context of the World Cup, as well as by a number of other quantitative and qualitative indicators. The study revealed that media are not paying enough attention to positioning host cities as a brand, and this reduces the level of their informational and advertising fame [9]. Considering the fact that about 23% of Russians visit the Nizhny Novgorod region annually, it is necessary to position tourism in the region and distribute information about the existing recreational areas.

A huge role is played by the level of comfort of tourist accommodations. Five-star and four-star hotels have been built in the region by the 2018 World Cup. However, with regard to accommodation at tourist bases, in places of pilgrimage, as well as eco-tourism, there are not enough conditions for traveling families with children, and this reduces the possibilities of attracting tourists to the region. In addition, the level of service also consists of restaurant service, the level of staff qualification, interior in the hotel rooms and additional services.

**Conclusion**

Work on improving the level of service in the Nizhny Novgorod region is of a complex nature and should be carried out in close cooperation with organizations of other industries: universities, research institutes, manufacturing enterprises, etc. Forming a unified sphere of exchange of goods and services will improve the quality of tourist service in the Nizhny Novgorod region. In this sense, it is effective to create a tourist cluster in which universities help to improve the qualification of hotel staff by providing language learning services, and hotels provide free places to accommodate university guests coming to conferences and other scientific events. The organization of excursions

to industrial enterprises could also be interesting both for the residents of the region and for tourists.

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