

# Regional SMEs Impact on the Supply Chain Management of the Global Economy

Olga Lozitskaya<sup>#1</sup>, Ildar Ablaev<sup>\*2</sup>, Evgenia Budko<sup>‡3</sup>

<sup>#</sup>*Department of Public Finance, Financial University under the Government of the Russian Federation, Moscow, Russian Federation*

<sup>\*</sup>*Department of Territorial Economics of the Institute of Management, Economics and Finance, Kazan Federal (Volga region) University, Kazan, Russian Federation*

<sup>‡</sup>*Department of State and Municipal Management, Russian State Agrarian University - Moscow Timiryazev Agricultural Academy, Moscow, Russian Federation*

<sup>1</sup>olozitskaya@gmail.com

<sup>2</sup>ildar\_ablaev@mail.ru

<sup>3</sup>aa2551157@mail.ru

**Abstract**— Today, supply chain management has emerged as an important capability of operational excellence for companies. On the one hand, small and medium-sized businesses are managed by business families, and through this, owners will make strategic decisions to control and manage operations. Towards the growth of professionalization levels is risk-taking, which has a significant impact on business. Based on the results obtained, the main trends of the modern development of global family policy are highlighted, including the degree of its impact on the economic stability and the competitiveness of the country. The research is based on four macro-regions of the world: Europe, America, Asia, as well as Australia and New Zealand. The purpose of this paper is to provide a model for the relationship between the characteristics of small and medium-sized family businesses and supply chain management. The relevant model shows which of the family business requirements and supply chain management is effective. As a result, it was concluded that the strongest relationship between the family policy and economic development can be traced in supply chain management of Russia. Other regions of the world demonstrated a lower correlation. This emphasizes the non-synchronous impact of the decisions made by the state in the interests of the family on its global competitiveness. It was revealed that the improvement of economic indicators stimulates fertility in Russia, while in other countries, on the contrary, it provokes its decline.

**Keywords**— family SEM, Supply Chain, correlation and regression analysis, Competitiveness, macro regions of the world.

## 1. Introduction

The article suggests a model of the mechanism of strategic development of small and medium-sized

family businesses in the supply chain. In modern society, the role of the family as a social institution is being actively transformed. A few years ago, the state committed itself solely to supporting vulnerable families, single parents, working mothers and other necessitous public. But the adoption of the new Concept of state family policy in the Russian Federation [1] allowed reviewing old decisions and highlighting their excessive narrowness and inefficiency. The current demographic situation both in Russia and around the world requires the creation of favorable conditions rather than state support. It is understood that a new state family policy should include not only social assistance, but also a set of measures aimed at strengthening the modern family institution. The experience of foreign countries proves [2] that the expanded state powers in the family sphere positively affect the economy as a whole and stimulate its development.

This effect can be measured by the UN Happiness Index [3]. The index is largely based on economic and social indicators: GDP per capita, civil liberties, life expectancy, family stability, job security, citizens' confidence in the government, etc. All this makes it an ideal tool for identifying the relationship between the economic and social components of the state family policy.

The relevance of the research is also confirmed by the growing interest of the scientific community in the issue. Over the last decade, many authors have highlighted the state policy structure and its impact on the global economy in their works. Thus, the researchers at Cambridge University believe that modern family policy has three development vectors focused on family, childhood and, directly, the child [4]. The Chinese government regards family policy as a potentially effective tool for urbanization [5]. This refers to intensive investment in family education in rural Chinese regions. However, there are still many unresolved contradictions. First of all, they are

associated with the relationship between family, social and demographic policies. English economists note the popularity of extended gender equality-oriented family policies in high-income countries [6]. The complexity of choosing specific tools necessary for the implementation of an effective state family policy should be noted separately.

## 2. Literature review

State family policy is a system of principles, goals, objectives, and priority measures aimed at supporting, strengthening and protecting the cornerstone of society. Being an important part of the social policy of the state, family policy focuses on a specific object - the family [7]. It also has some common features with the demographic policy being based on birth rate indicators. However, they have one significant difference: demographic policy is aimed at the whole society, and family policy - at a separate family, as a unit of society.

Like state policy, family policy can be built on the basis of the liberal (non-interventionism), conservative (supporting traditional gender roles) and socio-democratic (focusing on gender equality) models [8].

In Russia, modern family policy is focused mainly on families that need social protection and support, and are at social risk caused by a difficult life situation [9]. In recent years, the policy has been changed mostly at the federal level in order to improve the legislative framework [1]. Nevertheless, in practice, there are a lot of difficulties related to the implementation of the changes, including the non-use of personnel and organizational potential. Family policy is often identified with a social or demographic policy, which also negatively affects the development support of the family as a separate institution. It is a systematic approach that will help establish a family microclimate by improving the quality of life, as well as the socio-economic situation in the country.

France is a good example: French family policy is considered to be one of the best and most effective policies in Europe and in the world [2]. All social support programs for families and children that are currently being successfully implemented in France can be divided into 5 key groups:

- payment of family benefits and benefits in connection with birth of a child;
- payment of active solidarity benefits (RSA);
- payment of housing allowances and other types of assistance related to housing;
- provision of tax benefits to spouses and families with children;
- provision of tax benefits for spouses and families with children.

Each group is responsible for the effective solution

of their specific tasks. An important thing is that a family support field is formed by them. Thus, the government has a positive effect on the demographic and economic situation in the country, reduces social tension and provides a decent standard of living for various segments of the French population.

The United States has a similar comprehensive strategy. Over the past 50 years, a significant theoretical and practical base has been developed and there has been some noticeable success in the family policy [10]. In particular, the adopted "work-family" concept, which implies the assistance to working parents; prevention of teenage pregnancy; child welfare services and control of domestic violence, etc. have a positive effect. The creation of state family commissions can help the family policy become a more visible and effective part of the country's overall policy.

Thus, a family policy should cover all spheres of family life, from tracking youth trends [11] to pension payments, in order to ensure practical results. Based on this, the following family policy areas can be distinguished [12]:

- support for the fullest realization of the family reproductive function (the birth rate increase);
- promotion of the effective implementation of the educational function of the family;
- family institution strengthening and increasing the value of family lifestyle;
- economic support for families;
- creating conditions for combining family and professional responsibilities;
- promotion of family leisure and recreation;
- development of the life-protecting function of the family and the health of its members.

The population of the country is the best indicator of the success of an adopted family policy. With due regard to this fact, a social survey becomes an effective tool for determining the quality of implemented reforms within the framework of the results-oriented budgeting concept.

Thus, a series of surveys entitled "Family policy: support measures through the eyes of the family" were conducted in Russia throughout a month (from August to September 2019) [13]. They were initiated by the Commission of the Civic Chamber of the Russian Federation on the support of family, motherhood and childhood. The key objective of the survey was to analyze family support measures in Russia, to identify the most highly-demanded among them, as well as to find out in which cases the family faces difficulties in obtaining certain services. The survey results will form the basis of a study on family policy measures aimed at increasing the birth rate and economic well-being of families with children.

A close relationship between the family policy of a state and its economic development can be traced through the example of the Chinese concept "one family - one child" adopted in the 1970s [14]. In the short term, it helped the country to cope with the problems of

overpopulation, but, subsequently, it turned into a real demographic catastrophe. Discrimination against women, a significant excess of the number of men compared to women, an aging population and the deterioration of the psychological health of the nation are just some of the problems caused by this policy. It is against this background that two serious economic problems developed: the loss of labor force and weakening demand in the domestic market. That is why in recent years, Chinese authorities have abandoned this rule and started paying great attention to the discrimination of working mothers and the improvement of educational services in rural areas [5].

## 2.1. Setting objectives

The purpose of the research is to study the features of the development of both an individual household and the country as a whole. To achieve it, the following tasks have been set:

1. To analyze the dynamics of public spending on family benefits in the main regions of the world. This will allow us to highlight general family policy trends and group countries based on their contribution to supporting the national family

institution.

2. To assess the importance of family policy as one of the main components of the state social policy, as well as its impact on the general mood of the population.

3. Based on the UN Happiness Index (World Happiness Report), to conduct a correlation and regression analysis of the relationship between the government measures to improve the social environment and the economic growth trends highlighted by the Global Competitiveness Index (The Global Competitiveness Index).

## 3. Methods and materials

The problems of the family policy effectiveness affect all countries as they are directly related to the population and its impact on the economy. Therefore, in order to create a broad research base and ensure easy calculations, it was decided to use the generally accepted classification of macro-regions of the world proposed by the UN. Thus, the research base consists of European countries, Asian and American regions, as well as Australia and New Zealand (Fig. 1)

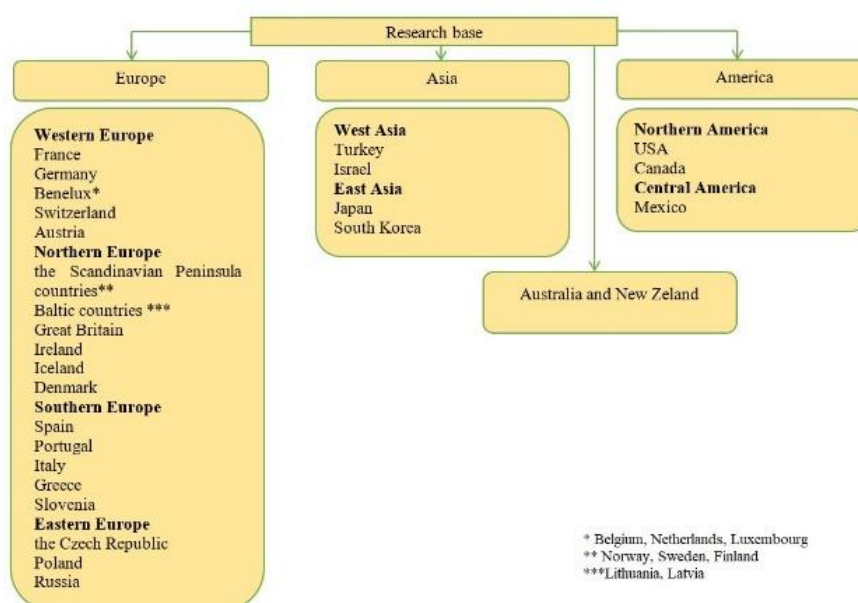


Figure 1. The sample of the countries participating in the study.

Public spending on family benefits is the main quantitative indicator of family policy that is common to all countries of the world; it is used in every state. This indicator will be used in our research. Public spending on family benefits can be divided into three categories:

childcare remittances (child benefits, income support during parental leave, income support for single-parent families);

public spending on services for families with children

(direct funding or subsidizing childcare in preschool educational institutions, public spending on helping youth and needy families);

financial support for families through the tax system (tax benefits, tax loans).

To analyze the influence of state family policy on economic development, a correlation and regression analysis was used. The calculations were performed in the MS Excel program "Data Analysis". Let us note that only the most successful models will be presented in the

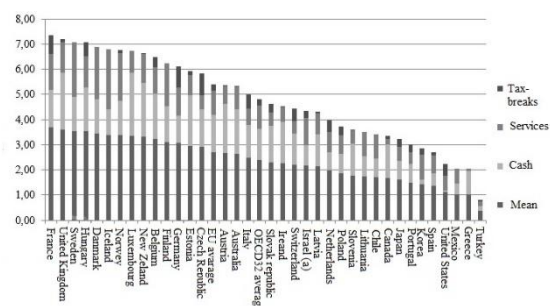
results, namely, the ones demonstrating the closest relationship. To determine them, we constructed linear regression equations based on the indicators of the Global Competitiveness Index used as the X coefficient, and the UN Happiness Index indicators used as the Y coefficient.

#### 4. Results

Based on the official statistics [15] of the *Organization for Economic Co-operation and Development* (OECD) the following trends can be identified:

*OECD countries spend an average of 2.4% of GDP on family benefits.* However, when regarding each country separately, the indicators will be very different. In France, Hungary, Sweden, and Great Britain, public spending on family benefits exceeds 3.5% of GDP, while in Greece, Korea, Mexico, Spain, Turkey, and the United States it does not exceed 1.5%.

*Cash benefits are the main source of spending in most countries.* However, Denmark, Germany, Iceland, Israel, Chile, Finland, Lithuania, Norway, Sweden, South Korea, Mexico, the Netherlands, Spain and the USA do not fall into this category. In these countries, the main expenditure line is the support for the necessary infrastructure for families with children. The Czech Republic, France, Germany, Hungary, Italy, and Switzerland should also be excluded from the list. This is explained by the fact that the spending of these states on tax benefits for families is more than 0.5% of GDP. For illustration purposes, let us display the described dynamics as a graph (Fig. 2):



**Figure 2.** Public spending on family benefits (by categories), % of GDP, 2019

In our view, it would be appropriate to trace the relationship between the Global Competitiveness Index, as an indicator of the country's economic development, and the individual components of the UN Happiness Index, namely social assistance, expected birth rate and confidence in the government. All the analysis elements are used as coefficients.

Obviously, there is no functional mathematical dependence between them; but if there are relevant statistics, it is possible to put forward a hypothesis about the existence of a correlation and regression relationship. It was decided to describe the most significant results in detail as it is not possible to display all of them (for each of the countries). For example, Russia, to determine the domestic family policy characteristics, as well as the United States, Australia and South Korea as the main representatives of their macroregions. The regional analysis will allow us to find similar and different features in the relationship between family policy and the economy in the most diverse conditions.

The data for the past 10 years have been analyzed. To determine the correlation between the indicators, let us calculate the pair correlation coefficients and get them together in correlation matrices (Table 1).

**Table 1.** The correlation analysis results

		The Global Competitiveness Index	Social assistance	Expected birth rate	Confidence in the government
Russia	The Global Competitiveness Index	1			
	Social assistance	0.405823847	1		
	Expected birth rate	0.790077001	0.467549243	1	
	Confidence in the government	0.646218557	0.773185663	0.485826156	1
USA	The Global Competitiveness Index		Social assistance	Expected birth rate	Confidence in the government
	The Global Competitiveness Index	1			

	Index				
	Social assistance	0.263576022	1		
	Expected birth rate	-0.785156684	-0.35025614	1	
	Confidence in the government	0.510115155	0.208406594	-0.082234311	1
Australia		The Global Competitiveness Index	Social assistance	Expected birth rate	Confidence in the government
	The Global Competitiveness Index	1			
	Social assistance	0.276209664	1		
	Expected birth rate	-0.156151145	-0.354160529	1	
	Confidence in the government	0.484367272	0.39919811	-0.659169916	1
South Korea		The Global Competitiveness Index	Social assistance	Expected birth rate	Confidence in the government
	The Global Competitiveness Index	1			
	Social assistance	0.945302530	1		
	Expected birth rate	-0.564850893	-0.162625656	1	
	Confidence in the government	-0.393326589	0.109184264	0.301703528	1

Thus, Table 1 shows that there is a close correlation between the dynamics of the Global Competitiveness Index and social assistance (*correlation coefficient* > 0.7) only in South Korea. Most likely, this is due to its successful educational reform, which helped significantly improve the social indicators of the entire Asian region.

As for the expected birth rate, there are two opposite trends. Increasing state competitiveness contributes to the population growth in Russia while in the USA the situation is exactly the opposite. To explain the discrepancy, it's necessary to look at the statistical data [16]. Thus, according to the US Census Bureau statistics, childlessness is becoming a common phenomenon. In 2014, almost half of the women surveyed (47.6%) aged 15 to 44 years old confirmed that they had never had children. An important fact was their higher education degree and the career position. As expected, most of the respondents had a university degree and a highly paid job. Thus, it can be seen that economic stability led to the emergence of a "childfree" trend, which is the rejection of procreation.

The closest relationship for all the indicators is

observed in the analysis of domestic conditions. Thus, it was decided to continue the regression analysis based on the data for Russia. The regression equation is as follows:

$$Y = 2,9 - 2,8X_1 + 0,06X_2 + 0,87X_3 \quad (1)$$

It means that:

1) a one-point increase in social assistance decreases the Global Competitiveness Index by 2.8 points. This apparently contradictory tendency is explained by the fact that in Russia, family policy is presented mainly through social assistance to vulnerable families. This inefficient use of resources negatively affects the economy as the focus on problem areas impedes the prosperity of nuclear families that do not get state assistance.

2) a one-point increase in the expected birth rate increases the Global Competitiveness Index by 0.06 points.

3) an increase in the confidence in the government raises the country's competitiveness by 0.87 points.

The multiple regression coefficient  $R = 0.88$  indicates a close relationship between the resulting indicator and factor values. Regarding the values of the coefficient of determination  $R^2 = 0.77$ , the dependence of the economy

competitiveness is 77% due to the selected factor values. In view of the high values of the multiple regression and determination coefficients, this dependence is quite natural.

## 5. Discussion

Intensive development of large network structures and supply chains is directed towards globalization, however, such development is ensured by business initiatives undertaken by small and medium-sized enterprises (SMEs), without voluntary inclusion of which into these structures such development would take longer and be less efficient.

Currently, new ways and methods of conducting family policy are becoming relevant. A narrow social benefits system focused on vulnerable families is being replaced by a comprehensive policy that includes financial and research components.

American researchers note the existence of the so-called "*family policy paradox*" [17]. It resides in the fact that there is no interaction between the levels of national family policy: social material assistance, the provision of social services and the conduct of sociological research. They function separately instead of producing a synergistic effect from mutual collaboration through the use of opinion poll results to modify existing government structures. This negatively affects their performance and image in general. Modern society has become so multifaceted and complex that it needs an exclusively comprehensive family policy.

Preventive work is one of the essential family policy components. Family policy in the USA, Canada, Great Britain, Malta, and Israel has an indirect effect on families with one child that is aimed at preventing future conflicts [18]. This concept is especially popular with the advocates of an integrated family support system that are called "*policy-minded researchers and research-minded policymakers*" [19].

The results of the study conducted in Canada based on the state programme on preschool education and childcare argue for an integrated approach [20]. The authors conclude that the existing federal initiatives are ineffective and should be reviewed. According to them, the main reason for this is the historical liberal economic policy of the state, the relatively decentralized federal system and the orientation of society towards the formation of market relations. In turn, this confirms our assumption that there is a close relationship between family policy and the economic development of the country as a whole.

## 6. Conclusions

Modern supply networks and chains must possess a considerable elasticity potential that will enable them to successfully adjust to the turbulent environment. Such elasticity potential should be developed via involvement of small and medium-sized enterprises with a relatively narrow specialization the course of the study, it was concluded that state family policy has a strong impact on the country's economic prosperity. This was confirmed by the results of numerous domestic and foreign studies, as well as our own calculations. The correlation and regression analysis revealed a close relationship between the level of social assistance, the birth rate, the confidence in the state and national competitiveness. It should be noted that the Global Competitiveness Index is an important criterion for the economy development. An interesting contradiction was revealed between the models of Russia and the United States, in which the birth rate increased (in Russia) and decreased (in the United States) using the same variables. This indicates the importance of such factors as macroeconomic stability, income level, dominant attitude and psychological health.

The analysis of the main regions of the world made it possible to cover the whole range of features of state family policies, as well as to identify their similarities and differences through supply chain in SEM. Thus, one common tendency to the social integration of family policy and the expansion of its functions was identified. There is a gradual transition from a narrow policy to a comprehensive and large-scale policy covering all areas of the interaction between families and the external world. More attention is paid not only to the solution of existing problems, but also to the measures preventing them.

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