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Effect Of inwards FDI on new venture creation, industrialization and economic growth in Russia: A timeseries ARDL approach

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ABSTRACT

This research aimed to clarify the impacts casted by inwards FDI on New venture creation, industrialization, and the economic growth of Russia. For all of these variables, data was taken about Russia from the site of The World Bank, and the selected duration was from 1995 to 2019. The total duration of the data taken was from 24 years. The time duration was well enough for applying the A.R.D.L. approach to the time series data of the study. This research used the unit root test to know the presence of the unit root for each variable, the lag order selection was made for the data, the bounds cointegration test was also applied, and ARDL Model was used to know about the different effects. With the help of the results derived, it was observed that the impact of private sector investment on new venture creation is significant. In contrast, foreign direct investment and research and development (R&D) effects on new venture creation are insignificant. It was also observed from the results that the impact of R&D on industrialization in Russia is significant, while the effects of FDI and the impact of private sector investment on industrialization in Russia is insignificant. We have fund that the effect of FDI and the impact of private sector investment on the economic growth of Russia is significant. In contrast, the impact of R&D is insignificant to the economic growth of Russia. The study is of great significance as it has raised the importance of R&D for industrialization, FDI, and PSI for economic growth and new venture creation for developing countries.

Keywords Inwards FDI, New Venture Creation, Industrialization, ARDL Approach

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1. Introduction

Enhancing investment is an essential tool for revitalizing the economy and stimulating the country's economic development (Pegkas 2015). The foreign direct investment (FDI) from 2013 is declining. While in 2016, the inflows reached US $ 37.2 billion, which again fell in 2017 and became USD 26 billion; in 2018, the Foreign direct investment (FDI) further reduced and got USD 13.3 billion, which was the lowest point till 2015 (UNCTAD World Investment Report 2016-2019). Luxembourg, Cyprus, the Bahamas, the UK, the Netherlands, Ireland, and Bermuda are the leading investor in Russia. The main invested sectors are quarrying and mining, manufacturing, motor vehicle repair, trade, insurance and finance, public administration, social and defense security, and real estate. From 2015 to 2018, the share in Gross Domestic Product (GDP) of Russia regarding net flow was 0.2 percent on average, ranking Russia at 23 positions in most emerging economies per the institute of international finance figure. World Bank established a rank regarding Doing business, ranking Russia at 31 out of 190 countries in 2019.

About the current economic situation in Russia, there is the instability in connection with the several Western countries of sanctions against. Russia because of the geopolitical problems among Ukraine, falling world prices for oil, and the weakening ruble (Rustamov 2018). Among the main disadvantages of the investment climate in the Russian Federation include: political and general economic factors, uncertainty of economic situation, incompleteness legislation in general, imperfection of the tax system, unsatisfactory market system management, small role of the banking sector in investment the process, the difficulty of getting small and medium business loans; incompleteness of information; the lack of opportunities for large investors to take part in the activities of management structures companies.

To the greatest extent, the image of a dynamically developing economy, completeness and transparency of information on on-going investment projects, and international participation in the financial institutions help attract additional attention from potential investors and a favorable assessment from rating organizations. FDI is a factor in transition modernization economies; with their help, existing ones smoothed out economic and social problems that took place during the period of market transformation; therefore, they are of particular importance in Russia. Thus, this present study investigate whether and how FDI affects economic growth in Russia, moreover, we mainly consider the path and mechanism through which FDI affects economic growth (Duttaray et al. 2018; Cheremukhin et al. 2016; Imoudu 2012), which has theoretical implications for industrial and regional government managers.

The paper is arranged as follows Section 2 introduces FDI and economic growth in Russia. After we explained the new venture creation and industrialization effect. Section 3 presents the

methodology, which includes models, data and variable. Section 4 reports the results. Section 5 provides the discussions and conclusions.

2. Literature review

2.1 FDI and economic growth in Russia

Foreign Direct Investment (FDI) can be defined as capital flows. Over the last few decades, FDI has been formed as a symbol of the trend of international economic integration and plays a central role in reducing gaps in development while also promoting economic growth (Jadhav 2012). Knowing this, it is common for developing countries to promote FDI to increase their economic growth while having few or dozens of technological advances (Ekholm 2017; Gusarova 2019).

FDI has become a symbol in this decade due to its relatively stable nature and insensitive to the threat of a crisis because investors generally invest in the long term and cannot withdraw their invested capital in a short period. Over the past two decades, the inflows of FDI have increased in almost every region of the world, raising the long debate in academia and policy regarding the associated benefits and costs. Basically, FDI inflows can generate positive externalities, provide direct capital financing, and ultimately stimulate economic growth through technology diffusion, spillover, increased productivity, innovation, and managerial skills. With this in mind, a better understanding of the interactions between FDI flows and economic growth should be the basis for solid economic policy-making. The relationship between FDI and economic growth has been intensively analyzed in several studies. Still, most of the empirical evidence more often remains ambiguous and controversial in Russia.

Within the current era of globalization, many multinational companies can take part and develop the world. The impact of foreign investment has been extensively researched, and related conclusions suggest that some potential gains have been achieved. Several studies indicated that the investment of multinational companies in other countries will positively impact the host country because of the positive externalities that come from investment. These include the diffusion of technology, the exchange of human capital, and an overall increase in the level of output of the host economy). The flow of FDI from developed to less developed countries is an impetus in increasing productivity and increasing output levels in the host economy, allowing local industry to reinvest profits into the enterprise (Doytch and Uctum 2011).

Over a specific period, services and goods show an increase in their production, which means economic growth, which remove the inflation's effects. Several profits are generated in business due to economic growth, which ultimately gives rise to the stock market. In such cases, investment

companies have more capital and resultantly hire large employees. As a result, increased income is observed because of more jobs. In the economic growth of a country, consumers are in such a condition that they buy more services and products due to excess money. Due to such cases, every country tries and wants growth in the economic sector.

In Russia, share in the production and export of raw materials is at a high stage, which is considered that Russia has its structure of economy and relation at the international level in aspect economic condition. Russia ranked as the world's largest producer of cured oil production. In contrast, it comes in the second position in natural gas production in its dry foam. Russia also contains products of coal in a significant amount. The economy of Russia has more than 40% of oil and gas earnings. Growth in Russia's economy stems from exporting energy products; such conditions occur due to the high production of oil and gas in Russia. According to the energy information agency, in 2015, the federal budget was 43 % based on Russia's oil and gas (Uysal and Sat 2019). Russia's economy mainly depends on exporting natural resources, specifically crude oil and natural gas, and such earnings are affected due to global market resource volatility (Bradshaw and Connolly 2016).

From 2016–2018, the economic sector was characterized by the help of gradual recovery of Gross Domestic Product (GDP) positive dynamics, with Gross Domestic Product (GDP) growth rates increasing from 100.3 percent in 2016 to 101.6 percent and 102.3 percent in 2017 and 2018, respectively. The point of 1.6 percentage used as surpassed volume in real Gross Domestic Product (GDP) as the indicator of 2014, having compensated the crisis decrease seen in 2015. On the contrary, development nature of the economic system in 2017-2018 was characterized by demand growth in a simultaneous way both in the market of domestic as well as international markets as compared to previous years (Izryadnova 2018).

2.2 New venture creation

The motivation of the direct investor is a long-term strategic relationship with the direct investment enterprise to ensure a significant degree of influence by the direct investor in managing the enterprise. A new venture can be defined as the business process in which new technology and ideas are turning and succeeding along with attracting the investor to the business (Hamm et al. 2012). Growth in the economic sector and the development of capabilities based on technology or productive capacities stimulate the development of the industrial sector. The story of the industrial sector promotes economic growth and development by reducing developing technological capabilities and productive capacities.

Multinational enterprises (MNEs) of Russia continued to increase their activities of foreign direct investment (FDI), which in 2007 amounted to US$46 billion, due to which FDI values of BRICS surpassed the flow of three countries. US$52 billion show the volume of outward FDI in 2008. Russian firms engaged in inward foreign direct investment (FDI) projects based on resource-seeking mainly in pursuit and access to raw materials and strategic commodities. But these firms also have a low global image as in other countries due to insufficient commercial and public interest. FDI has startup impacts on the survival of businesses. The effects of FDI have potentially harmful effects, such as displacement and competition for new ventures. It also has positive implications like spillover the knowledge and linkage impacts on the new creation (Burke et al. 2008).

2.3 Industrialization

Since 1914, Russia was not considered yet as a country that industrialized because it did not meet the criteria that were accepted for industrialization. From 1913 to today, agriculture remains an essential sector in Russia which accounted for two-thirds of Russia's population in 1913 and contributed to national income with at least 45% share.

In the late nineteenth century, the government of Russia constructed goals and gave priorities to the development of the industrial sector and gave a blueprint such that firstly, it developed the internal transportation network; secondly, with the help of convertibility, the Russian government stabilized the ruble in foreign exchanges and enable the nation for the surplus of the export building as a prerequisite to borrow abroad; at last Russian's government stimulate the development and protection of new industries in their infancy. The success of industrialization as relatively in Russia occurred at the end of the nineteenth and initial period of the twentieth century. In this effort, the government performed an essential role that there is no justification for the economic policies of Russia's government for outright condemnation or rejection. However, in policies of government mainly, there were severe shortcomings, and the presumed effects were not desirable that they had upon the industrialization process, always. The Russian government's policies have assumptions, such as Russia's industrialization process having a continuous goal in state policies beginning with the 1880s and a relatively high priority (Lenchuk 2018). With the scope as ever-increasing of the Fourth Industrial Revolution, which is taking in the world, and that have digital construction of economy as core of this revolution. Russia also promises to practice digitizing the economy. Digitalization in the economic sector has the potential effect of Russia as on Russia approximately by 2025, which is 19-34 percent of the total increase in Gross Domestic Product (GDP) (Balashova and Gromova 2018). The Federation of Russia and The People's

Republic of China (PRC) are the two fastest-growing economies. Companies of Russia also consider expansion as international the market of Chinese to be very attractive, especially in industries based on natural resources, such as oil and gas or metallurgy (Panibratov 2017).

3. Methodology

3.1 Sampling

The present research consists of various variables in a single framework, and multiple variables are used to form a compelling combination. The framework includes independent variables as inwards foreign direct investment (IFDI), dependent variables as New venture creation (NVC), Industrialization (IND), Economic growth (EG), and control variables as Research & Development (RD) and Private Sector Investment (PSI). For all of these variables, data was taken about Russia from the site of The World Bank, and the selected duration was from 1995 to 2019. The total period of the data taken is from the past 24 years from the data of Russia. The time duration taken is well enough for applying the A.R.D.L. approach to the time series data of the study. As far as the measurements are discussed, foreign direct investment (IFDI) is the amount of investment that foreign individuals. The inward foreign direct investment (IFDI) is measured in USD and as a part of the share of GDP. The New venture creation (NVC), involves the start of a new business, it is measured by the number of new ventures started each year. The following variable taken is Industrialization (IND), which generally refers to the era of social change and the economic change that changes a society of human beings from a community of agriculture to an industrial organization. All of the societal factors are rearranged extensively, and the primary purpose is to shift toward the manufacturing side. It is measured with the help of Hoffmann's proportion measurement. The following variable was economic growth (EG), which contributes significantly to the nation's growth or the country's whole. Economic growth is the increment of the population's produced goods or provided services per person over a specific time-calculated period. Economic growth is conventionally measured as the percent rate of increase in gross domestic product, or real GDP. Whereas Private Sector Investment (PSI) refers to the investment in that part of the economy which the individuals run, it is not run or controlled by the state and involves the companies for profit purposes. It is measured in terms of ROI. The study also took research and development (RD) as another variable which refers to the extent of innovation in the country caused by several kinds of research done to improve already present systems and on-going processes. A development is generated based on the budget spent on research to improve the country's current systems.

3.2 Model

The study is investigating the relationships between the different variables, which involve Independent variables as inwards foreign direct investment (IFDI), dependent variables as New venture creation (NVC), Industrialization (IND), Economic growth (EG), and control variables as Research & Development (RD) and Private Sector Investment (PSI). Here according to the study by (Tang, Yip, & Ozturk, 2014), it was observed and argued that the relationship between IND and IFDI has always been seen to be significant as the conversion of a society based on the agriculture to an organization that focuses more on the industrialization and manufacturing as well. The investments from foreign sources make it possible in a better way to carry on with the processes that are involved in the conversion of the societies from one phase to another phase. Moreover, the increase in the efficiency of the manufacturing industry and the focus on the increased industrialization of Russia is also supposed to be improved with the help of the IFDI. There is also a debate, according to the study of (Tang and Tan 2015), that there has been observed several significant results in any country where the IFDI is increased; also the industrialization increases over there, for instance, several improvements have been observed in Zimbabwe as well in this regard. Also, the study of (Mercan et al. 2013) justifies that the impact of IFDI on RD is significant. There is a substantial need for funds for the department of research and development as considerable resources are required to perform research and find out the gaps for improvements in the already existing systems and processes. RD increases with the increase in IFDI, which also promotes betterment in the whole country. It has also been debated in the study (Guru-Gharana 2012) that the rise in IFDI promotes the NVC as well, as the necessary resources are first of all needed before the NVC process, so it is a definite thing that with the help of necessary IFDI, the process of NVC will increase in the reporting country or the host country such as Russia being discussed over here in the study. The study by (Belloumi and Alshehry 2018) argued on the relationship between IFDI and EG, which was later on approved by the study of (Abidin et al.2015) that the mutual relationship between IFDI and EG is significant, based on the fact that whenever a joint venture is promoted, or a country is supported with the necessary IFDI, the finances invested with high consideration and with a considerable amount of evaluation result in the significant amount of growth of the sectors in which the amount is invested. The growth of those sectors results in the country's overall growth, and development is also promoted in the relevant sectors; the economy is boosted as the economic growth is increased. The relationship of IFDI with PSI is also argued by the study by (Simelyte et al. 2017), which justifies that the primary consideration of the IFDI is to earn profits and so is the main consideration of PSI as well, direct profits are the obtained from the private sector investments, these investments could be increased with the help of

IFDI and as a result, profits can be increased as well. So, a significant amount of interaction between the variables can be observed and also, it can be observed that the model as a whole seems significant as well. The above discussion justifies the relationships, from the above discussion, (Samantha and Liu 2018) derived relationship equations or an empirical model which is given below:

Equation number 1 is for Economic growth:

$$EG_t = \beta_0 + \beta_1 IFDI_t + \beta_2 RD_t + \beta_3 PSI_t + \varepsilon_t \quad (1)$$

Equation number 2 is for New venture creation:

$$NVC_t = \beta_0 + \beta_1 IFDI_t + \beta_2 RD_t + \beta_3 PSI_t + \varepsilon_t \quad (2)$$

Equation number 3 is for Industrialization:

$$IND_t = \beta_0 + \beta_1 IFDI_t + \beta_2 RD_t + \beta_3 PSI_t + \varepsilon_t \quad (3)$$

In the above equation, the Independent variable is inwards foreign direct investment (IFDI), dependent variables are New venture creation (NVC), Industrialization (IND), Economic growth (EG), and control variables are Research & Development (RD) and Private Sector Investment (PSI). The above equation shows β1, β2, and β3 as IFDI, RD, and PSI coefficients. Also, by β0 the constant term is shown in the equation, and at last, εt is the measure of error. "To reduce the potential heteroscedasticity, all the variables present in equations 1, 2, and 3 are to be converted into the natural logarithm forms. For a conversion to the per capita form from the series form, the series has been divided using population series." The converted logarithm form of the model is given as:

Equation number 4 is for Economic growth:

$$\ln EG_t = \beta_0 + \beta_1 \ln IFDI_t + \beta_2 \ln RD_t + \beta_3 \ln PSI_t + \varepsilon_t \quad (4)$$

Equation number 5 is for New venture creation:

$$\ln NVC_t = \beta_0 + \beta_1 \ln IFDI_t + \beta_2 \ln RD_t + \beta_3 \ln PSI_t + \varepsilon_t \quad (5)$$

Equation number 6 is for Industrialization:

$$\ln IND_t = \beta_0 + \beta_1 \ln IFDI_t + \beta_2 \ln RD_t + \beta_3 \ln PSI_t + \varepsilon_t \quad (6)$$

The equation 1, 2, and 3 were converted to equation 4, 5 and 6 to monitor the long-term relationships that could exist between inwards foreign direct investment (IFDI), New venture

creation (NVC), Industrialization (IND), Economic growth (EG), Research & Development (RD) and Private Sector Investment (PSI). In the above equations 4, 5, and 6, β0 is a constant factor, and βi (in which i = 1, 2, 3) are the elasticities for the IFDI, RD, and PSI in the long term. The typical signs for β1, β2, and β3 are positive. In the above equation, εt is the measure of error.

4. Data analysis

4.1 Unit root test

Table 1. Results of Unit Root Test

Variable	At Level		At 1st difference	
	Constant	Constant with trend	Constant	Constant with trend
FDI Inwards	-1.7743	-1.2012	-4.8143***	-4.7580**
RD	-2.4984	-2.5563	-5.1882***	-5.0583**
PSI	-23380	-1.3607	-2.2296*	-3.1741*
NVC	-0.8697	-1.4572	-4.0558**	-3.9584*
IND	-2.4341	-1.5262	-3.3491*	-3.9431*
EG	-3.4344*	-33970	-6.5126***	-6.4810***

In the first place, the researcher's concern was to confirm the issue of non-stationarity. To ensure it, the researcher used the augmented dickey-fuller test or the one called ADF. The researcher sensed no need for such a test regarding the ARDL or the autoregressive distributed lag approach. Still, there is a need to know whether or not there is a unit root problem with all of the variables. When it comes to the empirical analysis, it becomes imperative to check the variables for the unit root presence and to confirm that the variables do not have a unit root problem and the order of their integration is not above one. The data in table 1 above is a detail of the unit root test that was applied, and the unit root test was used, keeping in view the two different sets of the data first set consisted of constant data, and the second set consisted of the data that was constant with the time trend. It can be observed from the data present in table 1 that at a level, all of the variables present are non-stationary except for economic growth under stable conditions. Moreover, all of the variables at the 1st difference are stationary as the order of the cointegration of the variables was not more than one, which is considered essential for long-time cointegration analysis. The variables above are seen to be showing long-time cointegration relationships.

4.2. Lag order selection

Table 2. Results of Lag order Selection

Lag	AIC	SC	LM test
0	19.54269	19.83891	0.0849 (0.1544)
1	16.25577	18.32928*	0.4423 (0.0764)
2	15.37857*	19.22938	0.7864 (0.0043)

To check the long-term integration among the variables, the researcher used the UEC mechanism or the unrestricted error correction process. But before the analysis for the cointegration, the decisions are made regarding the lag orders. These are based on the AIC or Akaike information criterion or the Schwarz Bayesian Criterion or SBC. As the research has used the annual data, the researcher has taken three lags, 0,1 and 2, and then lowered the number. The researcher calculated the different levels of lags using the AIC and SC techniques; after these calculations, the researcher then run evaluations for all of the figures that were calculated. The presence or the absence of co-int Economic growth ratio was tested and checked with the help of the bounds F test; for the use of this test, it was essential that it is being run on the model of regression not having any correlation issues and the present AIC and SC figures in them are equal to their smallest values as well. Table 2 above provides the values for the calculated AIC and SC, and also all of these are also relevant to the lags chosen along with the results of the LM test run on the data. It can be seen from the table above that the value that is minor lies on lag 2 in the case of the AIC figures calculated, and the smallest value of SC lies on lag 1. The lags can be tested entirely and with accuracy if there is no problem with the serial correlation in the data. It can be observed that there is no presence of serial correlation in the lags chosen. The cointegration analysis was done further using the lags, and the UEC process was used.

4.3. Cointegration test

Table 3. Results of Bounds Cointegration Test

Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: n=1000	
F-statistic	5.130640	10%	2.08	3
K	5	5%	2.39	3.38
		2.5%	2.7	3.73

Test Statistic	Value	Signif.	I(0)	I(1)
		1%	3.06	4.15
Actual Sample Size	24		Finite Sample: n=35	
		10%	2.331	3.417
		5%	2.804	4.013
		1%	3.9	5.419
			Finite Sample: n=30	
		10%	2.407	3.517
		5%	2.91	4.193
		1%	4.134	5.761

Table number 3 above is a representation of the findings of the long-term cointegration relationship that is present between foreign direct investment inwards, research and development, private sector investment, new venture creation, industrialization, and economic growth. as new venture creation, industrialization, and economic growth are the dependent variables, the calculated values corresponding to these can be seen to be equal to be more than the values of significance calculated at 5% significance level, so the null hypothesis of the presence of no cointegration is rejected at this point explaining that in the normal condition, there is a presence of cointegration among the variables. It can be observed that the series are cointegration in the long run.

4.4. ARDL model

Table 4. Results of ARDL Model

Dependent Variable: NEW VENTURE CREATION		Dependent Variable: INDUSTRIALIZATION		Dependent Variable: ECONOMIC GROWTH	
Selected Model: ARDL (1, 0, 0, 1)		Selected Model: ARDL (1, 0, 1, 1)		Selected Model: ARDL (1, 1, 0, 0)	
Variable	Coefficient	Variable	Coefficient	Variable	Coefficient
NVC (-1)	0.889703***	INDU (-1)	0.747845***	EG (-1)	0.069242
FDI	-0.026899	FDI	-0.128827	FDI	1.637264
RD	0.902463	RD	-3.788587	FDI (-1)	-2.186160*
-	-	RD (-1)	7.669654*	RD	-4.052860
PSI	-0.003496	PSI	-0.004422	PSI	0.236235*
PSI (-1)	0.030041*	PSI (-1)	-0.062341	-	-
C	-0.501705	C	8.592083	C	13.15280

Dependent Variable: NEW VENTURE CREATION		Dependent Variable: INDUSTRIALIZATION		Dependent Variable: ECONOMIC GROWTH	
Selected Model: ARDL (1, 0, 0, 1)		Selected Model: ARDL (1, 0, 1, 1)		Selected Model: ARDL (1, 1, 0, 0)	
Variable	Coefficient	Variable	Coefficient	Variable	Coefficient
R-squared	0.931145		0.806286		0.481901
Adjusted R-squared	0.912018		0.737916		0.337985
S.E. of regression	0.439491		1.110735		3.640828
Sum squared resid	3.476739		20.97346		238.6013
Log likelihood	-10.87102		-32.43697		-61.61541
F-statistic	48.68348		11.79304		3.348481
Prob(F-statistic)	0.000000		0.000030		0.025944
Durbin-Watson stat	2.282727		1.611136		1.853419

There is a clear representation of the estimates for the ARDL model. Table four above represents the examination of the ARDL model, which shows the long-term relationships between foreign direct investment inwards, research and development, private sector investment, new venture creation, industrialization, and economic growth. Also, the presentation of the outcomes of several diagnostic checks that are conducted to check for the overall reliability of the model and the variables present in the model. the results of the diagnostic tests that were run showed that there is no severe econometric problem current in the model and the model is reliable as well. The table results show that the Ramsey and Jarque-Bera check for model specification and normality showed that the specification was correct and there was a normal distribution of the errors. Moreover, the test of heteroscedasticity for the ARDL model showed that there is a presence of independence in the regressors and the errors were homoscedastic. So, the model of autoregressive distributed lags was reliable as well. The impact of private sector investment on new venture creation is positive and significant, with a value equal to 0.030041, which means that with every 1 unit increase in private sector investment, there will be an increase in the value of new venture creation equal to 0.030041.

Moreover, the impact of RD on Industrialization is significant as well, with a value equal to 7.669654, which means that with every 1 unit increase in the value of RD there will be an increase in the value of industrialization equal to 7.669654. the impact of foreign direct investment on economic growth is significant, which means that with every 1 unit increase in the value of the foreign direct investment, there will be a decrease in the value of economic growth, equal to 2.186160. the impact of private sector investment on economic growth is significant and positive as well, which means that with every 1 unit increase in the value of private sector investment, there will be an increase in the value of economic growth equal to 0.236235.

4.5 Short run ECM

Table 5 below shows the results regarding the short-term cointegration of the variables present in the model. It can be seen from the data current in the table below that there is a short-term relationship present between new venture creation and private sector investment; moreover, there is a short-term relationship present between industrialization and foreign direct investment, in a value equal to -0.128827 which means that the industrialization will decrease by a value of -0.128827 with every 1 unit increase in the value of industrialization; moreover, there is a short term and significant relationship present between economic growth and private sector investment as well with a value of 0.236235.

Table 5. Results of Short Run ECM

Dependent Variable: NEW VENTURE CREATION		Dependent Variable: INDUSTRIALIZATION		Dependent Variable: ECONOMIC GROWTH	
C	-0.501705	C	8.592083	C	13.15 280
NVC (-1)	-0.110297	INDUS (-1) *	-0.252155	EG (-1)	-0.930758***
FDI	-0.026899	FDI**	-0.128827	FDI (-1)	-0.548897
RD	0.902463	RD (-1)	3.881067	RD	-4.052860
PSI (-1)	0.026545*	PSI (-1)	-0.066763	PSI	0.236235**
D (PSI)	-0.003496	D(RD)	-3.788587*	D (FDI)	1.637264
		D (PSI)	-0.004422		
CointEq(-1)	-0.110297***	CointEq(-1)*	-0.252155**	CointEq(-1)*	-0.930758***
R-squared	0.414690		0.477780		0.608257
AdjustedR-squared	0.388085		0.428045		0.590450
S.E. of regression	0.397534		0.999368		3.293253
Sum squared resid	3.476739		20.97346		238.6013
Log likelihood	-10.87102		-32.43697		-61.61541
Durbin-Watson stat	2.282727		1.611136		1.853419

In the last section of the analysis, the researcher has focused on the stability of the estimates used, the stability of the estimates was assessed with the help of taking into account the method of cumulative sum, of the squares, CUSUMSQ, the regression models seem to be stable, the plots of these tests are provided in the figure number 1 and figure 2 below:

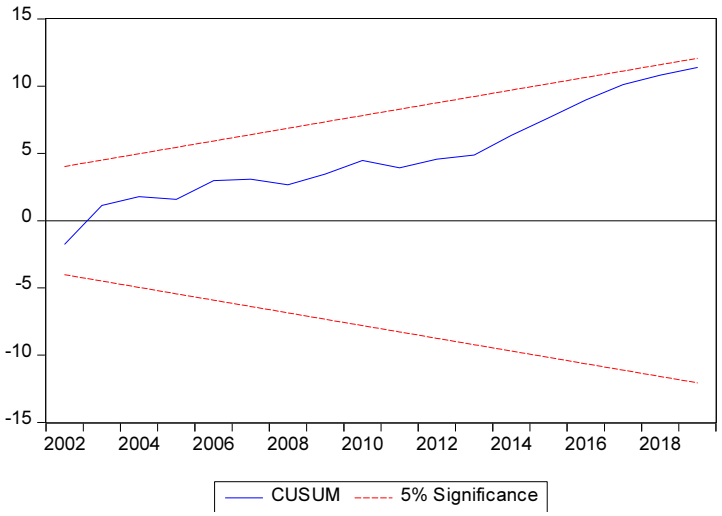

Figure 1.

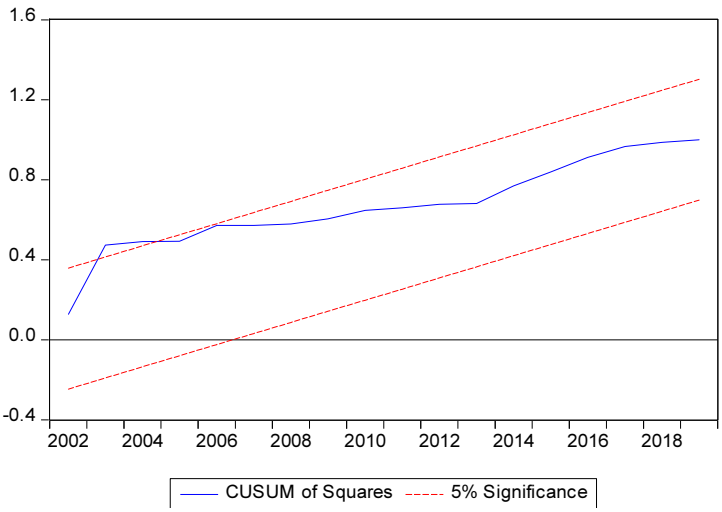

Figure 2.

5. Conclusions and discussions

5.1 Conclusions

The prime concern behind this research was to clarify the facts about the impacts cast by inwards FDI (IFDI), on new venture creation (NVC), industrialization (IND), and on the economic growth of Russia. For all of these variables, data was taken about Russia from the site of

the World Bank, and the selected duration was from 1995 to 2019. The total period of the data taken is from the past 24 years from the data of Russia. The time duration taken is well enough for applying the A.R.D.L. approach to the time series data of the study. The researcher used the unit root test to know the presence of the unit root for each variable, and the lag order selection was made for the data; the bounds cointegration test was also applied to the data, ARDL Model was used to know about the different effects. With the help of the results derived, it was observed that the impact of private sector investment on new venture creation is significant while the effect of foreign direct investment and research and development on new venture creation is insignificant. It was also observed from the results that the impact of research and development on Industrialization in Russia is significant, while the effect of foreign direct investment and the impact of private sector investment on Industrialization in Russia is insignificant. The researcher came to know that the effects of foreign direct investment and the impact of private sector investment on the economic growth of Russia is significant. In contrast, the impact of research and development is insignificant to the economic growth of Russia.

5.2 Discussions

The prime concern behind this research was to clarify the facts about the impacts cast by inwards FDI (IFDI), on New venture creation (NVC) in Russia, Industrialization (IND) in Russia, and the Economic growth of Russia. Private sector investment has significant impacts on new venture creation. Private sector investment is directly proportional to the new venture creation. The private sector is the backbone of an economy (Ziaei 2015). Without the private sector being operational in an economy, it is almost impossible for an economy to survive and prosper. The private sector creates many opportunities for individuals struggling in the economy. New ventures provide jobs, help reduce poverty, and improve the lifestyle by enhancing a nation's per capita income. Most of the time, companies only go public when their business becomes successful. A company can't go public at the very start without showing its success or achieving something because the public will not invest until and unless they see a company growing and succeeding day by day (Tülüce and Doğan 2014). The public goes with the flow, so it only invests in a stable business or a company instead of investing in an idea or a new venture whose future is unpredictable or risky. And generally, the majority is risking averse. Still, the private sector investors know that greater returns come with greater risks; therefore, they invest in new business ventures and encourage young entrepreneurs to follow their dreams. So, to start a new venture, entrepreneurs seek private investors to invest in their ideas or businesses. More significant the private sector investment will be the chances for a new venture to succeed (Stam and Van Stel 2011

). Only having a good idea does not make an entrepreneur successful or make his dream of new venture possible, but both concept and the funds required to pursue that idea together make the birth of a new venture possible. If there is no investment or no investors present in the market, there will be no new ventures. The private sector investors keep the complete check and balance of a new business operations and this increases the chances of success of a new business venture. They keep track of operations that what is beneficial for the venture and what must be done to achieve the long-term goals (Solarin and Shahbaz 2015).

Foreign direct investment has insignificant impacts on new venture creation because foreign investors usually invest in already operational and traditional businesses or they invest in the form of MNCs (Sassi and Goaied 2013). Multinational companies start businesses in different countries by opening their branches and creating their setups instead of giving funds to entrepreneurs to pursue their dreams of starting new ventures. Greater the foreign direct investment greater the per capita income because the per capita income is related to the working and job opportunities available to the individuals working in an economy. The greater the foreign investment will be the job opportunities for the individuals and, as a result, greater per capita income (Sandu et al. 2014). Foreign direct investment also helps in the stabilization of the currency of a country. Whenever a country has enough supply of foreign investment, it means it has enough supply of international currency and this supply strengthens the national currency of that country. And according to a study by (Salahuddin, Alam, Ozturk, & Sohag, 2018) it has been observed that direct foreign investment also helps the governments in governing the countries because with investment, the taxes also increase, and with greater tax revenues charged to the income of foreigners or foreign companies helped governments of developing countries in giving subsidies and grants to local businesses and their public and also in reducing inflation and has improved the lifestyle of the people of those countries.

These companies deal in international currency and take their profit to their home countries as a global currency. As a result, the supply of international currency decreases in the local markets of that country because of which they have to purchase the international currency to ensure the trade cycle which results in the devaluation of the local currency and increases inflation. But many other studies discussed that direct foreign investment's impact has been negative, increased inflation, and worsened the lifestyle. (Rousseau and Wachtel 2011).

Research and development have insignificant impacts on new venture creation. Research and development have a fragile relationship with the new venture creations. Research and development are directly related to variables like innovation. It supports innovation and more recent inventions but not new venture creations. The existing businesses perform research and development practices to improve their products or services, save costs, and become effective and efficient.

However, this is not necessary for a new business because new business can be of any kind. It can be a partnership or a single-owner company; most of the time, new businesses don't have enough funds for research and development. This stage comes when a business takes flight high to the skies of success and retains that success and market share companies spend on research and development.

Research and development give a competitive advantage to businesses and companies, bringing prosperity, success, and long-term growth. Similarly, research and development are directly related to the survival of businesses in the modern business world (Prabhakar et al. 2015). Studies have shown that those businesses that don't spend money on research and development and don't renovate their business practices have been pushed out of the business race by their competitors. So, research and development only help when a business starts running, and the retention of customers is required, effectiveness and efficiency are demanded, or survival has become impossible but is not necessary for the new venture creation (Pestova et al. 2011).

Research and development have a significant impact on industrialization. Research and development have a direct relation to industrialization. The developing economies are spending more on research and development to become developed economies. By spending on research and development, they are moving towards industrialization. They are moving from agriculture to the manufacturing of goods. The labor has been replaced with robots and autonomous machines. Instead of manufacturing products on a lower scale, more significant industries have been established to increase effectiveness and efficiency. Countries like Japan and China have been industrialized at an enormous scale their research and development expenditure is very high. For instance, let's look at other variables, like innovation (Ouyang and Fu 2012). Innovation is the result of research and development, and industrialization is also a result of innovation. Different techniques are developed by research and development, and the researchers try to ensure that the new ways discovered are more effective and efficient than the old ones (Leonard-Barton 1992). Industrialization can be done by developing new machines or new mechanical ways found and by developing human capital skills.

According to the study (Müller 2014), private sector investment significantly impacts industrialization. It has boosted industrialization in the past. With the investment the industrialization took place. The private sector investment has helped in the modernization of the business; before the concept of investment, people only did business on a tiny scale, like making things at their homes or shopping in minimal numbers and selling those things for smaller profits. Industrialization helped them in achieving their dreams. But, after the investment, people started larger manufacturing facilities to produce products at a large scale and to become efficient and effective. People started introducing businesses on a large scale. In this way larger industries took birth and the products

produced are more reliable and due to larger quantities more cheaper and this industrial revolution created more jobs and increasing the economic growth of countries (Mercan et al. 2013). With research and development, the results come in the form of innovation, and industrialization takes place after innovation. Private sector investment encourages the industrialization. Instead of foreign direct investment, private sector investment plays a positive role in industrialization and the economy's growth. The private sector investments fund new business startups (Melnyk et al. 2014). The entrepreneurs utilize the investments to form new business ventures and then take the form of industry.

According to the study, foreign direct investment has insignificant impact on industrialization. For industrialization, foreign direct investment is not necessary, but private sector investment is significant to industrialize the economy on a large scale. The foreign direct investment comes when an economy is already industrialized to enjoy what has already been established. But for industrialization the economies struggle on their own by developing and working continuously on that infrastructure (Marelli and Signorelli 2011). When an economy flourishes and prospers, foreign investors think of investing in that economy. After the industrialization, the investors thought of the opportunities and made mind to invest in that economy. But before industrialization the economies have to do everything own the self-behalf. Other factors support industrialization but are not supported by foreign direct investment.

The impact of foreign direct investment is significant. The study has shown that direct foreign investment and economic growth have a strong negative relationship. Foreign investment has a lot of disadvantages for an economy. The governments develop lower slab rates and sometimes no tax policies to attract foreign direct investments (Al-mulali and Sab 2012). These investments usually come in the form of multinational companies and sometimes in the form of international companies who take all their profits to their countries, depriving the host countries of their valuable incomes because of the low or no taxes (Kudrin and Gurvich 2015). More importantly, green investment and green low carbon product development and green innovation also should be considered out to avoid the economic development and energy saving model at the cost of resource and environmental pollution (Sun et al 2020).

In the same way, the FDI causes an increase in inflation as they take their profits out of the host countries in the form of international currency, which creates the deficiency of international currency, weakens the local currency, and causes a rise in inflation. Which destroys the economy; the governments print extra money in the absence of reserves, devaluing the currency and making the circumstances poorer. And as a result, governments impose taxes on the local companies, making their survival difficult; the cost of raw materials increases the other problems. Foreign direct investment brings strict and difficult regulations according to their own country, making it

difficult for them and the labor (Kornecki and Raghavan 2011). And these things make it difficult for labor and other staff to understand the culture, rules, and regulations.

Private sector investment has a very significant relationship with economic growth. The private sector investment boosts the economy of a country. Creating many work opportunities strengthens the economy, decreases poverty, and improves a country's living standards and GDP. The per capita income increases with the private sector investments. With a large number of private sector investments, there will be a large number of local firms and businesses and new business ventures. In other words, a lot of jobs for individuals (Benedictow et al. 2013). The governments will have the opportunities to collect greater amounts in tax revenues which will help in developing policies for the development of a country and allow the governments to give subsidies to the public. Greater the tax revenues greater will be the development works and greater will be economic growth because people have greater opportunities to get investments for their businesses the money will flow in a cycle and the equal distribution of wealth will take place. Inflation will be controlled, and living standards will improve (Kokko and Kravtsova 2012). The companies who make private investments keep the full check and balance of the companies in which they invest (Kalotay 2012; Kalotay 2015).

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