Impact Factor:					
	ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 1.582	РИНЦ (Russia) = 3.939	PIF (India) = 1.940
	GIF (Australia) = 0.564	ESJI (KZ) = 8.771	IBI (India) = 4.260
	JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

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Issue Article

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FORMATION OF MACRO MODELS OF THE FINAL SUPPLY OF UZBEKISTAN AND SEGMENTS OF ITS COMPONENTS

Abstract: *In this article constructed an econometric macromodel of final supply of goods and services. Also, econometric models of supply were tested for the statistical significance of indicators estimated on the statistical data of Uzbekistan, and an economic interpretation of the equations included in the macro model of supply was given.*

Key words: *econometric modeling, macroeconomic equilibrium, supply of goods and services, gross value added of sectors, assessment, economic interpretation, model testing.*

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Introduction

One of the issues of adopting effective administrative, legal, foreign policy and economic measures of state policy to ensure macroeconomic equilibrium is directly related to the breadth (amount of data) and depth (time series) of statistical data in national statistics, as well as the presence of methodological approaches to analysis and forecasting in scientific research and higher education institutions in the country.

It is worth noting that statistical modeling and forecasting of supply and demand are important tools for determining macroeconomic equilibrium and developing effective government regulation measures.

Therefore, the structure of macro models and forecasting supply and demand at any period of economic development becomes important for determining the factors of sustainable development and the level of macroeconomic equilibrium of the country.

It should be emphasized that in the conditions of unstable development of the world economy, in order to determine the level of balance of the national economy, it is necessary to develop new approaches to constructing macro models of macroeconomic equilibrium and improve forecasting tools taking into account new external and internal challenges, as well as political risks.

Moreover, this requires improvement of existing methodological recommendations for the structure of macro models and the development of new alternative approaches to modeling and forecasting indicators of macroeconomic equilibrium.

Without detracting from the practical significance of other approaches, it should be noted that improving the modeling and forecasting of the country's macroeconomic equilibrium based on macro proportions and SNA indicators is relevant and becomes important due to the need to introduce mathematical and econometric tools in the practical activities of national statistics, which is indicated in the National Development Strategy statistics of the Republic of Uzbekistan for 2020 – 2025 [11], as well as in the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan No. 691 “On the implementation of a modern system of national

accounts in the Republic of Uzbekistan" dated August 19, 2019 [12].

In this regard, this article explores the issue of econometric modeling of the final supply and its component segments, as a macro model of the production capabilities of the national economy and the main macro indicator of the macroeconomic equilibrium of Uzbekistan.

Analysis of literature.

The study of applied econometric models for analyzing supply and demand in the CIS countries, chosen by us as the closest in terms of development level and economic structure, showed that there are enough studies covered by forecasting the supply of goods and services.

Uzbek scientist S.V. Chepel, predicting the volume of supply "in the range of input indicators of the model on the supply side," included "indicators of industry output and investment (supply from domestic producers), as well as imports (supply from the world economy)" [20].

Russian scientists led by S.M. Drobyshevsky [3], S.G. Sinelnikov-Murylev [13] and I.V. Filimonenko [18] formed econometric models for forecasting GDP by supply factors.

A group of scientists led by S.M. Drobyshevsky, when forecasting the index of physical volume of GDP, as variable supply factors included the share of the public sector in GDP, the economically active population, the number of employed, the share of those employed in the public sector in the total number of employed population, the unemployment rate, the average monthly nominal wage, the index of physical volume and the share of public sector in terms of fixed assets.

Also, a number of scientists have built applied econometric models for analyzing and forecasting segments of supply components, in particular, gross added value of industry (V.V. Matveev [10], E. Astafieva (2015) [1], N.N. Shinkevich [23]), GVA of agriculture (A.S. Truba, A.K. Markov, E.E. Mozhaev [16], L.M. Osinevich [9]) GVA of construction (A.B. Zhadigerova [4]), GVA transport (I.A. Toymentseva [14]) GVA of trade (P.I. Kuzmin, V.V. Mishchenko, Yu.A. Sultanyan, S.Yu. Baeva [7], A.G. Zinoviev, P.I. Kuzmin, O.V. Isaeva [6], the volume of the service sector (D.M. Dalgatova [3]) and others.

Generalized applied econometric models for analyzing and forecasting supply and segments of its components (GVA and industrial output) by scientists from the CIS countries are presented in Table 1.

Table 1. Applied econometric models for analysis and forecasting of supply and segments of its components

Resulting indicator	Factor	Research
Supply volume	- industrial products; - Agriculture; - investments; - import; - production of consumer goods; - paid services to the population.	Chepel S.V. (2019), [20]
GDP physical volume index	- share of the public sector in GDP; - economically active population; - number of employees; - the share of people employed in the public sector in the total employed population; - unemployment rate; - average monthly nominal wage; - index of physical volume of fixed assets; - share of the public sector in the volume of public funds.	Drobyshevsky S.M., Idrisov G.I., Kaukin A.S., Miller E.M., Pavlov P.N., Sinelnikov-Murylev S.G. (2019) [3]
GDP volume	– investments in fixed capital; – government spending on applied scientific research; – internal expenditures on research and development; – number of people employed in the economy with higher professional education; – number of people employed in the economy with secondary vocational education; – number of people employed in the economy with primary vocational education; – the number of working-age population without vocational education.	Filimonenko I.V. (2011) [18]
GDP volume	- labor; - capital; - aggregate productivity factors.	Sinelnikov-Murylev S. Drobyshevsky S., Kazakova M., Alekseev M. (2015), [13]
GVA industry	- employment; - hours worked; - material reserves; - fixed assets; - intensity of capacity utilization; - age of capital; - quality of capital.	Matveev V.V. (2011) [8]
GVA industry	- labor; - capital; - aggregate productivity factors.	E. Astafieva (2015) [1]

GVA industry	- cost of fixed assets in the industry; - consumption of fuel and energy resources in the republic; - number of employees in the industry;	Shinkevich N.N. (2010) [19]
GVA of agriculture	– investments in fixed capital for the type of activity "Agriculture, forestry, hunting, fishing and fish farming"; – sown areas; – average annual number of employees.	Truba A.S., Markov A.K., Mozhaev E.E. (2020) [16]
GVA of agriculture	- investments; - population.	Osinevich L.M. (2013) [9]
Gross Agricultural Production	Production potential: - number of employees; - feed consumption; - cost of fixed capital; - area of land; - number of computers for agricultural organizations; - conditional livestock.	Cheremukhin A.D. (2020) [21]
Gross Agricultural Production	- level of production intensification, use of fertilizers, new technology and other factors; - increasing subsidies from the budget, weakening the disparity in prices for industrial and agricultural products; - reduction of costs for material resources.	Trutneva N..Yu. (2003) [17]
Gross Agricultural Production	- state support; - land resources; - natural and climatic conditions; - state of science and technology; - healthy competitive environment.	Panin A.V. (2016) [10]
Gross Agricultural Production	- level of development of social infrastructure.	Evdokhina O.S., Falaleeva E.V., Pogrebtsova E.A., Leushkina V.V. (2016) [5]
Profit of an agricultural organization	- subsidies for 100 hectares of agricultural land; - working capital per 100 hectares of agricultural land; - fixed assets in the form of depreciation per 100 hectares of agricultural land; - wages per 100 hectares of agricultural land.	Cherdantseva E.A. (2011) [22]
GVA of construction	- fixed assets; - number of employees.	Zhadigerova A.B.) [4]
The volume of housing commissioning depending on changes in supply factors	XS1 - investments in fixed capital, million rubles; XS2 - cost of fixed assets, million rubles; XS3 - investments in fixed capital by types of activities related to housing and communal services and consumer services, million rubles; XS4 - research and development of new products, services and methods of their production (transfer), new production processes, million rubles. XS5 - acquisition of machinery and equipment related to technological innovation, million rubles. XS6 - marketing research, million rubles.	https://bstudy.net/905072/ekonomika/regionalnyy_zhilischno_stroitelnyy_kompleks_infrastrukturnyy_element_sotsialno_ekonomicheskoy_sistemy?ysclid=lgc679yr3x720314355 [24]
GVA of transport	- volume of passenger transport services; - cost of transporting passengers; - natural volume of services; - passenger mobility; - number of passengers; - level of motorization; - population size.	Toymentseva I.A. (2011) [14]
Freight turnover	- volume of work performed by type of economic activity "Construction"; - retail trade turnover; - agricultural products; - rate of growth (decrease) of investments in vehicles, machinery and equipment;-tariff index for freight transportation.	https://infopedia.su/13xe1a1.html [25]
Passenger turnover	- number of public buses per 100,000 population; - number of own passenger cars per 1000 people; - rate of growth (decrease) of investments in vehicles, machinery and equipment; - growth rate of average monthly nominal accrued wages of employees; - population below working age; - population size at working age; - population over working age.	https://infopedia.su/13xe1a1.html [25]
Volume of services in the cellular communications market	External factors: - financial policy of the state; - prices for resources; - stability and perfection of the banking system; - investment attractiveness of the industry. Internal factors: - information transmission technology; - capacity of data transmission channels; - availability of qualified workers; - software.	Tregub I.V. (2009) [15]

GVA of trade	- growth rate of change in the physical volume of fixed production assets; - investments in fixed assets; - average monthly nominal wages of workers.	Kuzmin P.I., Mishchenko V.V., Sultanyan Yu.A., Baeva S.Yu.(2017) [7]
GVA of trade	- availability of fixed production assets; - volume of investments in fixed capital; - number of industry employees; - volume of retail trade turnover in food products, including drinks, and tobacco products.	Zinoviev A.G. Kuzmin P.I., Isaeva O.V., (2022) [6]
Volume of service sector	- population size and density; - state regulation of the normal functioning of all economic entities; - level of innovative development, individuality and creativity of the entrepreneur; - the pace of development of the national economy; - solvency of the enterprise; - real income per capita; - pricing policy in the services market; - competitiveness and quality of services provided.	Dalgatova D.M. (2010) [2]
Volume of gross turnover of the service sector	- change in labor productivity of one employee due to labor intensification; - change in labor productivity of one employee due to changes in prices for goods; - change in the average number of employees; - change in labor productivity of one employee; - changes in prices for goods.	Chikin S.N., Vostrikov N.I., Kozlov A.N. (2012) [23]
Source: compiled by the authors.		

Research methodology.

In the methodological aspect of constructing an econometric macromodel for analyzing and forecasting the final supply of Uzbekistan, it is necessary to develop them sequentially and separately in the following order:

- modeling of individual factors (segments influencing it) of the final offer;
- formation of a macromodel of the final proposal;
- assessment of econometric models of the final supply and its constituent segments using statistical data from Uzbekistan.

We use the SNA equation as the basis for the macromodel of final supply, according to which GDP (on the supply side) is calculated by the production method (as a set of newly created added values in sectors of the national economy).

Thus, the entire forecast value of the growth rate of final supply will be determined by adding the multiplied growth rates of industries (industry, agriculture, construction, transport and communications, trade and public catering and procurement, as well as other service sectors) and their shares in the country's GDP and will take the following form of a mathematical formula:

$$\boldsymbol{AS\_gr(GDPs) = IND\_VA\_gr * Ind\_va\_d) + (AGR\_VA\_gr * Agr\_va\_d) + (CONST\_VA\_gr * Const\_VA\_d) + (TRANS \& COM\_VA\_gr * Trans \& Com\_va\_d) + (TRADE\_VA\_gr * Trade\_VA\_d) + (SERV\_VA\_gr * Serv\_va\_d)}$$

Where,

AS_gr(GDPs) - growth rate of final supply;

IND_VA_gr - growth rate of industry GVA;

Ind_va_d - the share of industry in the final supply in GDP (calculated by the production method);

AGR_GR - growth rate of GVA in agriculture;

Agr_va_d - share of agriculture in GDP;

CONST_VA_gr - growth rate of construction GVA;

Const_VA_d - share of construction GVA;

TRANS&COM_VA_gr – growth rate of GVA of transport and communications;

Trans&Com_va_d - share of GVA of transport and communications;

TRADE_VA_gr - growth rate of GVA of trade and public catering and procurement;

Trade_VA_d) - share of GVA of trade and public catering and procurement;

SERV_VA_gr - growth rate of GVA other service sectors;

Serv_va_d) - share of GVA in other service sectors.

Results of simulation.

When constructing an econometric model of final supply based on theoretical and applied approaches, the growth rate of industry GVA (IND_VAgr) (growth rate of employment in industry (Empl IND), growth rate of labor productivity in industry (Empl_prod IND), investment in industry, from two annual lag (INV_2YM), growth rate of producer price index of industrial goods (PPI), export of goods and services (EXP), import of goods and services (IMP), total income per capita (GREV_PC)), growth rate of GVA of agriculture (AGR_GR) (consumer price index (CPI_FP), agricultural productivity (Prod_AGR), changes in world prices for agricultural products (FAO_Pindex), population growth rate (Pop_gr)), construction GVA growth rate (Const_GVAgr) (gross output growth rate (OUTPUT), growth rate of investment in fixed capital (INV_grFC), growth rate of GVA of industry (IND_VAgr), household expenses (HCONS_2), growth rate of population (Pop_gr)), growth rate of GVA of transport and communications

(Trans&Com_gr) (growth rate of gross output (OUTPUT), import of goods and services (IMP), growth rate of passenger transportation (Pass_traffic_gr), growth rate of cargo transportation (Trans_goods_gr), rate of change in tariffs for communication services (ComServ_tariffs), rate of change in tariffs for transportation services (TransServ_tariffs)), rate growth of GVA of trade and public catering and procurement (GVA_trade) (growth rate of GDP per capita (GDP_PC_gr), import of goods and services (IMP), household expenditure (HCONS_2), growth rate of investment in fixed capital (INV_grFC), growth rate of total income per capita (GREV_PC)), GVA growth rate other service sectors (Serv_gr) (gross output growth rate (OUTPUT), consumer price index (CPI), GVA growth rate of transport and communications (Trans&Com_gr), population growth rate (Pop_gr)) a wide range of indicators were taken into account.

However, not all of the above factors of econometric supply models showed a close relationship with the resulting indicators.

Econometric supply models analyzed on statistical data of Uzbekistan and assessed as satisfactory, in particular, the growth rate of GVA of industry (Annex 1.), the growth rate of GVA of agriculture (Annex 2.), the growth rate of GVA of construction (Annex 3.), the growth rate of GVA of transport and communications (Annex 4.), the growth rate of GVA of trade and public catering and procurement (Annex 5.), the growth rate of GVA of the service sector (Annex 6.) had statistically significant indicators p-values of t-statistics (within 0.1, presented in parentheses under the coefficients of the equations).

The system of econometric supply models assessed using statistical data from Uzbekistan is presented in Table 2.

Table 2. A system of econometric supply models assessed using statistical data from Uzbekistan

Econometric models	**Variables indicators**
Темп роста ВДС промышленности Industry GVA growth rate	
IND_VAgr = -1,093 + 1,047*Empl IND + 0,999* empl_prod IND + (0,000) (0,000) (0,000) + 0,047*INV_2YM (0,1215)	IND_VAgr -Growth rate of industry GVA; Empl IND - Growth rate of employed in industry; Empl_prod IND - Productivity growth rate labor in industry; INV_2YM - Investments in industry, smoothing two annual values.
Growth rate of GVA in agriculture	
AGR_VA_gr= 0,120+0,339 * Prod_AGR+0,572 * GDP PC_gr (0,0019) (0,0159) +0,057 * DEF_GDP - 0,076 * PPI (0,0517) (0,0595)	AGR_GR - growth rate of GVA in agriculture; Prod_AGR - productivity in agriculture; GDP PC_gr – GDP growth rate per capita; DEF_GDP - inflation growth rate (GDP deflator); PPI – producer price index for industrial goods.
Construction GVA growth rate	
Const_VA_gr=(-0,307) + 2,191 * OUTPUT + 0,362 *SAV_2YM (0,0280) (0,022) -0,154 *IMP - 0,084 * PPI_1YL (0,0208) (0,0193)	Const_VAgr - growth rate of construction GVA; OUTPUT – growth rate of gross output; SAV_2YM - GFCF growth rate, smoothing two annual values; IMP - import of goods and services; PPI – producer price index for industrial goods.
Growth rate of GVA of transport and communications	
Trans&Com VA_gr = (-0,270) - (0,080 * CPI) + 0,117 * Imp (0,0999) (0,0145) + 1,264 * GDP PC_gr (0,0082)	Trans&Com_gr – growth rate of GVA of transport and communications; CPI – consumer price index (CPI); IMP – import of goods and services% GDP PC_gr – GDP growth rate per capita (annual).
Growth rate of GVA of trade and public catering and procurement	
Trade_VA_gr = -1,032 + 1,432 * GDP_PC_gr + 0,128 * IMP + (0,0000) (0,0599) + 0,480 * HCONS (0,0016)	Trade_VA_gr - growth rate of GVA of trade and public catering and procurement; GDP_PC_gr - GDP growth rate per capita; IMP - import of goods and services; HCONS - household expenditures.
Growth rate of GVA in the service sector	
Serv_VA_gr = (-0,505) +1,390 * OUTPUT + 0,011* EXCH_R + (0,000) (0,0647) 0,106 * CPI - 0,031* PPI (0,0021) (0,0156)	Serv_VA_gr - growth rate of GVA other service sectors; OUTPUT – growth rate of gross output; EXCH_R - rate of change of the national exchange rate. currencies (US dollars per sum); CPI – consumer price index (CPI); PPI – producer price index for industrial goods.
Source: compiled by the authors.	

The economic interpretation of the equations included in the macro model of supply is as follows:

- The growth rate of employment in industry (Empl IND), the growth rate of labor productivity in industry (Empl_prod IND), the growth rate of investment in industry, with a two-year lag (INV_2YM) by 1% leads to an increase in GVA of industry (IND_VAgr) by 1.047%, 0.999% and 0.047% respectively.

- Growth in agricultural productivity (Prod_AGR), growth rate of GDP per capita (GDP PC_gr) and GDP deflator (DEF_GDP) by 1% leads to an increase in agricultural GVA (AGR_GR) by 0.339%, 0.572% and 0.057%, respectively, in while an increase in the industrial goods producer price index (PPI) leads to a decrease in the growth rate of added value in the agricultural sector by 0.076%.

- The growth rate of construction GVA (Const_GVAgr) is mainly determined by the volume of gross output (OUTPUT), which is reflected in the elasticity coefficient, which in the equation is equal to 2.191. The growth rate of gross fixed capital formation (SAV) is less decisive for the growth of construction GVA (Const_GVAgr) than the volume of gross output (OUTPUT), which is confirmed by the elasticity coefficient (0.362) in the model. The growth of imports of goods and services (IMP) and the producer price index of industrial goods (PPI) negatively affect the growth rate of construction GVA (Const_GVAgr).

- The growth rate of GDP per capita (GDP PC_gr) and import of goods and services (IMP) have a positive impact on the volume of added value in the transport and communications sectors (Trans&Com_gr). An increase in GDP per capita (GDP PC_gr) and imports of goods and services (IMP) by 1% leads to an increase in the GVA of transport and communications (Trans&Com_gr) by 1.264% and 0.128%, respectively, while an increase in the consumer price index (CPI) - to a decrease in the growth rate of added value of the industry by 0.080%.

- The growth rate of GDP per capita (GDP_PC_gr), import of goods and services (IMP) and household expenditure (HCONS_2) by 1% leads to an increase in GVA of trade and catering and procurement (GVA_trade) by 1.432% 0.128% and 0.480% respectively.

- The greatest impact on the growth rate of GVA of other service sectors (Serv_gr) is exerted by the growth of gross output (OUTPUT), which is confirmed by the relatively high elasticity coefficient, which in the equation is equal to 1.390. Less influential factors in the growth rate of GVA of other service sectors (Serv_gr) are the growth of consumer prices (CPI) and the rate of change in the exchange rate of the national currency to foreign currency (EXCH_R). Their growth by 1% causes an increase in the growth rate of GVA of other service sectors (Serv_gr) by 0.106% and 0.011%, respectively.

Conclusion.

Summarizing the results of the above presented research, we can conclude that the constructed econometric macro model of the final supply is scientifically sound from the point of view of economic theory and applied econometrics, and can be used to predict the values of macroeconomic equilibrium and in drawing up programs for the socio-economic development of the Republic of Uzbekistan.

Annex 1. Regression statistical characteristics of an econometric model of industry

CONCLUSION OF RESULTS

Regression statistics	
Multiple R	0,952
R-squared	0,906
Normalized R-squared	0,894
Standard error	0,014
Observations	29

Analysis of variance

	df	*SS*	*MS*	*F*	Significance F
Regression	3	0,048	0,016	79,989	0,000
Balance	25	0,005	0,000		
Total	28	0,053			

	Coefficients	Standard Error	t-statistic	P-Value	Lower *95%*	Upper *95%*
Y- IND_VAgr	-1,093	0,154	-7,108	0,000	-1,410	-0,776
X1 - Empl IND	1,047	0,116	9,031	0,000	0,808	1,286
X2 - IND emp_prod	0,999	0,086	11,576	0,000	0,821	1,177

X3 - INV_2YM	0,047	0,029	1,603	0,121	-0,013	0,107

Annex 2. Regression statistical characteristics of an econometric model of agriculture

CONCLUSION OF RESULTS

Regression statistics	
Multiple R	0,804
R-squared	0,647
Normalized R-squared	0,586
Standard error	0,018
Observations	28

Analysis of variance

	df	*SS*	*MS*	*F*	Significance F
Regression	4	0,014	0,003	10,543	0,000
Balance	23	0,007	0,000		
Total	27	0,021			

	Coefficients	Standard Error	t-statistic	P-Value	Lower *95%*	Upper *95%*
Y-AGR_GR	0,120	0,228	0,528	0,603	-0,351	0,591
X 1 -Prod_AGR	0,339	0,097	3,510	0,002	0,139	0,538
X 2 -GDP PC_gr	0,572	0,220	2,603	0,016	0,117	1,027
X 3-DEF_GDP	0,057	0,028	2,053	0,052	0,000	0,115
X 4-PPI	-0,076	0,038	-1,983	0,059	-0,155	0,003

Annex 3. Regression statistical characteristics of the econometric model of construction

CONCLUSION OF RESULTS

Regression statistics	
Multiple R	0,884
R-squared	0,782
Normalized R-squared	0,744
Standard error	0,050
Observations	28

Analysis of variance

	df	*SS*	*MS*	*F*	Significance F
Regression	4	0,206	0,052	20,626	0,000
Balance	23	0,057	0,002		
Total	27	0,263			

	Coefficients	Standard Error	t-statistic	P-Value	Lower *95%*	Upper *95%*
Y-Const_VA_gr	-0,307	0,606	-0,507	0,617	-1,561	0,946
X 1-OUTPUT	1,215	0,518	2,345	0,028	0,143	2,287
X 2-SAV_2YM	0,362	0,105	3,451	0,002	0,145	0,578
X 3-IMP	-0,154	0,062	-2,482	0,021	-0,281	-0,026
X 4-PPI_1YL	-0,084	0,034	-2,516	0,019	-0,154	-0,015

Annex 4. Regression statistical characteristics of the econometric model of transport and communications

CONCLUSION OF RESULTS

Regression statistics	
Multiple R	0,817
R-squared	0,667

Normalized R-squared	0,626
Standard error	0,033
Observations	28

Analysis of variance

	df	*SS*	*MS*	*F*	Significance F
Regression	3	0,052	0,017	16,045	0,000
Balance	24	0,026	0,001		
Total	27	0,078			

	Coefficients	Standard Error	t-statistic	P-Value	Lower *95%*	Upper *95%*
Y-Trans&ComVA_gr	-0,270	0,492	-0,548	0,589	-1,285	0,745
X 1- CPI	-0,080	0,047	-1,711	0,100	-0,177	0,016
X 2-Imp	0,117	0,045	2,636	0,014	0,025	0,209
X 3-GDP PC_gr	1,264	0,439	2,879	0,008	0,358	2,169

Annex 5. Regression statistical characteristics of the econometric model of trade, public catering and procurement

CONCLUSION OF RESULTS

Regression statistics

Multiple R	0,845
R-squared	0,713
Normalized R-squared	0,679
Standard error	0,046
Observations	29

Analysis of variance

	df	*SS*	*MS*	*F*	Significance F
Regression	3	0,131	0,044	20,748	0,000
Balance	25	0,053	0,002		
Total	28	0,184			

	Coefficients	Standard Error	t-statistic	P-Value	Lower *95%*	Upper *95%*
Y-Trade_VA_gr	-1,032	0,278	-3,711	0,001	-1,604	-0,459
X 1-GDP PC_gr	1,432	0,291	4,922	0,000	0,833	2,031
X 2-Imp	0,128	0,065	1,970	0,060	-0,006	0,261
X 3-HCONS	0,480	0,135	3,545	0,002	0,201	0,759

Annex 6. Regression statistical characteristics of the econometric model of other service industries

CONCLUSION OF RESULTS

Regression statistics

Multiple R	0,928
R-squared	0,861
Normalized R-squared	0,837
Standard error	0,010
Observations	28

Analysis of variance

	df	*SS*	*MS*	*F*	Significance F
Regression	4	0,016	0,004	35,703	0,000
Balance	23	0,003	0,000		
Total	27	0,018			

	Coefficients	Standard Error	t-statistic	P-Value	Lower *95%*	Upper *95%*
Y-Serv_VA_gr	-0,505	0,174	-2,901	0,0080	-0,866	-0,145

X 1-OUTPUT	1,390	0,148	9,383	0,0000	1,084	1,697
X 2-EXCH_R	0,011	0,006	1,940	0,0647	-0,001	0,023
X 3-CPI	0,106	0,030	3,468	0,0021	0,043	0,168
X 4-PPI	-0,031	0,012	-2,613	0,0156	-0,056	-0,007

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