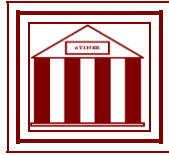


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**Forecasting of Small Business
Development in the Russian Regions
on The Basis of Simulation Models**

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Forecasting of Small Business Development in the Russian Regions on The Basis of Simulation Models

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Abstract

In this paper, the regional simulation interbranch model of development of the small business (RSMDSB) is being considered. The model was developed and implemented in 2006-2011. RSMDSB is intended for the assessment of city support measures and the situation in Petersburg economy taken as a whole in terms of small business enterprises (SBE) development. The RSMDSB has three levels:-regional level, describing interaction of different types of small and big business at the city level; sector level forming the main interrelations of the distribution of resources between SBE at sector level; strata level defined by the number of employees in enterprises. Regional level of system models is presented by the generalized inter-sector model which allows defining interrelations between economic development of big and small business and creating the key parameters of SBE development.

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1. General principles for forecasting of small business development

Small business plays an important role in the economy of Russia. For example, there were more than 110 thousand small enterprises and 80 thousand individual businessmen (SBE) operated in St. Petersburg in 2011. The number occupied in SBEs came up to about 790 thousand people or 25 % of all active population in St. Petersburg. Commodity turnover of small enterprises in 2010 was estimated at 1918 billion rubles (500 BEUR)

Usually the development of small business is considered as the absolutely isolated sphere which doesn't depend on the processes taking place in the regional big business situation. Modern small business has rather developed interbranch and interregional communications which result of realization leads to considerable changes of the condition of SBE in different branches of economy. Therefore forming the SME development forecast for the region should be based on the following principles:

- Small business develops as a part of the regional economy, serving the needs of the population and the major enterprises of the industry, sending a portion of its production outside the region.

- Small business development uses a single database with big business and labor shortage or surplus which affects both small business development opportunities and the wage levels in these enterprises;

- The volume of demand for the products of small business, focused on providing services to the population is determined by the solvent demand; The volume of demand for the products of small business, focused on the production of goods and services production, consumption of which is only possible within the region is determined by the demand of enterprises located within the region

- Exports of goods and services beyond the region is possible only for those goods and services which can be delivered to the foreign market;

- Demand for transit services will be determined by the volume of import and export as well as the transit through its territory of the goods and services produced outside the region and intended for consumption outside the region.

Small business development is determined by the support and monitoring of the activities of small businesses as well as competition with large enterprises operating in the same areas as the SBEs.

The regional simulation intersector model of development of the small business (RSMDSB) was developed and realized in 2006-2011. RSMDSB is intended for the assessment of city support measures and the situation in regional economy with regard to SBE development.

The RSMDSB represents three-level dynamic simulation quasi stochastic model. The model has three levels:

- Regional level, describing interaction of different types of small and big business at the city level;

- Branch level, forming the main interrelations of distribution of resources between SBEs at branch level;

- Strata of the SBE united as a whole and based on quantitative parameters and intended for the description of dynamics of the key economic parameters – revenues, expenses, profit, investments and ways of development at level of rather homogeneous group.

2. Regional model for forecasting of small business development

Regional level presented a consolidated system model to identify intersectoral relationship between big and small business of Saint-Petersburg, economic development of the city and the key parameters of the small enterprise development (such as the potential rate of growth, the ability to meet the needs of the labor market, etc.) as well as the basic parameters for its support.

35 main sectors were defined after the study of statistical data characterizing the development of small business in St. Petersburg. Each of these sectors has an important role in the economy of the city and relatively similar characteristics.

As the initial data for the regional model are:

- 1) Performance and sale of products in different industries for large, medium and small enterprises in various branches;
- 2) The number of employees in various sectors;
- 3) Fixed assets in various sectors of the city;
- 4) Investments in various sectors of the economy;
- 5) Export and import of products;
- 6) The structure of consumer spending.
- 7) The structure of intersectoral interactions (based on expert survey).

Development of the regional economy is described on the basis of the demand made by consumers of products in various industries. The regional model includes the following types of demand:

- The end consumer demand satisfied branches operating mainly in the retail market.
- External demand brought the products of industry, transport and certain branches of production services from other regions of Russia as well as foreign customers;
- Transit demand for the services of transport companies and wholesalers, resulting in the implementation of export-import operations as well as interregional interactions in Russia through St. Petersburg as the major transport hub in the North-West of Russia.
- Investment demand arising from investments in economy of Saint-Petersburg.
- The demand of public organizations and enterprises of the financial sector.
- Industrial demand resulting from economic activities of enterprises in the territory of St. Petersburg.

In general the regional model has the following main blocks:

- 1) Household sector;
- 2) Retail and services for population

- 3) Sector of wholesale trade and services for organization and enterprises (including transport and communications)
- 4) Manufacturing and construction sector;
- 5) Fiscal sector;
- 6) Sector of interregional links.

The relationship between the major blocs of a regional model is presented in Fig. 1.

Each sector has two major segments: the segment of large and medium-sized enterprises and small businesses. The development of large enterprises modeled on the integrated base by the classic intersectoral model. The small enterprise development is associated with a detailed assessment of the opportunity to meet demand which can be satisfied by SBEs.

Within each of the block in the model there are the following stages:

- 1) "Plan", which defines the basic settings for all types of demand and is expected to meet its large and medium-sized enterprises as well as SBEs;
- 2) "Implementation", which evaluate the possibility of performance of the "planned" jobs by enterprises;
- 3) "Analysis" based on the results of the "Implementation" stage. At this stage there is assessed the labor force needs for the future and projected investment in fixed assets.

The final demand generated in the "Households sectors" is determined on the basis of the size of the monetary income of residents in St. Petersburg in the current period and in the period expected in the future. As the main hypothesis to assess its size for the future period M. Friedman thesis is used asserting that current demand is formed on the basis of past experience and anticipated future revenues. The distribution of expenditure across various industries serving the final demand was established on the basis of the accounting data, on the amount of sales in major sectors of the retail market of goods and services.

The demand in the sector "households" defines entirely the results and investments of enterprises in the nine branches of retail trade and public services. Part of the final consumer demand will depend on the economic results in such areas as: Communication; Transport; Energy; Construction; Motor vehicles sales; Car Maintenance Services; Electronics and appliances repair, Housing and communal services; Consulting and advertising.

Actually the "Sector of wholesale and services for legal entities" and "Manufacturing and Construction" represent fairly closely interrelated single sector model which defines a finite population, the domestic demand, investment demand, external demand for production companies in the industry as well as transit demand.

Investment demand is generated for business enterprises on the basis of the expected growth of enterprises from different sectors in the future as well as the need to replace part of the drop. For public-sector enterprises (public administration, health, education, culture) the investment demand is estimated on the basis of the volume of investment in 3-year regional budgets as well as prolonging a trend for years after the forecast period. Investment demand for

the population is formed on the basis of current and anticipated income of the population as well as mortgage opportunities.

External demand for products and services industries of the region, as well as the drop in demand is formed at the expense of external parameters characterizing the dynamics of external relations of St. Petersburg. Based on the data on the external and transit demand there is fully evaluated the need for wholesale trade in consumer goods and equipment. On the basis of various kinds of final demand by Leontief model it is determined by the need to produce goods and services to the enterprises of the region, i.e.

$$(E - A)^{-1} Y_H(t) = X_H(t) \quad (1)$$

Where $Y_H(t)$ is the primary vector of aggregate demand during the period t ; A - matrix cross-cutting unit costs; $X_H(t)$ - a vector of needs assessment in the production of goods and services from different sectors for the year t ; (E) the diagonal is the identity matrix.

Each sector includes both large organizations and small businesses. Distribution of "planned" demand within each industry at the demand of large and small businesses is determined on the basis of the level of development of the business in the previous period, as well as the industry's regional policies.

There are 4 options of regional policy:

- 1) Equal development of both large and small businesses;
- 2) Priority in development of big business;
- 3) Priority in development of small business.
- 4) Priority development of some branches.

Data on demand, as well as opportunities to replenish the workforce for each small business industries (along with several other industry parameters characterizing the possible support of small business) is transferred to the industry standard model (see description below).

The results of the calculations of branch models for small businesses form the so-called feedback response of small businesses on established terms.

Main parameters in the response of the industry are:

- 1) Sales of production;
- 2) The number of employees at the end of the period;
- 3) Official salaries;
- 4) Actual average wage of employee;
- 5) Direct (benefits on loans, grants, etc.) and indirect (supplier credits, taxes etc) financial support used by SBEs.
- 6) Made investments
- 7) The number of companies operating in the branch.

Branch reactions are the basis for the calculation of the performance of large and medium-sized organizations. There are certain limitations on the possibility of issuing goods and services industry in the region which are determined by the available manufacturing capacity. The production capacity for large enterprises is estimated on the basis of the fixed assets and the number of persons employed in industry, as well as their replacement, and for the small businesses it is modeled in the branch models.

Let's denote by $M_H(t, X_H(t))$ the production capacity, which the company may have in response to the needs of the vector $X_H(t)$. The demand vector, which can be satisfied by the system of equations:

$$Y_M(t) = (E - A)M_H(t, X_H(t)) \quad (2)$$

The comparison of $Y_H(t)$ and $Y_M(t)$ allows you to identify industries where there is a surplus of capacity meeting demand and shortages. In actual practice with a lack of opportunities to meet the final demand one of the following occurs:

- Decreasing of the final demand for regional products.
- Final demand for products in one industry is replaced by other products. A typical view of substitution of one industry in another is the transition from manufacturing certain products in the region to import it into the region through wholesalers.

The model provides for adjustment of demand based on minimization of discrepancies between the demand which is and which can be satisfied. To solve the problem

$$\sum_{j \in S_i} Z_{ij} \leq \max(0; Y_{Mi}(t) - Y_{Hi}(t)) \quad i \in I_1 \quad (3)$$

$$U + \sum_{i \in T_j} Z_{ij} \geq \max(0; Y_{Hj}(t) - Y_{Mj}(t)) \quad j \in I_2 \quad (4)$$

$$U \geq 0; \quad Z_{ij} \geq 0; \quad (5)$$

$$U \Rightarrow \min \quad (6)$$

Where S_i -lots of industries which products may be substituted for the i -th branch; T_j -lots of industries which products can replace the production j -th branch; I_1 -set of industries in which there is the excess capacity; I_2 -set of industries where there is a shortage of capacity, which can be substituted by other goods and services in other industries; Z_{ij} -the volume of goods and services to the j -th branch, replacement of the i -th branch; U maximum residual. As a result of the redeployment of demand between industries there is formed the final demand:

$$Y_{Ki}(t) = \sum_{j \in S_i} Z_{ij}^* + Y_{Hi}(t) \quad i \in I_1 \quad (7)$$

$$Y_{Kj}(t) = Y_{Hj}(t) - \sum_{i \in T_j} Z_{ij}^* \quad j \in I_2 \quad (8)$$

Where Z_{ij}^* -the volume of goods and services to the j -th branch, replacement of the i -th branch in accordance with the optimum solution (3) to (6). The production vector $X(t)$ can be defined basing on the values of $Y_K(t)$ in accordance with the equation (1).

On the basis of the branch outputs there are known: vectors of model parameters such as number of employees, average wages in the industry, profits and payments of taxes. For large and medium-sized businesses in those sectors where there is a shortage of capacity wages are rising faster than the

average regional level and in industries where the excess capacity is slower. In addition, on the basis of expected future growth and the deficit there is the investment demand for the next period.

The volume of import and export of products from the region in the territory of the Russian Federation and abroad is defined in the block of interregional links. The last cross-sector budget model is the sector in which estimated budget revenues received from enterprises and the population of the region, as well as transfers from the federal budget. On the basis of the budget the revenues are determined by the current budget expenditure related to the acquisition of goods and services as well as investment costs in the future.

3. Branch simulation models

Industry-specific models are built on the principle of strata. Each stratum is selected according to the number of employees working at the company. The model incorporates up to 100 strata. As the research shows the results of the SBE performance depend heavily on the enterprise size. In addition, splitting the strata can better track such processes as the growth of SBEs, their absorption of large enterprises, as well as bankruptcy. The source data for the calculations on branch models are the following:

- The number of people engaged in the strategic sector of SBEs;
- The fixed assets in enterprise use (both own and in renting or leasing);
- The volume of orders that can be obtained by strata;
- The size of the leased and owned assets and areas;
- Leasing and loan obligations available to medium-sized enterprise each strata;
- Number of enterprises that are currently part of the strata. The strata may be empty because initially there are no any "existing" enterprises of this size;
- Short-term Payables that emerged in the previous step.
- Long-term debt, which was formed in the previous period

On the first stage, for "existing" plants within each stratum, there is calculated the capacity of average enterprise, which is defined as the volume of revenue that can be obtained by the number of employees and the fixed assets. Production functions are used in all branch models for describing the enterprise capacity. Data analysis showed that the most adequate for Petersburg ESBs is the Cobb-Douglas function.

$$M = A * K^{\gamma} * L^{\beta}, \quad (9)$$

where M is the capacity of the enterprise; A- capacity coefficient; K – fixed assets used by the enterprise; L-number of employees in the company; γ - is the coefficient of elasticity of capacity from the capital; β is the coefficient of elasticity of capacity from labor force.

On the second step, the order volume which received the enterprises of each stratum is calculated. The intersectoral model defines the upper volumes of

goods or services that can be produced by SBEs of the sector. The distribution of orders on the enterprises of different strata is one of the methods for modeling support measures to SBE by regional bodies. This effect is simulated in the model parameters, the so-called small business support strategy. The model gives opportunity to implement the following strategies:

A) The same change in orders for all enterprises regardless of size, i.e.:

$$V_1(t) = X_{KS}(t) \frac{n_1 * M_1(t)}{\sum_{k=1:100} n_k M_k(t)} \quad (10)$$

Where $V_1(t)$ - volume of orders (revenue) earned by the 1-st stratum; $n_1(t)$ is the number of enterprises in the 1-st stratum; $M_1(t)$ – average capacity of enterprises in the 1-th stratum; $X_{KS}(t)$ - volume of orders for small businesses under the intersector model.

B) The priority in receiving orders by large SBE. In this case, the largest SBEs receive the orders firstly and only after them the smaller ones. Transfer order is carried out according to the following rules:

$$R_1 = 1 - \frac{1}{\sqrt{2\pi}Q} \int_{-\infty}^1 e^{-\frac{(x-N)^2}{2Q^2}} dx \quad (11)$$

Where R_1 is the standard weight of the 1-st stratum; Q is the concentration of support for SBEs; N Center for support of SBEs. Current weight is defined as

$$\Delta_1(t) = \frac{n_1 * R_1 M_1(t)}{\sum_{k=1:100} n_k R_k M_k(t)} \quad (12)$$

The volume of release of 1 Enterprise-stratum defined by the formula

$$V_1(t) = \max(0; n_1 M_1 - (\sum_{k=1:100} n_k M_k(t) - X_{KS}(t)) \Delta_1) \quad (13)$$

C) Priority receives orders to micro enterprises to small businesses. In this case the standard weight support is determined by the formula

$$R_1 = 1 - \frac{1}{\sqrt{2\pi}Q} \int_{l-1}^{\infty} e^{-\frac{(x-N)^2}{2Q^2}} dx \quad (14)$$

Current weight and volume is determined by strata and by formulae (13) and (14).

On the third step the manufacturing program is determined for the average enterprise of the strata on the basis of comparing the capacity and volume for it, i.e.

$$w_1(t) = \frac{V_1(t)}{n_1 \sum_{k=1:100} V_k(t)} \quad (15)$$

On the 4-th step there is calculated the size of the stocks, receivables and other current assets which are evaluated on the basis of the expected amount of

revenue and average turnover of stocks and receivables for the enterprises of the branch. On the 5-th step there are calculated the main parameters of the real costs associated with the implementation of the production program. These include:

A) lease payments (estimated on the basis of leasing agreements of enterprises striations);

B) depreciation (estimated on the basis of the cost of fixed assets owned by the enterprise strata);

C) rental payments are determined on the basis of the estimates of the size of the current lease assets and areas, as well as the current rental rates for business strata,

D) Official and "grey" wages are formed on the basis of:

- the expected mainstream wages (including wages in large and medium-sized enterprises),

- the expected value of unofficial payments for employees ("*obnalichka*");

- the expected social and other tax payments depending on official payments,

- degree of supervision by the tax authorities on the payment of wages by "*obnalichka*";

- the propensity of entrepreneurs in small business to take risks (estimation based on expert interviews).

Actually the choice of strategy for small business is the non-coalition game in which one side is taxpayers and the other - tax authority. Average grey wages (W_U) defined as the maximum win for a taxpayer are equal to

$$W_U(c) = \max\left(0; \frac{BQ(1-C)}{2((B-k-BQ)C+BQ)}\right)W \quad (16)$$

Where W is the official salary SBE (including business income), Q is the amount of fines for evasion from official wages; C -the probability of detecting tax evasion; k – fee for "*obnalichka*" operation; B - share gains by "*obnalichka*" 1 ruble equal to

$$B = \frac{T_{NDFL} + T_{ECH}}{(1 - T_{NDFL})} + T_{VAT} + \eta T_{PRO} \quad (17)$$

Where T_{NDFL} is the tax rate on a person's income; T_{ESN} - social payments rate; T_{VAT} -rate of value-added tax; T_{PRO} - income tax rate; η -the share of profits from the cost through fictitious expenses.

Equilibrium parameter detection of tax offences (C) by tax authorities is proportional to the enterprise size and the capacity (the staff) of tax authorities which can be used to monitor the activities of small enterprises. Official wages equal to

$$W_F(C) = W - W_U(C) \quad (18).$$

F) Deductions for social insurance which are based on the current business tax system and the size of the official salary;

G) Size of property tax payments which is assessed on the basis of existing fixed assets owned by a business.

H) Estimated size of the interest payments on existing loans (loans are considered at the end of each model period and interest thereon is paid at the end of each of the periods).

On the 6-th step there is calculated the difference between the revenue and the actual cost for assessment of the company's income tax. Enterprise cost function which describes the settings depends on the volume of production, the number of employees at enterprises of strata and fixed assets used by the enterprise strata, as well as the sizes of loans and interest payments. Without taking into account the inflationary factors and the need to pay interest on loans made, profits for tax purposes are determined by the formula:

$$P_{Lr} = V_L(1 - \alpha) - (v + W_{LF}(1 + T_{ECH}) + W_{LU} \frac{1+k}{1+T_{VAT}})L - (\delta_{Ld}r_d + \delta_{La}r_a + \delta_{Ll}r_l)K_L \quad (19)$$

Where α is the specific variable cost for 1 output; v - non-salary fixed costs for 1 employee; δ_d , δ_a , δ_l , respectively, shares of fixed assets owned, rented and leased; r_d , r_a , r_l -respectively, the average depreciation for owned fixed assets on leasing and renting.

On the 7-th step the average size of SBE assets is calculated for each stratum as the sum of the inventories, receivables, other current and non-current assets. After that an average value of equity is defined for each stratum as the difference between assets and long-term and short-term liabilities.

On the 8-th step there are calculated the basis indicators of potential profitability and solvency such as potential return on assets (ROTA), cover ratio and debt ratio. Received coefficients are the basis for the assessment of the likelihood of bankruptcy in accordance with the methodology by David Durand. This approach gives opportunity to define the number of failed enterprises and dismissed employees in each stratum. After that there is estimated the average cost of business based on the income method and it is determined by the probability of the attractiveness of the business to absorb large companies. The number of SBEs absorbed by large companies is calculated.

On the 9-th step the potential volume of orders $V_{pL}(t+1)$ is determined for each stratum to the next year on the basis of the forecasts of the industry development (exogenous parameters) and actual development in the current year. The willing size of the fixed assets and number of employees is determined on anticipated business development and current labor cost. These parameters should provide enterprise capacity sufficient for performance of the expected volume of orders in the future. Assuming that the enterprise determines the optimal structure of labor importation and fixed assets on the basis of maximum profits the optimal size of the fixed assets is:

$$K_{Lo} = \left(\frac{V_{pL}(t+1)(\gamma(v + W_{LF}(1 + T_{ECH}) + W_{LU} \frac{1+k}{1+T_{VAT}}))^\beta}{A((\delta_{Ld}r_d + \delta_{La}r_a + \delta_{Ll}r_l)\beta)^\beta} \right)^{\frac{1}{\beta+\gamma}} \quad (20)$$

While the number of employes

$$L_{Lo} = \left(\frac{V_{pL}(t+1)(\beta(\delta_{Ld}r_d + \delta_{La}r_a + \delta_{Ll}r_l))^\gamma}{A(\gamma(v + W_{LF}(1 + T_{ECH}) + W_{LU} \frac{1+k}{1+T_{VAT}}))^\gamma} \right)^{\frac{1}{\beta+\gamma}} \quad (21)$$

The desired increase (reduction) in fixed assets is defined. If the optimal decision shows the necessity of fixed assets reducing, it comes to the decrease of the rented property. If the equation (20) shows that the need to increase fixed assets for enterprises in the l-st stratum thereupon:

- a. Estimated outflow of rented and own funds.
- b. Determined by the size of assets that can be obtained through the lease of own funds, loans, and leasing. In determining the form of the newly acquired assets there is taken into account the size of the real profit, the volume already made loans and leasing of fixed assets, as well as possibility receiving support from state in this branch of small business (subsidies for credit interest and leasing, guarantees on loans from state funds, to subsidize part of the funds for the purchase of fixed assets and some other measures).
- c. Comparison of existed fixed assets and the ability to recharge from various sources sets the size of the fixed assets used by the enterprise of the strata in the next period.

On the 10-th step the future demand on employees is defined for enterprises from l-st stratum on the base of the results of the assessment to meet the needs in the growth (decrease) of fixed assets and the expected size of orders in the next period. If there is an excessive number of employees, enterprises are getting rid of redundant workers and in the case of shortage of workers there is formed the demand for staff replenishment. The model limits maximum increase or decrease in the number of employees by 10 people.

On the 11-th step, the balance of labor resources is formed at the level of the branch of small businesses which includes as input streams (released employees in the bankruptcy of enterprises, reduced employees at operating enterprises), as output streams (the labor needs of the "new" enterprises, satisfaction of claims from the "operating" enterprises).

The model uses the following mechanism to meet the needs of enterprises. Primarily the needs of the "new" businesses are satisfied and then "operating". For "operating" enterprises, as though it had a balance of labor resources in the industry, their needs are being met in full and in the case of scarce the arrival of new workers for "operating" enterprises occur in accordance to the proportion of the demand.

If the number of employees in the company is not changing it remains in the same stratum whether it increases or decreases; the enterprise goes to a higher strata or lower one inheriting all their assets and liabilities.

On the 12-th step the main financial results and tax payments are calculated on the base on the above parameters as well as on the basis of the taxation system. In this step there are calculated such things as a profit before taxes and such taxes as income tax; property tax, VAT and some others. After that there are defined: the size of the net profit of the enterprise; the size of net cash flow,

amount of long-term and short-term loans, volume of payables at beginning of the next period

In the model, "new" enterprises have arisen as a result of the following factors:

- a. "Blank" volume of waiting orders that arises as a result of the bankruptcy of enterprises;
- b. Branch attractiveness for capital investment which is determined by comparing the mainstream potential profitability of assets and the discount on capital investments in the branch.

The algorithm of calculation parameters for "new" enterprises passes the following stages:

- 1) It is determined by the total number of new enterprises that can potentially occur based on the estimated volume of orders, mainstream business productivity, as well as the average number of small enterprises in this branch.
- 2) The emergence of "new" small enterprises in a given stratum is the beta distribution which has the same parameters as the primary distribution to the industry. The beta distribution is chosen after sample processing in 2000 SBEs.
- 3) Depending on the situation on labor market in the branch the number of new small businesses in the branch corresponds to the potential (tributary of manpower for filling the needs of all "new" small enterprises) or turns out to be lower if the need in the employees for new enterprises cannot be covered by the existing flow. In case of lack of manpower to meet the needs of the "new" business model they are distributed on a "bottom-up" approach, i.e. the first needs of most small businesses, and then larger.
- 4) The expected volume of orders for new enterprises are defined as the expected size of orders for "existing" plants of the strata, taking into account the correction factor (less than 1) which defines the suspense of "new" businesses consumers.
- 5) The need for new enterprises in fixed assets is determined by the number of "new" businesses and the expected volume of orders.
- 6) The ability to meet the needs of the "new" enterprises in fixed assets is estimated on the basis of such factors as: the likely size of the investment in a capital of "new" enterprises; availability of funds on the basis of a lease, including those subsidized by the city; opportunity to rent fixed assets.
- 7) Comparison of needs for fixed assets and possibilities of their satisfaction is determined for new businesses on the basis of such parameters as size of their fixed assets: owned, received by leasing and rented.

The model (taking into account the particular adaptation) was used for formation of forecasts of development of small business in St. Petersburg in 2007, 2009 and 2011. The parameters of development of small business predicted on its basis such as revenue volumes, number of employees taken in small business and number of small enterprises were rather well correlated with reality. Creation of models allowed considering various scenarios of development of small business in St. Petersburg, defining efficiency of support of development of small business and estimating influence of negative external factors on conditions of small business. Important results were received from the point of view of a branch orientation of the state support of SBEs.

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Figure 1. *The basic blocks of the intersectoral model for forecasting of small business development*

