Role of the Domestic Market and Export-Expansion Development in Economic Growth*

MYROSLAVA MUNKO**

ANNOTATION. The author examines the issue of domestic market expansion within the context of the country's economic growth. With the assistance of the Kalman filter she analyzes the effect of internal and external factors on the balance of external accounts — current and financial operations. Establishing the asymmetrical effect of domestic demand on the balance of external accounts (similarly, it concerns a series of exogenous factors), she substantiates the inadvisability of stimulating consumer demand at the expense of external borrowings. The author offers recommendations for self-sufficient animation of economic growth without upsetting the equilibrium of the external account.

KEY WORDS. Domestic market, domestic demand, economic strategy, exogenization, endogenization, export-oriented strategy, economic growth, two stage least square technique, Kalman filter, flexible coefficients, industrial production, retail turnover, export-expansion model, balance of payments, current account, financial operations account, inflation, devaluation.

Introduction

The unequivocal perception of the economic policy of 2004—2006, which is distinguished for the attempts to stimulate the domestic market, actualizes the issue of choice between internal- and external-oriented strategies of economic development.

Recently, in the academic community and in political circles more frequently statements have been made to the effect that the potential for development based on the export model has been exhausted and there is a need to switch over to an alternative economic strategy prioritizing the stimulation of the domestic market. World experience and some of Ukraine's economic realities induce to believe that such a strategy could be viable, although not without numerous risks.

The experience of 2004—2006, in particular, convincingly demonstrated the destructiveness of the all too contrasting reorientation of aggregate demand on the domestic market.

Despite the lively debate on the advantages and flaws of the alternative models of economic development, there is a lack of proper empirical indications. By using two statistical techniques — the two stage least square (2SLS) and the time-varying-parameter model on the basis of the Kalman filter — we studied the interaction of internal and external factors of aggregate demand with separate balance of payment accounts. This is very important, because usually a decline in the current balance signals the end of the ambitious experiments in stimulating demand. The purpose of this article is to identify the effect of the internal and external component of aggregate demand on the balance of external accounts under definite conditions of the Ukrainian economy. The novelty of the study consists in the use of a modern economic instrument for a weighted evaluation of the positive effects of the balance of payments from the expansion of the domestic market and export-expansion growth.

The structure of the article reveals the set objectives. First, current studies on the effect of endogenous and exogenous factors on economic growth are reviewed. Second, we analyze the main trends of aggregate demand in the Ukrainian economy and empirically evaluated the main functional interrelationships. The discussion is completed by conclusions concerning the issues of the country's further reorientation toward the domestic market.

Overview of Topical Studies and the Theoretical Foundation of Research

A heated discussion revolved around the issue of expanding the domestic market in 2004—2006. As a result, there emerged two groups of views:

1) priority of the domestic market as an alternative to the continued buildup of exports;

2) further preference of exogenization[1] of the country's economy and export-oriented strategy of growth.

Regardless of what view was emphasized, the problem consisted in that the increase in the internal component of aggregate demand should not be attended by accelerated inflation and a critical decline in the current balance, which requires adjustment of economic policy. While for the national economy the maintenance of a positive current balance is an undeniable factor of an economic upswing, the more so since GDP growth (industrial production)

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[1] Exogenization of the economy — growing impact of external factors on a country's economic development

does not worsen the current account[2], the transition to an unfavorable current balance looks dangerous in two aspects — dynamics of income and of balance of payments.

Similarly, a positive link between export growth and GDP growth was revealed in a study of 39 countries in the period from 1951 to 1998 by the vectoral autoregression (VAT) method, while the consequences of import growth were contrary[3]. The considerable advantages of the export-expansion model are linked with an increase in productivity and decline in the dependence on price trends, stimulation of innovation-investment activity, enlargement of the technological component of development, higher quality of products[4], and increase in the demand for skilled labor[5].

V.Bazylevych emphasizes that the development of competitive export of products of the processing industry and the reduction of export of raw materials should be the priority areas in the structural reform of the national economy. The close link between economic growth and larger technological exports is confirmed empirically[6]. On the other hand, we cannot but agree that the strategy of the foreign-oriented policy should not be reduced to making export the most important factor of economic growth. In the opinion of V.Bazylevych, the decisive importance is the development of the domestic market with the simultaneous and stable buildup of solvent demand and supply of goods and services[7].

Some studies of 1994—2005 data in Ukraine show that during the past few years the link has been lost between retail commodity turnover and GDP, while the direct link with inflation is increasing[8]. The lack of evidence of GDP dependence on retail commodity turnover weakens the argument in fa-

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[2] *Vzaemodia zrostannia VVP i rakhunkiv platizhnoho balancu — potochnoho i finansovoho.// Visnyk NBU.* [O.Shevchuk. Interaction of Growth of GDP and External Accounts — Current and Financial. *Visnyk NBU* (NBU Herald), 2006, No.7, pp.32-38].

[3] *Krishna A., Ozyildirin A., Swanson N.* Trade, investment and growth: nexus, analysis and prognosis // Journal of Development Economics. — 2003. — Vol. 70. — № 2. — P. 479—499.

[4] *Awares R., Lopes R.* Exporting and Performance: Evidence from Chilean Plants // Canadian Journal of Economics. — 2005. — Vol. 38. — № 4. — P. 1384—1400.

[5] *Yeaple S.* A Simple Model of Firm Heterogeneity, International Trade and Wages // Journal of In-ternational Economics. — 2005. — Vol. 65. — P. 1—20.

[6] *Ekonomichne zrostannia i tekhnolohichny export. Mizhnarodna ekonomichna polityka.* [N.Cherkas. Economic Growth and Technological Exports. *International Economic Policy*, 2004, No.4, pp.5-29].

[7] *Rozvytok vnutrishnioho rynku v umovakh globalizat-sii: teoretychni superechnosti // Bankivska sprava.* [V.Bazylevych (2004). Development of the Domestic Market under Globalization: Theoretical Contradictions. *Banking*, No.2, pp.7-13].

[8] *Tsyklichni aspekty stymuliuvannia platospromozhnoho popytu. Visnyk LKA.* [V.Shevchuk. Cyclic Aspects of Stimulation of Solvent Demand. LKA Herald. 2005, issue 19. Collection of scientific papers for the international conference «Structural Transformations and Investment-Innovative Development of Trade (Lviv, November 10-11, 2005) Part 1, pp.282-286].

vor of stimulating solvent demand as a factor of accelerating economic growth; it is rather the other way around — during the past few years GDP impacts on retail commodity turnover (with a lag of three quarters).

Analyzing the experience of post-socialist countries, we see enough arguments against the stimulation of exports and for transition to a policy of expanding the domestic market[9]. In accordance with the studies of Y.Siskos, the priority development of the domestic market and the removal of deformations in the system of wages by approximating them to international value will facilitate GDP growth to the socially accepted redistribution of national income and strengthen the country's economic security. The effectiveness of such a policy is confirmed by the experience of Greece, where since 1980 one of the features of its economic strategy upon accession to the EU was the combination of exports manufacture growth with the simultaneous priority development of the domestic market for account state budget financing of national and regional programs and tax stimulation during the creation of new jobs[10].

As absolute output and exports increased, the share of foreign trade in GDP dropped from 39 % in 1980 to 34.4 % in 2000, while domestic consumption went up. In 20 years Greece's share in world trade of goods went down from 0.27 % to 0.17 % in exports and from 0.54 % to 0.42 % in imports. Although the national debt increased to 115 % of GDP in the mid-1990s, and the budget deficit came to 23.2 % of GDP in the 1990s, in the final analysis, at rather high inflation rates (the average annual deflator of GDP was 18.0 % in the 1980s-1990s and 10.1 % in 1991-1999), stable economic growth was ensured. The extensive specialization in the key export sectors (merchant fleet, tourism, and agriculture) was accompanied by the creation of import substitution production (telecommunication equipment, autonomous energy sources, etc.), and as these products saturated the domestic market, they were also exported. Since 1995 the government has completely rejected foreign borrowings to cover the budget deficit. Liberalization of capital flows, low level of corporate taxes, and stable legislation secured Greek a high place in the world investment ratings and facilitated the attraction of domestic and foreign investment. A new economic strategy made it possible to ensure stable GDP growth, improve the external account, and stabilize the financial market. The budget deficit decreased threefold, inflation was dropping several

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[9] *Eksportorozshyriuvalne zrostan-nia ta problemy vnutrishnioho rynku u postsotsialistychnykh krainakh Orhanizatsii chornomorskoho ekonomichnoho spivrobitnytstva. Zhurnal yeropeiskoi ekonomiky.* [E.Syskos. Export-Expansion Growth and the Issues of the Domestic Mark in the Post-Socialist Countries of the Black Sea Economic Cooperation Organization. *Journal of European Economics.* 2004, vol.3, No. 4, pp. 384-398].
[10] *Tsounis N.* «The Effects of European Economic Integration on the Greek Economy and the Pattern of Greek International Trade», PhD Thesis Department of Economics, University of Manchester, UK. — 1992.

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percentage points annually, while the real GNI per capita since Greece joined the EU increased almost twofold, achieving the US $11,960 mark in 2000[11].

A similar economic strategy was implemented in Ireland, where throughout the past ten years higher state expenditures for the expansion of domestic demand, along with liberalization of fiscal policy and tax stimulation of foreign investment, resulted in an economic boom. GDP growth in 1991-2000 came to 10.1 % and considerably exceeded the inflation rates (5.9 % in 2000 the highest in the EU). The unemployment rate dropped from 12.4 % in 1996 to 4.3 % in 2001 compared to 11.6 % and 8.5 % in the Euro zone and 10.8 % and 7.9 % for the EU as a whole for the very same period. In 1990-1999 the growth rates of GDP in Ireland (compared to the market prices of 1995) exceeded three times the GDP growth rates for the EU as a whole — 7.9 % and 2.4 % respectively[12].

The experience in the development of Greece and Ireland showed that inflation induced by growing demand does not pose any danger to the country's economy, if growth of GDP and income of the population is constantly exceeding the growth rates of prices. A similar correlation between GDP and inflation is also typical for the dynamic economies of Vietnam and China where, in 1990-1999, with inflation being 16.8 % and 8.2 % respectively, GDP growth was almost three times higher than in the developed countries.

In Ukraine, no proper attention is accorded to the development of the domestic market. To some extent this can be explained by the priorities of the neoliberal model that was implemented in Ukraine for a long time: deregulation, liberalization of prices, complete openness of the domestic market, downsizing enterprises, and stringent monetary policy[13]. The issue of the domestic market was not raised at all, because this contradicted the policy of monetary contraction. Such a policy had a paradoxical result: in Ukraine, which had declared its course of a market economy, there was actually no domestic market[14]. The emphases changed as financial stabilization was completed.

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[11] IBRD, «World Development Report 1999/2000 Full Report.» — The International Bank for Reconstruction and Development / The World Bank N.-Y., Oxford University Press. — 2000. — pp. 302. IBRD «World Development Report 2002» — The International Bank for Reconstruction and Development/The World Bank. N.-Y., Oxford University Press. — 2002. — pp. 262. National Bank of Greece:«Greece: Economy & Financial Markets»// Economic & Financial Bulletin, Volume 1, Issue 3, August 2001. — Athens. — pp. 2—3.

[12] EU/European Commission Broad economic policy guidelines. Convergence report 2000 / European Economy, № 70, 2000. European Commission Directorate-General for Economic and Financial Affairs. — Luxembourg. — pp. 164—179.

[13] *Vnutrishniy rynok Ukrainy iak rushiy ekonomichnoho zrostannia: Materialy vosmoho zasidannia «kruhloho stolu» «Bezpeka ekonomichnykh transformatsiy».* (O.Vlasiuk. Ukraine's Domestic Market as the Driving Force of Economic Growth; Material of the eighth round table «The Security of Economic Transformations», December 22, 1999. Kyiv, 2000, p.6].

[14] Y.Zhalilo. Ukraine's Domestic Market as the Driving Force of Economic Growth; Material of the eighth round table «The Security of Economic Transformations», December 22, 1999. Kyiv, 2000, p.7].

In the Strategy of Ukraine's Economic and Social Development (2004, pp.15), «Along the Way of European Integration», the advanced growth of domestic consumption is viewed as an element of implementing the current model of economic growth[15].

Still popular in Ukraine is the hypothesis that an export-expansion model of economic growth rests on a nonequivalent basis[16] and the excessive foreign trade orientation suppresses domestic production. The limited range of exports causes a great dependence on the world market conditions, which endangers national security. Among the general reasons of an exogenous dependence in transition economies, the following is typical for the Ukrainian economy: resource-intensive production, low level of standardization and certification, inadequate legal framework, administrative interference to meet the requirement of clans, and the like (see Table 1).

The following factors determined the increasing effect of external factors throughout the post-Soviet period: demise of the USSR and Comecon, reorientation of economic policy from the eastern toward the western vector, removal of the state from the efficient regulation of transformation processes, financing of import of energy sources by foreign credits, orientation toward an economic model under the «Washington consensus», disorderly conversion and the breakdown of the defense industries, and orientation toward the establishment of an open economy[17].

Table 1

Reasons of exogenous dependence in transit economies

General	Specific to the Ukrainian economy
Collapse of the planned-administrative regulation system	Lag in creating institutional conditions for reform
Process of denationalization and privatization	Resource-intensive production
Restructuring of the economy	Sizable budget deficit
Lack of experience in reforms	Administrative interference to meet the requirements of clans
Ruination of inter-regional and technological-production relations	Variance of the legal environment with the purposes of reform

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[15] *Stratehia ekonomichnoho i sotsialnoho rozvytkyu Ukrainy (2004-2015), «Shliakhom yevropeiskoi intehratsii»(2005).* [The Strategy of the Economic and Social Development of Ukraine (2004-2015), «Along the Way of European Integration» (2005). Authors: A.Halchynsky, V.Heyets et al; National Institute of Strategic Studies, Institute of Economic Forecasting under the National Academy of Sciences of Ukraine, Ministry of Economy and European Integration of Ukraine. Kyiv, State Statistics Committee of Ukraine, 2004, pp.416].

[16] In the early 1990s, in the countries with a transit economy the domestic prices for products were considerably less than the world prices, which actually resulted in the growth of dumping export, while imports were paid for at world prices.

[17] *Vid ekzohenno-zelezhnoi do endohenno-orientovannoi stratehii rozvytku ekonomiky // Ekonomika i prohnozuvan-nia.*[V.Heyets, M.Skrypnychenko. From Exogenously Dependent to Endogenously Oriented Strategy of Economic Development. *Economics and Forecasting.* 2003, No.1, pp.37-42].

Shortage of funds for organizing the trans-formation process	Low level of standardization and certification
Undeveloped banking system	Accumulation of external national debt for financing economic reform
Price liberalization policy	Excessively large share of defense industries

Along the way of economic reform and the creation of a socially oriented market model, the following factors were decisive for the development of Ukraine's domestic market: decline in real incomes of the population, profitability of enterprises and, in consequence, decline in domestic demand which occasioned a substantial narrowing of the domestic market in the transition period. Besides, the following were endangering the development of the internal market: payment crisis, predominance of products of foreign manufacture, monopolization of markets by domestic enterprises, and undeveloped infrastructure of trade (mainly wholesale trade)[18].

The lengthy decline in retail commodity turnover and default of barter payments was removing a part of turnover from the influence of market relations. Instead of capitalizing on its leading role in the formation of the country's economic potential, the narrowed market was causing depression processes in the national economy[19].

The increase in the share of consumption in GDP is of special importance for invigorating the endogenous factors of development. In the opinion of the opponents of exogenous development, this is important, because the irrational increase in exports automatically results in a relative decline in end consumption and gross accumulation of capital[20] (see Fig.1).

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[18] *Prychyna kryzy vnutrishnioho rynku Ukrainy // Vnutrishniy rynok Ukrainy iak rushiy ekonomichnoho zrostannia: Materialy vosmoho zasi-dannia «kruhlogo stolu» «Bezpeka ekonomichnykh transformatsiy».* (O.Vlasiuk. Ukraine's Domestic Market as the Driving Force of Economic Growth; Material of the eighth round table «The Security of Economic Transformations», December 22, 1999. Kyiv, 2000, pp.33-36].

[19] *Perspektyvy rozvytku vnu-trishnioi torhivli v Ukraini: krytychny pohliad.* [A.Mazaraki, I.Blank, V.Bazylevych et al. Prospects of Development of Domestic Trade in Ukraine: a Critical View. KNTEU Herald. 2002, No.6, pp.3-29].

[20] *Perevahy ta zahrozy pidvyshchennia vnutrishnioho popytu iak chynnyka ekonomichnoho zrostannia v Ukraini // Problemy razvitia vneshneekonomicheskikh sviazei i privlechenia investitsiy: regionalny aspekt.* [M.Munko. The Advantages and Dangers of Increasing Domestic Demand as a Factor of Economic Growth in Ukraine. Problems of Development of Foreign Economic Relations and Attraction of Investment: a Regional Aspect. Collection of scientific papers. Donetsk. Donetsk National University, 2007, pp. 1752-1753].
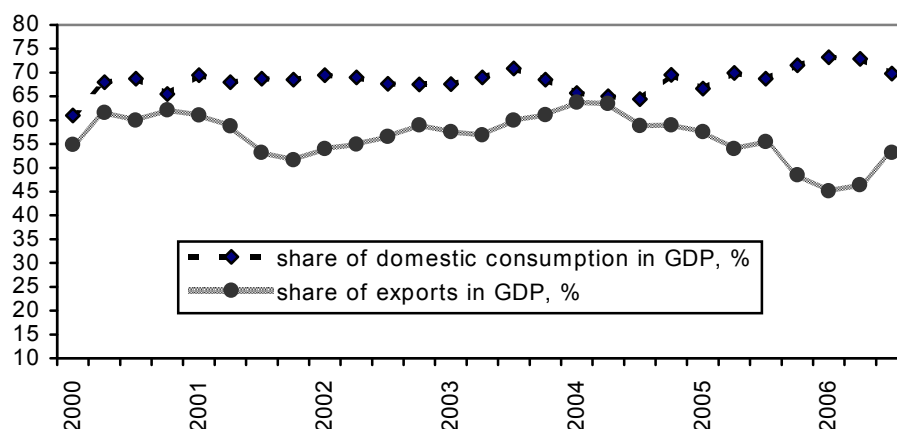
Fig.1. Dynamics of the share of exports and domestic consumption
in Ukraine's GDP (quarterly data)
Calculated according to State Statistics Committee of Ukraine data

Throughout the period under review, the dynamics of both indicators was about the same, but since late 2004 an asymmetry has been observed in the increased share of domestic consumption and a simultaneous decline in the share of exports in the country's GDP. This trend prevailed until 2006 when the share of exports in GDP was the lowest — 45 % (because of collapse of foreign demand in traditional Ukrainian exports and unfavorable world prices for metals[21]). From the second quarter of 2006 on, the situation became better as regards the increase in the share of exports, while the share of consumptions went down, but insignificantly.

The slowdown in the growth rates of exports in 2005 resulted in the increase of a part of national products in many segments of the domestic market, but they did not replace imports. In 2005 there was no positive effect of growing imports on the economy. Moreover, the direct effect of foreign trade on economic growth that year was negative. While in 2003-2004 the contribution of net exports to GDP was positive and came to 0.1 % and 5.6 % respectively, in 2005 the negative balance of foreign trade became a factor of GDP decline to about 2.3 %[22]. The real dynamics of the share of net exports in GDP is confirmed by the abovementioned results of studies (see Fig.2).

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[21] *U zaruchnykakh zovnishnioi koniuktury // Visnyk NBU.* [V.Lytvytsky. Held Hostage by a Foreign Market Situation. *NBU Herald.* 2006, No. 5, pp. 23-27]
[22] *Problemy formuvannia suchasnykh zasad polityky importozamishchennia v Ukraine.* [Y.Zhalilo, V.Hatsko. Problems of Formulation of Modern Principles of Policy of Import Substitution in Ukraine]). //www.niisp.gov.ua/vydanna/panorama/issue.php?s=epol2&issue=2006_1
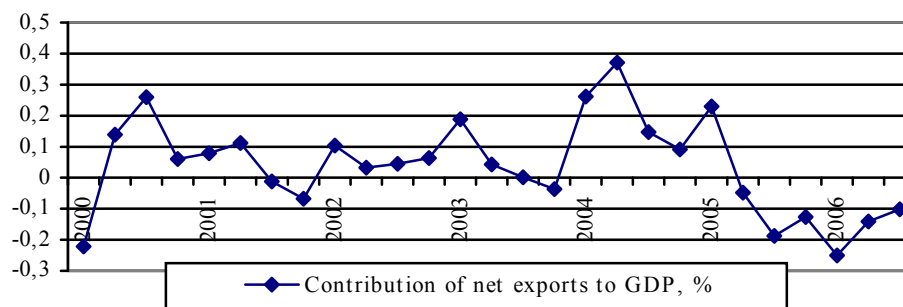
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Fig.2. Dynamics of the share of net exports in GDP
in 2000—2006 (quarterly data)
Calculated according to International Financial Statistics data

The results of 2005 proved that the underdevelopment of the domestic market and the low competitiveness of national producers in an unfavorable entrepreneurial and investment climate undermine the stimulating potential in growing domestic consumer demand caused by an increase in the population's incomes. Under such conditions the increase in the population's purchasing capacity does not generate a corresponding output growth, but rather an accelerated growth in imported consumer goods and a worse trade balance.

Regardless of the obvious pressure of importers on the formation of offer on the domestic market in 2005-2006, certain positive trends were observed in its expansion[23], such as:

• increase in offer of Ukrainian industrial products on the domestic market;

• decline of industry's dependence on foreign trade;

• growing share of enterprises of the mining industries, output of gas and water electricity in the commodity offer of products on the domestic market;

• substantial decline of the role of foreign trade in the offer on the mechanical engineering market.

With allowance for the effect of the domestic market and exports as well as the factors of the foreign market situation on the country's balance of payments, the dynamics of capital flows merit special attention. The transition from surplus to a negative current balance does not look like an indicator of the country's worse financial standing, specifically in 2005-2006, if at the same time there was an increase in the inflow of capital. The drop in the active current balance was completely offset in Ukraine by a stronger financial account[24].

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[23] *Vplyv rozshyrennia vnutrishnioho rynku na ekonimichne zrostannia krainy.// Stratehichni priorytety.* [S.Davydenko. The Effect of Expansion of the Domestic Market on the Economic Growth of the Country. *Strategic Priorities.* 2006, No.1, pp.93-101].
[24] *U zaruchnykakh zovnishnioi koniuktury // Visnyk NBU.* [V.Lytvytsky. Held Hostage by a Foreign Market Situation. NBU Herald. 2006, No.5, p.26].

If state policy aims to attract foreign capital for effective economic reform and restructuring of the economy as well as for the recovery of production and the introduction of the latest in technologies, it is rather difficult to expect an improvement in the trade balance (current account). But if the economic strategy of a country aims to achieve a positive foreign trade balance, the country has to become an investor or else repay its debts, reduce the share of imports and raise exports[25].

Taking into consideration the rather contradictory nature of interaction between the balance of current and financial accounts, including the impact of individual endogenous and exogenous factors, corresponding empirical evaluations become necessary.

Empirical Research of the Main Functional Dependencies

The dynamics of separate external accounts make possible some preliminary assumptions as to their mutual influence. In particular, it is obvious that the worsening of the current account in 2005 was accompanied by an improvement in the dynamics of the financial account (see Fig.3), while the opposite was observed in 2004. In 2004, the surplus of the summary balance was US $2.5 billion, while in 2005 it was US $11 billion (projected US $4.4 billion). The growth of the NBU foreign currency reserves was US $9,870 million (projected US $4,431 million), which laid down a solid foundation for strengthening the hryvnia. The worsening of the financial account balance was explained not so much by the accelerated growth rates of imports as by the situational decline in exports, which partly cleared up the identical trend in the second quarter of 2006, but in the latter half of 2006 there was an upward trend in the current balance (because of a better foreign market situation) as well as in the financial account balance (because of growing government foreign borrowings).

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[25] *Platizhny balans: osnovni tendentsii ta ekonomichne znachen-nia // Visnyk NBU.* [Y.Kornienko, M.Riabotin. Balance of Payments: Main Trends and Economic Impor-tance. *NBU Herald*. 2005, No.1, p. 28].
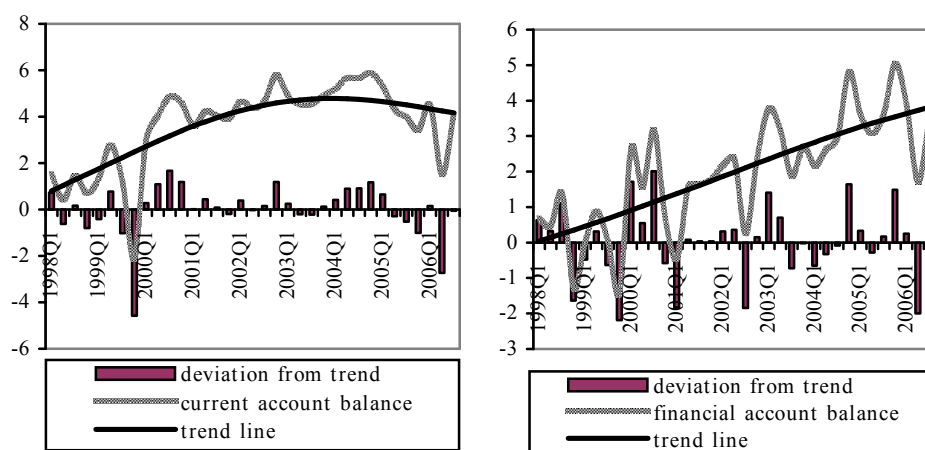
Fig. 3. Dynamics of the indictors of the current balance and
the financial operations account in 1998-2006 (quarterly data)*
[* The indicators are divided into trend, current and cyclic components with the help of the
EViews 5 statistical package on the basis of the Hodrick-Prescott filter)]

The functional dependence of the current (CA) and financial accounts (FA) balance was evaluated with the help of a statistical model that allowed for a mutual dependence between the variables. The choice of research methods was preceded by the evaluation of dependent variables and the presence of mutual causality with the help of the Granger Test (see Table 2) and the co-integration Johansen Test (see Table 3).

Table 2

Granger Test for CA and FA

Hypothesis	Lags			
	1	2	3	4
CA does not impact on FA	3.02 (0.091***)	2.75 (0.026**)	3.12 (0.043**)	4.43 (0.008*)
FA does not impact on CA	1.12 (0.291)	4.1 (0.080***)	3.39 (0.033**)	2.25 (0.095***)

Remark: * the hypothesis may be discarded at the level of statistical significance of 1 % (** — 5 %, *** — 10 %)

Table 3

Johansen Test for CA and FA

Number of equations	Lags				Critical level
	1	2	3	4	
1	23.94*	19.05*	18.75*	8.75*	15.49
2	7.12*	3.93*	3.73	1.04	3.84

Remark: * trend assumptions — linear trend (** — 5 %, *** — 10 %)

Proceeding from the results of the test, we can argue about the presence of a mutual impact between the dependent variables that are stable at all four lags. The Johansen Test also indicates the presence of an interrelationship between the indicators at the level of two co-integration equations, but the link is somewhat weaker at the higher lags.

For an objective research of the functional relationships, the 2SLS technique and the Kalman filter were used, which made it possible to take into account the time trajectory of the studied relationships and check the tolerance of the obtained results to the choice of the research technique. The use of the 2SLS technique is occasioned by the mutual causality of the dependent variables and the need to ensure the unbiased estimation of the regression coefficients in case of correlation of the balance with the lag values of the dependent variables[26]. At the first step with the help of the identified instrumental variables are the uncorrelated estimations of the values of dependent variables. Eventually, at the second step, the values are used for regression estimation of the functional interrelationships.

Quarterly data from 1998 to 2006 were used in the research. All the indicators were cleared of seasonality by the Census X-12 technique and taken logs of. As dependent variables the following were used: $EXPORT_t$ — export of goods and services (UAH million), IND_t and $INDWORLD_t$[27] — respectively, industrial production in Ukraine and in the countries of its trading partners (index, 1994=100), $METAL_t$ — index of world prices for metals (index, 1994=100), $RETAIL_t$ — real retail commodity turnover (UAH million), E_t — nominal exchange rate of the hryvnia (hryvnia to US dollar).

Table 4

**Factors of current balance and balance of financial operations account
(long-term [specification I] and short-term coefficients [specification II])**

Independent variables	Dependent variables			
	I		II	
	ca_t	fa_t	ca_t	fa_t
Const				
ca_{t-1}	0.22 (1.20)`		-0.92 (-1.06)	-0.54 (-2.16**)
fa_{t-1}		0.99 (5.38*)	-0.29 (-2.10**)	-0.14 (1.07)

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[26] *Gujarati D.* Basic Econometrics. Second Edition. — N.Y.; London; Tokyo: — McGraw-Hill. — 1988.

[27] Included in this indicator is the countries' industrial production accounting for over two-thirds of Ukrainian exports-imports (15 in all). The standardized coefficients of the given countries were calculated on the basis of the corresponding countries' share in Ukrainian exports-imports.

$expor_t$		-4.21 (1.5***)		-19.9 (1.03)
$retail_t$	-3.7 (-1.66**)	1.12 (1.61***)	-7.34 (-1.65***)	6.98 (1.56***)
ind_t	36.7 (2.99*)	24.5 (2.36**)	—	-38.65 (-1.44)
$indworld_{t-1}$	5.71 (2.16**)		23.7 (1.61***)	
$metal_t$	-1.32 (-1.07)		-7.61 (-2.10**)	
e_t	—	—	23.4 (1.46)	19.2 (1.61***)
Adj.R-square DW	0.64 1.91	0,48 2.03	0.19 2.48	0.12 1.64

Remark: value t-Student criterion and indicator of statistical significance (* —1 %, ** — 5 %, *** — 10 %)

In all regression equations the adjusted value of the coefficient of determination (Adj.R-square) is sufficient, while the Darbin-Watson (DW) statistics is within the permissible limits, without revealing any autocorrelation balances (see Table 4). Comparing the results in the differing specifications, the short-term and long-term effect of the current account and financial operations account do not differ, which enhances the trustworthiness of the research results. The current balance is characterized by weak autoregression dependence in both the short- and long-term periods. The autoregression dependence of the financial account with a lag of one quarter is evident only in the long-term period, which might mean that the inflow of capital creates a basis for its continued buildup.

The weak dependence of the current balance on the devaluation of the hryvnia is observed only in the short-term period (but the coefficient lacks statistical significance), which is evidence of the neutrality of the price factor as a means of long-term improvement of the external account, yet serves as a factor of new inflow of capital.

It should be pointed out that in the long-term outlook the dynamics of the current balance is determined predominantly by internal factors. The increase in industrial production in Ukraine and abroad improves the current balance, while in retail commodity turnover it worsens this indicator. The use of short-term coefficients shifts somewhat the emphasis in favor of external factors of influence. In particular, on the domestic market the dynamics of the dependent variable is determined only by the negative effect of retail commodity turnover. Unlike the preceding specification, there appears a dependence of the current balance on the prices for metals.

The balance of financial operations account can affect equally the decline in exports and the increase in domestic demand, but the effect of exports is not observed in the short-term period.

The advisability of using the Kalman filter is justified by at least two reasons. First, this technique is good for estimating the cause-effect relations in an unstable economic environment[28]. Second, the use of the flexible coefficients means that the economic agents possess the main information about the effect of microeconomic shocks, which determines the advantages of this technique over the regression models with fixed coefficients[29].

The statistical model of the Kalman filter consists of two equations:

$$ca = a_0 + a_1 ca_{t-1} + a_2 ind_t + a_3 retail_t + a_4 indworld_t + a_5 metal_t + a_6 e_t + \varepsilon_{1t} \dots (1.1)$$

$$fa = c_0 + c_1 fa_{t-1} + c_3 ind_t + c_3 retail_t + c_4 export_t + c_5 e_t + \varepsilon_{2t}, \quad (1.2)$$

where $\varepsilon_{1t}, \varepsilon_{2t}$ — forecast errors;

c, a — flexible coefficients of independent variables.

The equations (1.1) and (1.2) characterize a set of independent variables that correspond to the previous regression model estimated with the help of 2SLS. All variables are used as first differences of logarithms of corresponding variables.

The obtained results do not contradict the previous estimates (see Fig. 4 and Fig. 5).

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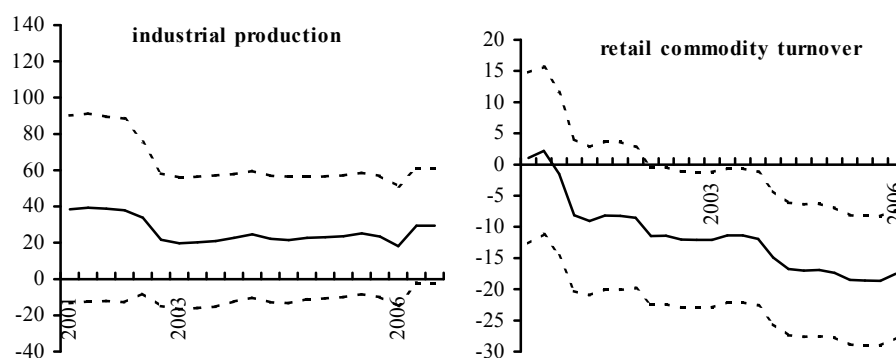
[28] *Platizhny balans i makroekonomichna rivnovaha: dosvid Ukrainy.* [V.Shevchuk. Balance of Payments and the Macroeconomic Equilibrium: Ukraine's Experience. Lviv, Kameniar Publishers, 2001, pp.276-277].

[29] *Kim C., Nelson C.* The Time-Varying-Parameter Model of Modeling Changing Conditional Variance: The Case of the Lucas Hypothesis // Journal of Business & Economic Statistics. — Vol. 7. — № 4. — P. 433—440.
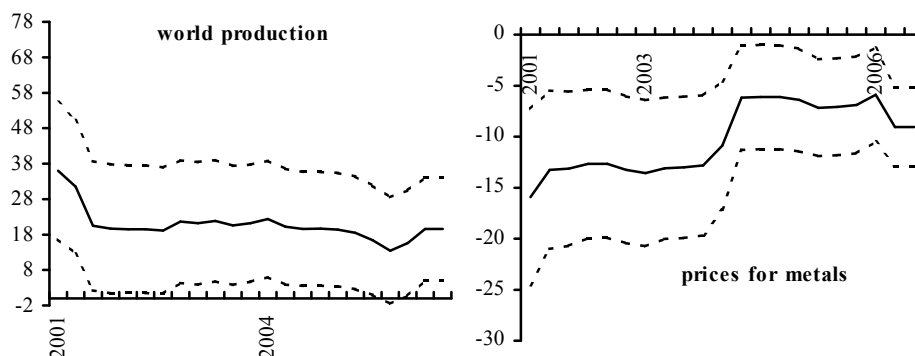
Fig. 4. Factors of current balance

First, livelier production is not attended by a worse current balance, as it is accepted in standard models of the current account and confirmed by separate econometric results[30]. Such a structural characteristics of the Ukrainian economy looks very attractive from the viewpoint of maintaining the balance of payments equilibrium at a time of transition to stable economic growth[31].

Second, what remains stable in time is the stimulating effect of the industrial production of countries-trading partners. This is confirmed by the conclusion on the dependence of the national economy on the world markets situation.

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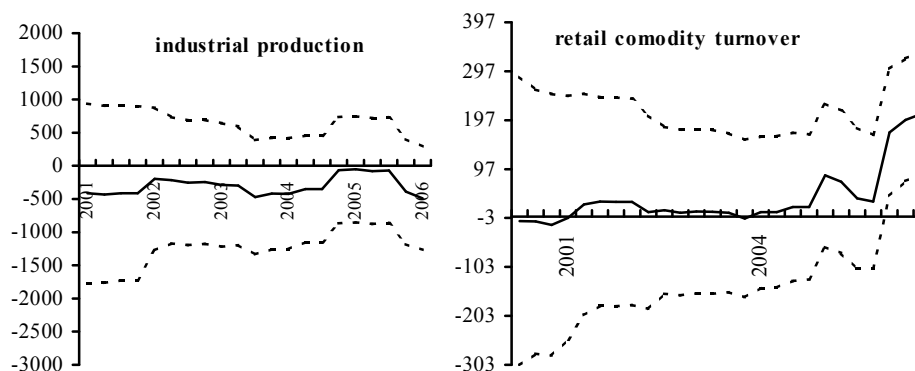
[30] *Edwards S*. Real Exchange Rates, Devaluation and Adjustments: Exchange Rate Policy in Developing Countries. — 1989. — Cambridge, Mass. London: MIT Press. — P. 282.
[31] *Platizhny balans i makroekonomichna rivnovaha: dosvid Ukrainy.* [V.Shevchuk. Balance of Payments and the Macroeconomic Equilibrium: Ukraine's Experience. Lviv, Kameniar Publishers, 2001, p.282].
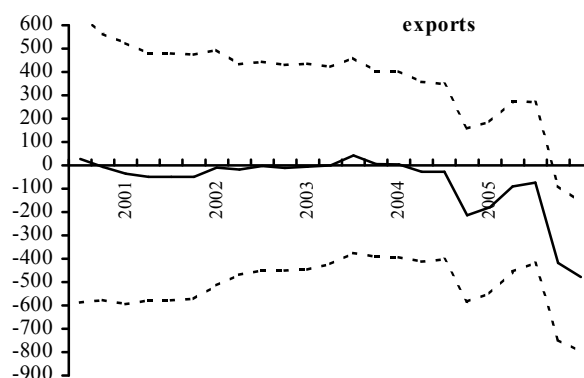
Fig. 5. Factors of financial account

Y. Vasylenko obtained similar results when he studied the factors of exports for a 1994—1999 sample in the countries outside the former Soviet Union. The effect of world production proved to be much stronger than the national. Taking into account this regularity, the author predicts that the decline in national industrial production will undoubtedly cause a decline in exports, but a simple expansion of output following a growth of Ukrainian products (without a radical improvement of quality) will promote export growth (as well as an improvement in the current balance) only on the condition of a simultaneous growth in demand on the markets following a growth in output worldwide. But if along with national production the growth of industrial production in the world will go down, Ukraine will be unable to deal with the shrinkage of exports[32]. Such a result is important for explaining the worsened balance of payments in 2005.

Third, the nature of the effect of retail commodity turnover on the current account does not differ from the results of the previous research technique, which means that domestic solvent demand is satisfied mostly by imports. Therefore, the problem of dependence on imports is an import aspect of operation of the domestic market. Since 1998 the share of imports in domestic consumption was constantly growing, accounting for 23 % in 2000 and for 20—25 % throughout 2001—2005[33].

Fourth, the technique of flexible coefficients indicates that the growth of prices for metals worsens the country's external account, which does not

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[32] *Faktory rozvytku ukrainskoho eksportu v krainy «dalekoho zarubizhia»// Visnyk NBU.* [Y.Vasylenko. Factors of Development of Ukrainian Export in the Countries Outside the Former Soviet Union. *NBU Herald*, July 2000, pp.36-43].

[33] *Stan i perspektyvy rozvytku vnutrishnioho rynku Ukrainy // Visnyk KNTEU.* [V.Tochylin, V.Ostashko, V.Olefir. The Status and Prospects of Devel-opment of Ukraine's Domestic Market. *KNTEU Herald*. 2005, No.6, pp.5-11].

seem to be logical, since the share of the metallurgical industry, as the main item of national exports, accounts for about 40 % of all Ukrainian exports and imports. This can be explained by the prices for metals being closely bound to the prices of energy sources, which, taking into consideration the resource-intensive industrial production, can worsen the current balance by raising the cost of imports.

The effect of Ukraine's retail commodity turnover on the balance of financial operations account did not prove to be significant, but the situation changed somewhat in the latter half of 2004 when domestic demand growth was stimulating inflow of capital. But when viewed against the background of Ukrainian realities, the reasons of such an interrelationship do not induce positive conclusions, because of the following:

1) Government allocations increase commodity turnover through external borrowings. Larger external borrowings to finance government allocations were used for the first time in late 2004, but in 2005 this practice was rejected. However, from the second quarter of 2006 the government again began to actively draw funds from external sources.

2) The domestic consumer market was «heated up» by external borrowings.

In this manner there appears the danger of the illusion of credit support of the economy[34], which eventually creates a balance of payments crisis.

Similar in the changes in the time limits is the effect of exports on the balance of the financial operations account, but by its direction this effect proved to be asymmetric. The negative effect of exports on the dependent variable can be explained by the following:

1) Flagging requirements in borrowings by the enterprises of the export sector.

2) Pessimistic expectations of the export sector's prospects. In this case, an increase in exports does not entail an increase in external borrowings to expand performance.

Conclusions

First, we established the negative consequences of boosting consumer demand for Ukraine's economy, which is revealed in a worsened current balance as well as in the dangerous «heat-up» of the financial account by growing external borrowings to finance the consumer requirements of the population.

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[34] *Sut v tomu, shchob kapital, rozvyvaiuchys, vykonu-vav svoiu sotsialnu funktsiu // Dzerkalo tyzhnia.* [Essentially, Capital, while Developing, Should Perform its Social Function. *Mirror* weekly, 2006, No. 11. March 25])

Second, we established a positive interrelationship between growing industrial production and improved current balance, which induces the enlargement of aggregate offer as an important element of development of the domestic market.

Third, the stimulating effect of production in the countries-trading partners bolsters the argument of the national economy's dependence on the world markets situation. Such an interrelationship is not in favor of quickly reorienting the economy toward an endogenous model of development.

Fourth, the effect of metal prices on the country's current balance is an additional argument that the raw materials orientation of Ukraine's economy has exhausted itself.

Because of a number of factors in Ukraine, it will be impossible to sharply discard the model of export-oriented development; the issue is rather to change the structure of exports in favor of technological components. Giving priority only to the domestic component of aggregate demand is insufficient to support the dynamics of economic growth. Therefore, the important objective is to balance as much as possible the aggregate demand on the domestic and external market.

The development of the domestic market at the current stage should be geared first of all to the creation of competitive offers of goods of national manufacture on the domestic market, which will serve as a spur for economic growth owing to the enlargement of domestic demand and will also create the reasons for import substitution.

An important source of maintaining the equilibrium of aggregate demand is foreign direct investment and the creation of investment demand instead of increasing consumer demand, which results in the increase in foreign debt because of the predominantly foreign origin of the credits of a consumer nature.

As we see it, the areas of further research are the following:

a) detailed study of the interaction of endogenous and exogenous factors of growth;

b) analysis of the consequences of the inflow of capital for the country's domestic market;

c) effect of the economy's structure (raw materials and technological) on the choice of a development model — export-oriented or domestic market-oriented.

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