

## **"STRONG" HRYVNIA AS A "PULL" FACTOR OF THE FOREIGN CAPITAL INFLOWS TO UKRAINE**

*The paper substantiates the feasibility of the 'strong' hryvnia as an instrumental tool of foreign direct investment (FDI) tapping. The specific channels of the exchange rate (ER) impact upon FDI are presented with the use of qualitative and quantitative tools. Important policy implications are outlined.*

### **Introduction**

The transition process implies a huge reallocation of resources from old to new activities, with foreign investments involved. Openness to the foreign capital is an important component of the policy-oriented Washington Consensus, along with privatization, macrostabilization, comprehensive liberalization and financial discipline. While there are numerous evidences in favor of pro-

growth capital inflows [15, p. 12; 37, p. 10; 20, p. 1-8]<sup>1</sup>, less attention has been given to the instrumental factors behind capital inflows. As documented in [11, p. 18], foreign capital is easier tapped by the countries which are "further along in implementing structural reforms and privatization", among other things. One of the most influential factors is the exchange rate. This paper is devoted to the issue of relationship between exchange rate and capital inflows.

<sup>1</sup> However, there are evidences of adverse relationship between foreign investments and output growth in the Eastern European economies. In [33; 38-39] it is explained by weak relationships between foreign inflows and the rest of the economy. Another plausible assumption refers to the so-called "threshold of development", which suggests that economy attains positive gains from foreign capital only under appropriate level of human capital, infrastructure etc. [24, p. 4].

The structure proceeds as follows. Section I presents the reasoning behind the exchange rate impact. Section II addresses theoretical models, which more precisely define the impact of foreign inflows. Section III offers necessary quantitative assessments of the issue under consideration with the 2SLS method. To be more specific, the results obtained testify in favor of the 'strong' *hryvna*, as a tool of either macroeconomic stabilization, or capital inflows. The final section summarizes, concludes and recommends.

### 1. Rationale of the 'strong' *hryvna*

Exchange rate (ER) is a tool of achieving external and internal equilibrium, while being an indicator of the efficiency of economic policy. An exchange rate used to be considered a catalyst of stabilization and economic growth, a pivot of economic policies and a leading force of foreign capital attractiveness [25, p. 22; 39, p. 260; 11, p. 17; 10, p. 11]. What is more, a 'strong' currency is a factor industrial output growth and implementation of structural reforms both on the macro- and micro-level what in turn is accompanied with the FDI upsurge [34, p. 24]. Numerous channels of the exchange rate impact are presented on Fig. 1.

**1.1. The impact on income.** Either contractionary or expansionary impacts of the nominal ER upon the output are possible. A positive correlation between the ER and income could be sufficiently explained within the Keynesian framework of the Mundell - Fleming model, with a few extra features provided by more sophisticated models. An adverse relationship between the ER and income is provided by the 'dependent' economy, based on the relative prices-driven aggregate supply [33, p. 225-242]<sup>1</sup>. Thus capital inflows could promote economic growth via the real exchange rate (RER) appreciation, contrary to what is predicted by the Mundell - Fleming model. However, there is a possibility of the two-way causality between both variables. Consequently, the RER appreciation could be an obstacle for the capital inflows.

The dynamics of *hryvnia* and the real GDP in Ukraine are presented in Fig. 2. Judging by the visual trends of the given macroeconomic indicators in Ukraine economic growth occurred only after the domestic currency was stabilized and even began to appreciate<sup>2</sup>. The GDP expansion, concomitantly, may bolster capital inflows [13, p. 78]. Thus the causal relationship between the variables mentioned could be presented as follows: ER → GDP → FDI.

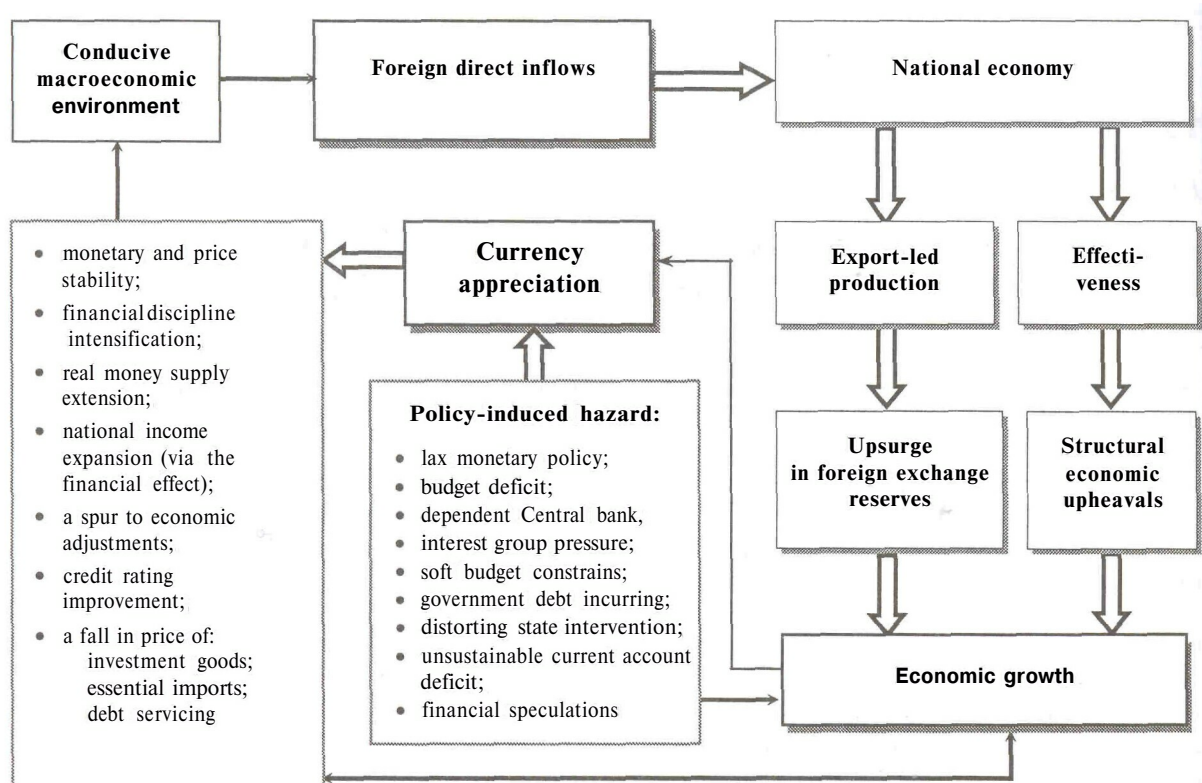
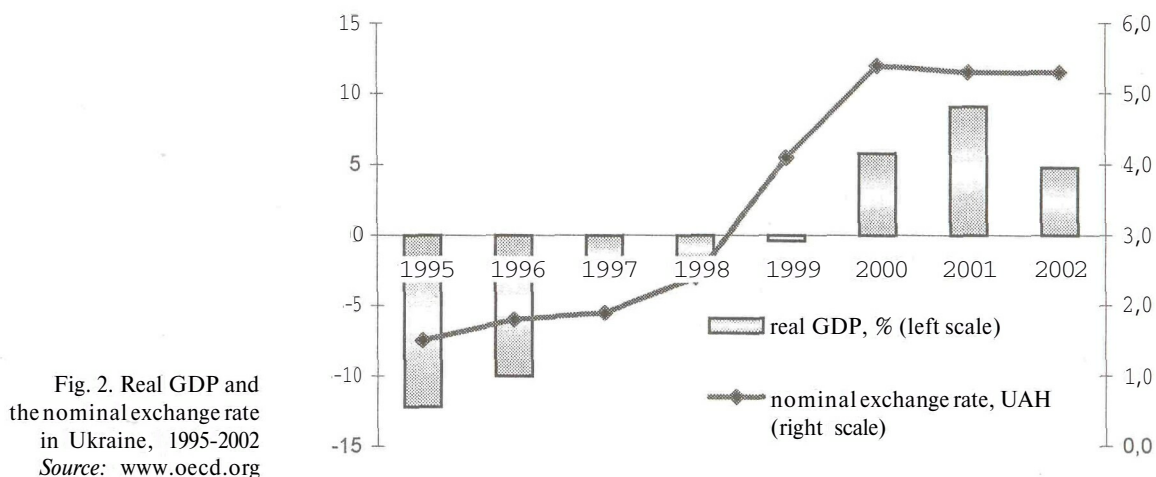


Fig. 1. Impact of the 'strong' *hryvnia* on the foreign capital inflows

<sup>1</sup> This assumption is highly relevant for developing countries [5, p. 279; 30, p. 135].

<sup>2</sup> In 2001 revaluation of the *hryvnia* was equal to 2,5 %.



**1.2. 'Strong' ER and the current account balance.** Further complications are brought about by the trade balance. As suggested by the econometric estimation (Appendix 1), there is *a. positive* correlation between the ER appreciation and the trade balance (TB).

While it is traditionally assumed that appreciation of the domestic currency worsens the TB, the opposite arguments are not lacking:

1. The current account (CA) improves only when the Marshall - Lerner condition holds<sup>1</sup>; There are numerous empirical examples of the current account improvement following the appreciation of the currency<sup>2</sup>;

2. The inflationary pass-through does matter [1, p. 227-225; 7, p. 14; 23, p. 97]<sup>3</sup>;

3. If there is the so-called essential imports of raw materials and intermediate goods is substantial (in Ukraine, these ones amount to 80 % of total imports), a favorable impact of the currency depreciation seems to be in doubt;

4. Assuming significant financial constraints combined with a low prices elasticity in the real sector, an increase in the tradable goods production becomes insignificant while the expansionary effects are shifted towards the non-tradable goods sector [30, p. 135].

Fig. 3 depicts the impact of a 'strong' ER upon the TB and CA in Ukraine for the 2000-2002 pe-

riod. The data seems to debunk a popular myth that ER appreciation in Ukraine will inevitably worsen a price competitiveness and leading to the significant CA deficit. Just the opposite relationship is supported by the data<sup>4</sup>.

It looks like the ER strengthening therefore *improves* the Ukraine's TB, and hence CA. The CA improvement, in turn, results in expectations of price and monetary stability, and the investment perspectives improvement [33, p. 32-36]. Thus the causality may run as follows: ER → CA → FDI.

**1.3. Fiscal and monetary policies behind the 'strong' currency.** 'Strong' ER implies a sound macroeconomic policy, namely the balanced budget

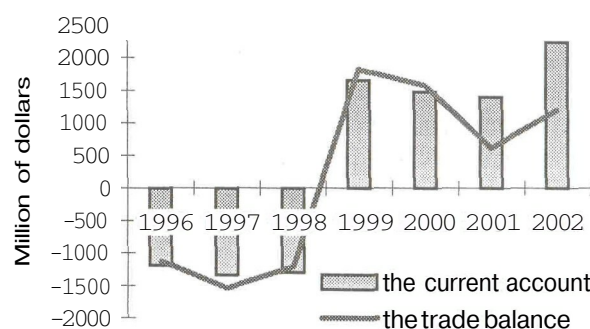


Fig. 3. The TB and the CA in Ukraine, 1996-2002

<sup>1</sup> The Marshall - Lerner condition states that the devaluation improves the trade balance if the devaluing nation's demand elasticity for imports plus the foreign demand elasticity for the nation's exports exceed unit.

<sup>2</sup> For instance in [39, p. 253-258] it is precisely remarked that nominal currency devaluation "is not a panacea for an export increase and improvement of trade balance". An analytical survey of Poland, Turkey, Hungary and Romania made by the authors testified a considerable worsening of trade balance in these countries after devaluation. Concurrently, revaluation of the German DM in 1964-1978 was accompanied by a rapid growth in exports and thus the current account surplus.

<sup>3</sup> The aggregate price level proceeds as follows:  $i_t = \gamma p_t^N + (1 - \gamma)(e_t + p_t^M)$ , where  $p_t^N$  is the price level of the nontradables;  $p_t^M$  is the price level of importables;  $e_t$  is a nominal exchange rate ( $\gamma$  is a weighted coefficient). Taking into consideration a high openness and considerable dollarization of the Ukrainian economy (that is equal to the low level of  $\gamma$ ), a substantial pass-through after devaluation is thus inevitable.

<sup>4</sup> Thus, in [34, p. 21] via an econometric analysis a positive correlation between hryvnia appreciation and the balance of trade was displayed, what underpins the above standpoints.

and responsible money growth. Inability to balance the budget results in failure to control the money supply [25, p. 43]. This, in the upshot, leads to the currency depreciation<sup>1</sup>. Furthermore, fiscal deficit contributes to the debt accumulation, increase in tax burden, fall in the aggregate consumption and, last but not least, the current account deficit<sup>2</sup>. Ultimately, these outcomes lead to macroeconomic instability, loss of credibility, slower capital inflows or even capital flight. Harsh macroeconomic environment, legal obstacles, expectations of price and monetary instability, on the other hand, used to foster the currency substitution, inflationary build-up and considerable exchange rate fluctuations. Consequently, nobody will invest to the country under economic chaos.

Notably, absence of financial discipline along with pronounced soft budget constraints<sup>3</sup> is a crucial factor of the budget deficit, the monetary overhang and 'weak' ER. This malign policy mix distorts the allocation of productive resources, depresses market competitiveness, facilitates "crony capitalism" and diverts capital inflows from the real sector of the economy.

In Ukraine, the budget surplus was attained in 2000, for the first time since the independence (Fig. 4). However, over the last two years there is a vicious tendency of returning to expansionary fiscal policy. As it was rationalized above, these developments can undermine the present fragile macroeconomic stability, with the fall in domestic currency, inflation, slower economic growth and capital outflow to follow. The lump-sum of FDI to Ukraine at the end of 2002 reached some \$5 billion (Appendix 2 presents the dynamics of inward direct investment to Ukraine compared to much more advanced NIS in 1993-1999). A contrast between Ukraine and its neighbors is explicit. It speaks about flaws in economic policy of the country and necessitates radical changes.

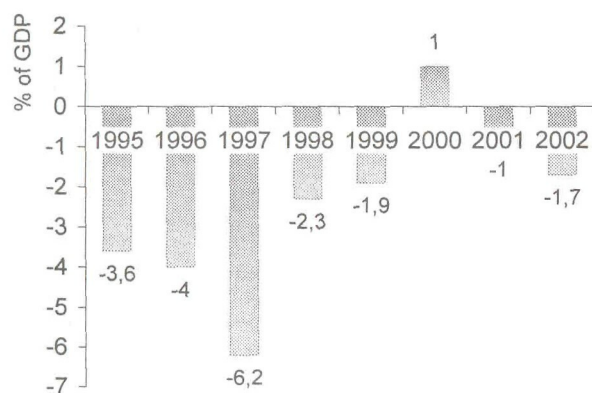


Fig. 4. The budget deficit in Ukraine, % of GDP, 1995-2002

<sup>1</sup> A direct relationship between ER and the money supply can be easily traced in a simple monetary model of the nominal exchange rate, a variation of the log-linear Cagan model (see [27, p. 525]).

<sup>2</sup> This corollary can be observed in the overlapping generations model [27, p. 135-141].

<sup>3</sup> According to some calculations, the amount of direct and indirect subsidies to Ukrainian enterprises in 1997 was equal to 20% of GDP [19, p. 130]. The VAT exemptions in 2001 reached 62 % of its total amount [21].

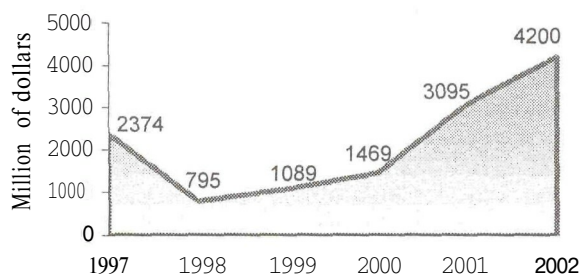


Fig. 5. Foreign reserves in Ukraine, 1997-2002.

Source: [26, p. 55]

In this context, a sufficient amount of the *foreign reserves* is a crucial factor of the ER stability. Eventually, it forms a favorable macroeconomic environment, fostering further capital inflows. A low ratio of the foreign reserves to monetary base was considered to be one of the reasons of the sharp *hryvnia* devaluation in Ukraine after Russian financial crisis (1998), albeit, the subjective factors also mattered [32, p. 98; 33, p. 380]. As for now, there is a progressive enlargement of the foreign reserves (Fig. 5). Consequently, it allows for the ER channels to form a favorable macroeconomic environment, as well as draw in FDI.

## 2. Theoretical approach

Necessary explanations are provided with the use of either Mundell-Fleming, or 'dependent' economy models.

**2.1. The Mundell - Fleming model.** For a fixed exchange rate, the influence of capital inflow on the macroeconomic indicators is presented at Fig. 6a. Capital inflow contributes to the balance of payments improvement ( $BP_0 \rightarrow BP_1$ ) and excess foreign exchange supply. To avoid a likely appreciation of the ER, the central bank increases the money supply ( $LM_0 \rightarrow LM_1$ ). The equilibrium is reached at the levels of income and interest rate at point *B*. As a consequence, the country faces economic growth ( $Y_0 \rightarrow Y_1$ ), reduction in interest rate ( $r_0 \rightarrow r_1$ ) and the money expansion.

Developments are quite different for a floating exchange rate (Fig. 6b). As in the case above, foreign capital inflow increases the supply of the foreign exchange ( $BP_0 \rightarrow BP_1$ ). In turn, this outcome brings about appreciation of the exchange rate ( $\downarrow E$ ), resulting in the RER appreciation and worsening of the



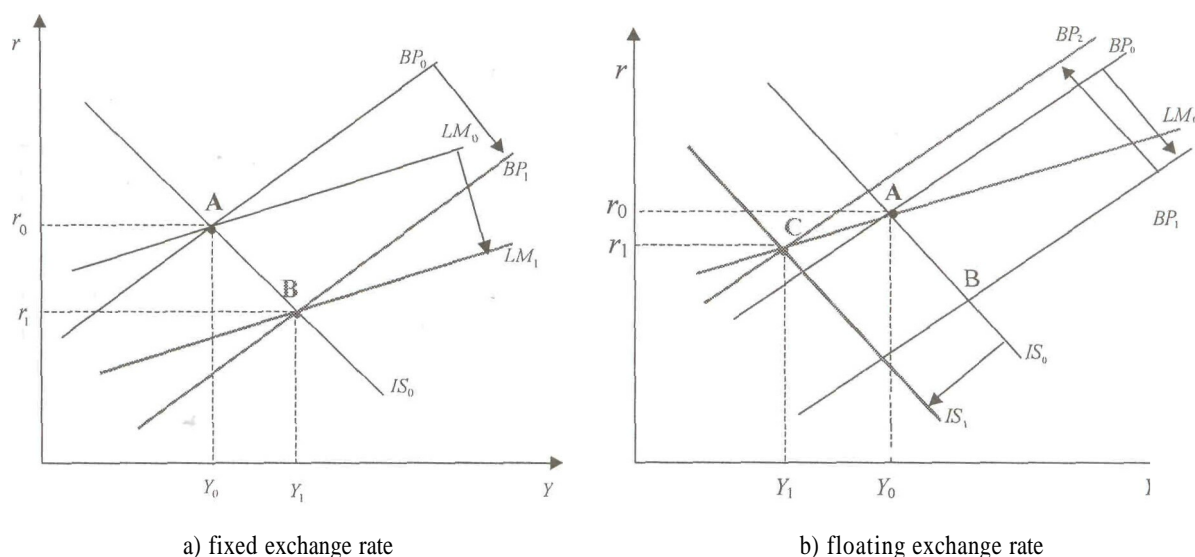


Fig. 6. Capital inflows in the IS - LM - BP model

current account ( $IS_0 \rightarrow IS_1; BP_1 \rightarrow BP_2$ ). The new macroeconomic equilibrium is attained at point C, where the economy faces a decrease in the income ( $Y_0 \rightarrow Y_1$ ) supplemented by a fall in the interest rate ( $r_0 \rightarrow r_1$ ).

**2.2. The "dependent" economy model.** Assuming FDI attraction into both tradable or non-tradable goods sectors,  $Q^T$  and  $Q^N$  respectively, in the "dependent" economy model it leads to a proportional increase in production, as captured by the outward transformation curve shift ( $TT \rightarrow T'T'$ ) (Fig. 7). In this case expansionary effects in both tradable and non-tradable goods sectors ( $Q_0^T \rightarrow Q_1^T; Q_0^N \rightarrow Q_1^N$ ) cause no changes in the RER and aggregate demand.

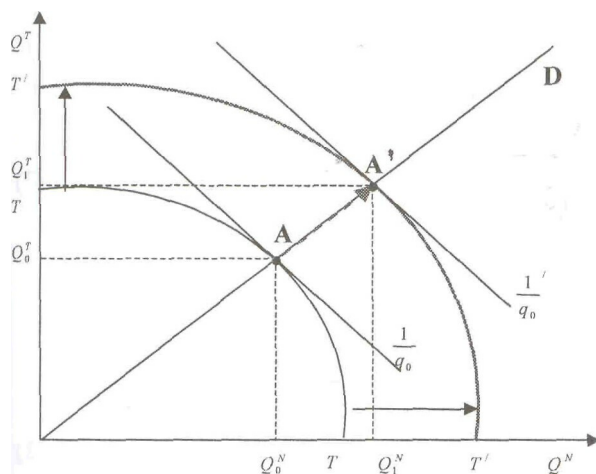


Fig. 7. The "dependent" economy model:  
a proportional capital inflows into the tradable  
and non-tradable sectors

### 3. Empirical testing

The quarterly time series data for econometric assessment were obtained from electronic reference publications *Tendentsii ukrainskoi ekonomiky* (www.ueplac.kiev.ua), IMF's International Financial Statistics and the OECD database. The sample period for quantitative investigation varies from 1996 to 2002. The list of variables proceeds as follows:

- the dynamics of industrial output,  $(IND_t)$ , %<sup>1</sup>;
- nominal exchange rate,  $(E_t)$ , UAH/US\$;
- foreign direct investment  $(INV_t)$ , \$ mln;
- consumer price index,  $(CPI_t)$ , %;
- trade balance,  $(TRADE_t)$ , mln US\$;
- currency aggregate M2 representing the supply of money,  $(m_t)$ , mln UAH;
- government expenditures,  $(G_t)$ , mln UAH;
- industrial output in Russia,  $(INDRUS_t)$ , %;
- consumer price index in Russia,  $(CPIRUS_t)$ , %.

A dummy  $CRISIS_t$  is meant to measure the influence of the Russian crisis (August 1998) on the macroeconomic indicators in Ukraine. All the variables are used in logarithms (except for  $TRADE_t$ ).

The model specifications of the econometric analysis are based on the results of the test for stationarity (Table 1). Given the non-stationarity of the estimated variables, the empirical models are estimated in the first-difference form, where  $d$  is the first-difference operator.

The causal relationship between industrial output,  $IND_t$ , foreign direct investment,  $INV_t$  and the nominal exchange rate,  $E_t$  was explored with the help of the Johansen cointegration test (Table 2). Also the Granger causality test alternatively was used (Ap-

<sup>1</sup> The implication of industrial output index as a proxy of the national income is predicated in [33, p. 203].

Table 1. Augmented Dickey - Fuller unit root test

Variable	Logarithms of levels			1 <sup>st</sup> difference		
	1	2	3	1	2	3
$E_t$	-0,987	-0,720	-0,607	-2,504	-2,075	-1,916
$IND_t$	-3,922*	-2,437	-1,987	-8,069*	-6,764*	-2,375
$INV_t$	-3,109**	-3,017**	-2,730***	-5,312*	-4,808*	-2,740***
$TRADE_t$	-2,544	-1,985	-0,979	-4,950*	-5,408*	-3,654**
$CPI_t$	-1,857	-1,793	-0,833	-2,314	-3,995*	-4,598*
$m_t$	-0,541	-0,440	-0,115	-4,224*	-2,993***	-2,434
$INDRUS_t$	-1,999	-1,247	-1,041	-4,410*	-3,358**	-1,437
$CPIRUS_t$	-0,556	-0,790	-0,397	-3,294**	-2,565	-2,843***

Table 2. The Johansen cointegration test for  $IND$ ,  $INV$ , and  $E$ ,  
Test assumption: linear deterministic trend in the data

Number of cointegrating equations	Lags				Significance level	
	1	2	3	4	5 %	1 %
1	41,37*	51,92*	48,38*	55,19*	29,68	35,65
2	16,29**	16,74**	16,37**	27,13**	15,41	20,04
3	1,68	3,15	5,77**	8,69*	3,76	6,65

pendix 3). As presented in Table 2 for one, two and three lags there are at least two cointegrating equations at the 5% significance level. With the probability of 99 % one can state that there are three cointegrating equations for four lags.

The empirical model (3.1)–(3.3) for industrial output, foreign direct investment, and the nominal exchange rate,  $d(IND)_t$ ,  $d(INV)_t$ , and  $dE_t$ , respectively, was estimated with the 2SLS method. The results are presented below:

$$\begin{aligned}
 d(IND)_t = & -0,352d(IND)_{t-1} & -0,698d(IND)_{t-2} & +0,075d(INV)_t \\
 & (-1,847^{***}) & (-4,019^*) & (2,225^{**}) \\
 & -0,872d(CPI)_t & -0,156CRISIS_t & +0,008dG_t \\
 & (-2,933^*) & (-2,613^*) & (1,503) \\
 & +0,896d(CPIRUS)_t & +0,600d(INDRUS)_t & \\
 & (2,654^*) & (1,604) & \\
 Adj.R^2 = 0,57 & DW = 2,04 & PP = -4,43^*
 \end{aligned} \tag{1}$$

$$\begin{aligned}
 d(INV)_t = & -0,512d(INV)_{t-1} & -3,930dE_{t-1} & -2,131d(IND)_{t-1} \\
 & (-3,013^*) & (-3,490^*) & (-2,241^{**}) \\
 & +3,165d(TRADE)_{t-1} & +4,055d(CPI)_t & \\
 & (2,347^{**}) & (2,867^*) & \\
 Adj.R^2 = 0,52 & DW = 2,05 & PP = -5,36^*
 \end{aligned} \tag{2}$$

$$\begin{aligned}
 dE_t = & 0,462dE_{t-1} & +0,364d(IND)_{t-1} & -0,722d(INDRUS)_{t-1} \\
 & (2,248^{**}) & (2,622^*) & (-2,510^*) \\
 & -0,408dm_{t-1} & +0,410dm_{t-2} & +0,098CRISIS_t \\
 & (-2,012^{***}) & (2,782^*) & (2,335^{**}) \\
 Adj.R^2 = 0,52 & DW = 1,94 & PP = -4,52^*
 \end{aligned} \tag{3}$$

\* Means significance at 1 % level (\*\* - at 5 % level, \*\*\* - at 10 % level).

The statistics of regression estimates allow for correct economic interpretation. According to the adjusted  $R^2$  test, the equation (1) explains from 52 % to 57 % of the changes in the dependent variables. The  $DW$  statistics does not reveal any autocorrelation in the residuals. The  $PP$  test rejects the hypothesis of the non-stationarity of the equation residuals at the 1 % level.

In the equation (3.1), both lagged coefficients at  $d(IND)_{t-1}$  and  $d(IND)_{t-2}$  have a negative sign, suggesting a convergence towards some equilibrium level. The coefficient on  $d(INV)_t$  suggests a direct, although not strong, impact on  $d(IND)_t$ . The result is consistent with econometric assessments in economic literature [15, p. 12; 20, p. 8-10', 24, p. 4]. Theoretical explanation of the finding is consistent with either Mundell - Fleming, or the "dependent" economy models (section II). It is not surprising that the consumer price inflation  $d(CPI)_t$  has an adverse impact upon the output dynamics in Ukraine (the coefficient is statistically significant at 1% level). The budget deficit  $d(G)_t$  at least does not boost production.

The Russian crisis (1998) had exerted a negative influence on the industrial output. There is a direct relationship between industrial output,  $d(IND)_t$  on the one side, and Russian consumer price index,  $d(CPIRUS)_t$  on the other side.

In the equation (2),  $d(INV)_{t-1}$  somewhat unexpectedly varies inversely with its lagged value. The ER appreciation does draw in foreign inflows, as it was explained above. The finding is also consistent with the assumption [18, p. 6] that inflows may be motivated by the anticipation of the RER appreciation. An increase in the industrial output provides with a negative impact on  $d(INV)_t$ , rejecting more conventional suggestions about the positive relationship between these two variables [13, p. 78]. To the same extent it is surprising that inflation boosts FDI. However, this impact is neutralized by a positive link between  $d(CPI)_t$  and  $dE_t$ . The trade balance has a direct impact on  $d(INV)_t$ .

In equation (3) the money supply appreciates the ER with a quarter lag, but this impact is cancelled out in a quarter. What is of no less importance, an expansionary monetary stance contributes to the inflation in Ukraine<sup>2</sup>. Ultimately, this implies a fall in industrial output, as signalled by the negative coefficient on  $d(CPI)_t$  in the equation (1). On the opposite, the *anti-inflationary* monetary policy is an instrumental tool of the "strong" ER and favorable expectations of domestic and foreign foreign investors. As might be explained by a strong impact of the Russian economy on the Ukrainian industrial output, an increase in  $d(INDRUS)_{t-1}$  strengthens Ukrainian national currency. As can be expected, the Russian crisis (1998) had contributed to the *hryvnia* devaluation.

### Conclusions and policy implications

As predicted by the qualitative analysis and proven by the quantitative arguments, a 'strong' ER could be considered as a "pull" factor for the FDI in Ukraine. There are no reasons for stimulation the Ukrainian output and TB improvement via "weak" currency. In Ukraine the industrial output is positively related to FDI, although the impact seems to be rather weak.

Further investigations may include the study of other macroeconomic policies (e.g. fiscal stances, the money aggregates) on foreign inflows. Another proposal relates to displaying effects of the disaggregated capital inflows on the macroeconomic indicators.

**Policy implications are rather clear:** (1) currency appreciation; (2) budget surplus reinforced by financial discipline and hard budget constraints; (3) comprehensive monetary policy which implies the setting monetary aggregates in compliance with the demand for money; (4) speeding up the macroeconomic reforms, namely realization of transparent privatization, adoption of stable and reasonable legislation, tax simplification and enforcement of market infrastructure; (5) guarantee an independent (*defacto*) Central Bank.

### APPENDIX A

The 2SLS estimates of the industrial output, trade balance, and the nominal exchange rate,

$d(IND)_t$ ,  $d(TRADE)_t$   $dE_t$ , respectively

$$\begin{aligned}
 d(IND)_t = & -0,476d(IND)_{t-1} & -0,71d(IND)_{t-2} & -0,180dE_t \\
 & (-3,194^*) & (-5,098^*) & (-0,854) \\
 & +0,504d(INDRUS)_t & -0,481d(CPI)_t & -0,084CRISIS_t \\
 & (1,606^{***}) & (-2,156^{**}) & (-1,751^{***}) \\
 & +0,527d(CPIRUS)_t & +0,450d(TRADE)_{t-2} & \\
 & (2,148^{**}) & (2,440^{**}) & \\
 Adj.R^2 = 0,55 & DW = 2,22 & ADF = -3,34^{**} & PP = -5,33^*
 \end{aligned} \tag{A.1}$$

<sup>1</sup> A contractionary nature of inflation towards income in Ukraine was discovered in [31, p. 42]. The inverse relationship between these two variables was also derived for the countries of Latin America and East Europe, 1990-1998 [33, p. 71].

<sup>2</sup> A share of the money supply in the decomposition of the price inflation amounts to 70 % [33, p. 303].

$$d(TRADE)_t = -0,610d(TRADE)_{t-1} - 0,351dE_t - 0,405d(INDRUS)_t + 0,136CRISIS_t$$

$$(-3,232^*) \quad (-2,166^{**}) \quad (-1,51) \quad (3,031^*) \quad (A.2)$$

$$Adj.R^2 = 0,31 \quad DW = 1,87 \quad ADF = -5,23^* \quad PP = -5,76^*$$

$$dE_t = 0,462dE_{t-1} + 0,364d(IND)_{t-1} - 0,722d(INDRUS)_{t-1}$$

$$(2,661^*) \quad (3,150^*) \quad (-2,970^*)$$

$$-0,408dm_{t-1} + 0,410dm_{t-2} + 0,099CRISIS_t$$

$$(-2,381^{**}) \quad (3,300^*) \quad (2,763^*) \quad (A.3)$$

$$Adj.R^2 = 0,64 \quad DW = 0,64 \quad ADF = -3,70^{**} \quad PP = -5,36^*$$

All the variables are described in section III. As suggested by the regression results,  $dE$ , does not influence the industrial output. This finding runs counter to the proposals in favor of the ER depreciation as a factor of economic growth<sup>1</sup>. Importantly, the equation (A.2) shows an inverse relationship between the nominal exchange rate and the trade balance. The absence of the positive correlation between

exchange rate and trade balance can be accounted for relatively low price elasticity of the aggregate supply. Consequently, devaluation does not entail an expected positive effect on the trade balance. Similarly, in the "dependent" economy model the country may face the worsening of the TB after the ER devaluation, assuming the inverse relationship between aggregate supply and the RER<sup>2</sup>.

## APPENDIX B

**Table I, Inward direct investment to Czech Republic, Hungary, Poland and Ukraine, 1993-1999**

Inward direct investment	1993	1994	1995	1996	1997	1998	1999
Czech Republic	654.3	878.2	2567.6	1435.3	1286.5	2734.3	5093.3
Hungary	2349.7	1144.1	4518.6	2274.1	2167.0	2037.1	1950.5
Poland	1715.0	1875.0	3659.0	4498.0	4908.0	6365.0	7270.0
Ukraine	200.0	159.0	267.0	521.0	623.0	743.0	496.0

Source: [1], p. 31-32].

## APPENDIX C

Granger Causality Tests for model for  $d(IND)$ ,  $d(INV)$  and  $dE$ ,

Hypothesis	Lags			
	1	2	3	4
$E$ , doesn't Granger Cause $INV$ ,	1,021 (0,322)	4,319 (0,027**)	3,233 (0,047**)	2,310 (0,105***)
$INV$ , doesn't Granger Cause $E$ ,	0,043 (0,837)	0,268 (0,768)	0,455 (0,717)	1,308 (0,312)
$IND$ , doesn't Granger Cause $INV$ ,	5,374 (0,023**)	2,262 (0,128)	2,385 (0,101)	0,974 (0,450)
$INV$ , doesn't Granger Cause $IND$ ,	0,895 (0,353)	1,684 (0,209)	1,134 (0,360)	2,644 (0,072***)
$IND$ , doesn't Granger Cause $E$ ,	1,939 (0,177)	1,731 (0,201)	2,780 (0,070***)	2,191 (0,120)
$E$ , doesn't Granger Cause $IND$ ,	3,033 (0,096***)	3,287 (0,057***)	0,840 (0,489)	0,807 (0,540)

<sup>1</sup> A favorable influence of devaluation on the national income is asserted in [26, p. 14–16]. In [38, p. 32] devaluation is considered to be a tool of "stabilization of Ukrainian economy". In [3, p. 32] the recovery of Ukrainian production is explained by "the lagged effect of hryvnia devaluation". Instead, in [10, p. 7] a *strong* currency unit is «a substantial factor of improvement of the national market stance and its investment attractiveness».

<sup>2</sup> The inverse relationship between devaluation and trade balance can be also easily explained by the assertion about parallel imports-exports curves what is an indirect evidence of inefficiency of the exchange rate changes [33, p. 314]; the analogous statement is reported in [2, p. 96] for the Ukrainian foreign trade with the countries of Former Soviet Union. In [22, p. 34] a retarding factor in Ukrainian exports in 2001 were not changes in *hryvnia* but "trade and political decisions of Ukrainian trade partners and price-setting in the foreign markets".



1. Agnevly B. and Moniel P. Exchange Rate Policies in Developing Countries // Exchange Rate Policies in Developing and Post-Socialist Countries / E.-M. Claassen (ed.).- San Francisco: ICS Press- 1991.
2. Ahrend R. Supplement: Effects on the Trade Account of a Devaluation // Ukrainian Economic Trends- 1997-№ 9.
3. Berengaut J., Vrijer E.-D., Elborgh-Woytek K., Lewis M. and Lissovlik B. An Interim Assessment of Ukrainian Output Developments, 2000-01 // IMF Working Paper- 2002- № 97- WashingtonIMF.
4. Bereslavskaya O. Revaluation of the hryvna: for and against // VisnykNBU.- 1999-№ 6.
5. Berestovyi S. Exchange rate as a tool of regulation of the external economy activities in transition economies // Development problems of external economy relations and foreign investments attraction: a regional aspect: Scientific works collection.- Donetsk: DonNU, 2001.
6. Boeker P. Latin America's Economic Opening and the Rediscovery of Foreign Investments // Latin America's Turnaround. Privatization, Foreign Investments, and Growth / Paul H. Boeker (ed.).- San Francisco: ICEG, Institute of the American Press, 1993.
7. Claassen E.-M. Exchange Rate Policies in Developing and Post-Socialist Countries: An Overview // Exchange Rate Policies in Developing and Post-Socialist Countries / E.-M. Claassen (ed.).- San Francisco: ICS Press, 1991.
8. DabroMski M., Paczynski W. and Rawdanowicz L. Inflation and Monetary Policy in Russia: Transition Experience and Future Recommendations // Russian-European Center for Economic Policy- Working Paper Series, 2001.
9. Dekhtiarchuk M. Exchange Rate Policy in Ukraine // Ekonomist.-1999.-№9.
10. Calchynskiy A. Stabilization of the hryvna: problems and perspectives// Visnyk NBU.- 2002-№ 7.
11. Garibaldi P., Mora N., Sahay R. and Zettelmeyer J. What Moves Capital to Transition Economies? // IMF Working Paper- 2002-№64- Washington: IMF.
12. Harrell E. C. Privatization Requirements of Foreign Investors // Latin America's Turnaround. Privatization, Foreign Investments, and Growth / Paul H. Boeker (ed.).- San Francisco: ICEG, Institute of the American Press, 1993.
13. Havrylyshyn O. Recovery and Growth in Transition: A Decade of Evidence // IMF Staff Papers- 2001- V. 48- Special Issue.
14. Kandil M. The Asymmetric Effects of Exchange Rate Fluctuations: Theory and Evidence from Developing Countries // IMF Working Paper-2000-№ 184.- Washington: IMF.
15. Khan M. S., and Senhadji A. S. Threshold Effects in the Relationship between Inflation and Growth // IMF Staff Papers- 2001-V. 48,- № 1.-Special Issue.
16. Kopych I. and Shevchuk V. Monetary effects of the balance of payments in the Ukrainian economy, 1996-1998 // Visnyk NBU-2000.-№9.
17. Kruchkova I. Macroeconomic consequences of the hryvna appreciation // Visnyk NBU- 2001 - № 9.
18. Lipschitz L., Lane T. and Mourmouras A. Capital Flows to Transition Economies: Master or Servant? // IMF Working Paper.-2002.-X» 11.- Washington: IMF.
19. Lunina I. and Vincetz F. Firms' subsidizing in Ukraine // Ukraine at the cross-roads: lessons from the international experience of economic reforms / A. Zidenberg, L. Hoffmann (ad).- K.: Fenix, 1998.
20. Lutz S. H. and Talavera O. The Effects of FDI on the Ukrainian Firm's Labor Productivity and Exports // Working Paper- 2002-№ 14- Institute for Economic Research and Policy Consulting.
21. Melnychuk M. Economic growth and macroeconomic disproportions: the analysis of the Ukrainian reality // Dzerkalo tyzhniya.-2002 - № 35.
22. Melnychuk M. and Kruchkova I. The real effective exchange rate of the hryvna: tendencies and perspectives // Visnyk NBU.-2002.-№7.
23. Miklashevskaya N. Exchange rate policy in the transition economies // International economy and international relations- 1998-№9.
24. Mody A. and Mushrid A. P. Growing Up with Capital Flows // IMF Working Paper- 2002- № 75- Washington: IMF.
25. Mundell R. Stabilization Policies in Developing and Socialist Countries // Exchange Rate Policies in Developing and Post-Socialist Countries / E.-M. Claassen (ed.).- San Francisco: ICS Press, 1991.
26. Mychailychenko S. The policy of the stable exchange rate: causes and effects // Visnyk NBU- 2002- № 12.
27. Obstfeld M. and Rogoff K. Foundations of International Macroeconomics- Cambridge, Mass; London; The MIT Press, 1998.
28. Petrazzini B. A. Foreign Direct Investment in Latin America's Privatization // Latin America's Turnaround. Privatization, Foreign Investments, and Growth / Paul H. Boeker (ed.).- San Francisco: ICEG, Institute of the American Press, 1993.
29. Shevchuk V. The Influence of Devaluation Policies on the Exchange Rate of Ukrainian Currency // Ukrainian Economic Review.- 1998.- V. III.- № 4-5.
30. Shevchuk V. Economic reforms in Latin America: from financial stabilization to a steady economic growth.— Lviv: Kameniar, 1999.
31. Shevchuk V. Macroeconomic factors of influence on the balance on the current account in the countries of Latin America and East Europe // Economic development strategy of Ukraine. Scientific collection.- V. I- K.: KNEU, 2000.
32. Shevchuk V. Interest Groups Pressure and Exchange Rate Behavior in Ukraine // [Intolerance and [co]operation in Europe and Euro-Atlantic Area. Selected Conference Papers / S. Blackwell, L. Popescu, O. Rusu-Todorean (eds.).- Bucuresti: European Studies Foundation Publishing House, 2000.
33. Shevchuk V. Balance of payments and macroeconomic equilibrium in transition economies: Ukrainian case.- Lviv: Kameniar, 2001.
34. Shevchuk V. "Weak" hryvnia as a factor of industrial production contraction and the balance of trade worsening // Visnyk NBU.-2002-№9.
35. Stelmakh V. Monetary policy as one of the key factors of the economic growth // Visnyk NBU- 2002- № 1.
36. Stelmakh V. and Petryk O. Exchange rate, inflation and competitiveness of the economy // Visnyk NBU- 2001- № 9.
37. Tanzi V. and Davoodi H. R. Corruption, Growth, and Public Finances // IMF Working Paper.- № 184.- Washington: IMF, 2000.
38. Yurchyshyn V. Should one be afraid of the moderate devaluation?//Visnyk NBU- 1997.-№4.
39. Yuschenko V. and Lysytskiy V. Money: demand and supply development in Ukraine.- Kyiv: Skarby, 1998.
40. Zinnes C., Eilat Y. and Sachs J. The Gains From Privatization in Transition Economies: Is "Change of Ownership Enough?" // IMF Staff Papers.- 2001.- V. 48.- Special Issue.

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## «СИЛЬНА» ГРИВНЯ ЯК ЗАСІБ ЗАЛУЧЕННЯ ІНОЗЕМНОГО КАПІТАЛУ В УКРАЇНУ

У статті обґрунтовано доцільність зміцнення гривні як інструменту залучення прямих іноземних інвестицій (ПІІ). За допомогою теоретичного й емпіричного аналізу наведено сприятливі механізми впливу міцної гривні на ПІІ, а також подано рекомендації щодо економічної політики.