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UKRAINIAN HYPERINFLATION: HISTORY, ANALYSIS, RECOMMENDATIONS

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"UKRAINIAN HYPERINFLATION: HISTORY, ANALYSIS, RECOMMENDATIONS"

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1. Introduction

Among the principal characteristic features of the centrally planned economies were full employment and negligible or low open inflation and stable relative prices and income along with the significant repressed and hidden inflation and disequilibria in goods markets. (Commander 1992 p.3) Any attempt to reform the system led inevitably to the transformation of the repressed into open inflation, as the evidence from all the transitional economies shows. However, even among these countries the Ukrainian economical performance is so poor that even the new term had emerged: 'Ukrainization', meaning the state of economy with very high inflation and free fall of output along with a complete or almost complete absence of the economic reform. There is a solid ground for such a term, because no other former socialist country that is not involved in war, experienced inflation of 2700 per cent in 1992 and almost 9000 per cent in 1993 with the drop of real GDP of 13.7 and 18 per cent respectively (Ministerstvo Statystyky Ukrajiny 1994; p.3).

Indeed, inflation is one of the most harmful phenomena in Ukrainian economy during its present transition to a free market. Money depreciation, hardly noticeable during the eighties, accelerated considerably during the last three years and has reached the rate usually associated with hyperinflation. Since this jump in the inflation rate took place in one of the more prosperous republics of the former USSR in terms of economic development and population welfare, it can be attributed to the political and economical problems facing Ukraine currently.

The Ukrainian inflation has not been properly investigated and objectively analyzed yet. Such a task is important and necessary, because this monetary disorder, hopefully short lived, often serves as an argument against the independence of the young state. The structure of the paper is as follows. Section 2 gives a historical description of the development of the inflationary processes in Ukraine. Section 3 contains the analysis of the dynamics of this process. Section 4 outlines possible remedies, taking into account the evidence from other cases of hyperinflation. The conclusions are made in the last section.

2. The Emerging of Hyperinflation in Ukraine

The purpose of this section is to present a brief history of this destructive phenomenon in Ukraine during the recent years. The section is divided into three parts: the period before the Ukrainian declaration of sovereignty in July 1990; eighteen months between this event and the secession from the USSR in December 1991; and the development of inflationary processes since than.

2.1. The Roots: Period Prior to 1990

The analysis of the present inflation in Ukraine requires an answer to the question whether Ukraine experienced inflation during the pre-independence period. Yet, it is difficult to give a satisfactory answer, because Ukraine was a constituent part of a state with one centralized monetary system then. Because of that, there is no even the separate information about Ukraine for this period available. We have to use the data for the entire USSR with an assumption that in view of comprehensive price and wage controls and uniform economic policy, the inflation rates in the USSR and, separately, in Ukraine were the same. The differences could have been due to the different economic structures. Yet they can be assumed to be not significant enough to invalidate our results.

As Cottarelli and Blejer (Cottarelli and Blejer 1992, p.256-257) state, before 1991 the recorded rate of inflation in the USSR, as measured by official price indices, was extremely low. In 1960-1980 the retail price index (which was largely a measure of the prices prevailing in official markets) remained basically unchanged. During the 1980s it increased by slightly more than one per cent a year. In late 1980s the Soviet Ministry of Finance calculated the inflation rate at the level of between 2 and 4 per cent.(*Argumenty i fakty* 1989 No 14 p2)

Table 1:

State retail price index (in % to the average annual prices in 1970)

		1975	1980	1985	1990
All goods and services	USSR	99.7	103.0	108.0	119.9
	Ukraine	100.0	101.6	108.0	117.7
Foodstuffs	USSR	100.9	103.0	112.0	128.8
	Ukraine	100.1	100.4	110.3	122.4
Other goods and services	USSR	98.0	103.0	104.0	112.3
	Ukraine	97.6	102.4	104.0	112.3

Sources: Narkhoz SSSR v 1985, *p.478;* Narkhoz SSSR v 1990, *p.116; Narhosp Ukrajiny 1985, p.315; Narhosp Ukrajiny 1990, p.108.*

This stability was largely due to the pervasiveness of the price controls, which prevented markets from reaching their equilibria levels, resulting in repressed inflation and constrains on availability of consumer goods in the official markets. With respect to consumer sector, higher inflation than reported can be estimated on the basis of the price ratio of identical consumer goods in the collective farm markets and state stores. This ratio in Ukraine was 1.35 in 1960, 1.55 in 1970, 2.27 in 1980, 2.38 in 1985 and 2.97 in 1990 (*Narhosp Ukrajiny* 1990 p 110)

So, in reality the imbalance between the money holdings and the supply of goods and services was larger than the state retail price index suggested. Furthermore, money was constantly pumped into the production sector through the easy credit policy. Despite a decrease in the short-term credit between 1985 and 1990, other financial variables - financial resources, saving bank deposits- showed substantial increases, reflecting involuntarily accumulated savings, mostly in form of monetary balances (Table 2).

Table 2

Dynamics of macroeconomic performance of the USSR (in % to 1965)

	1970	1975	1980	1985	1990
Gross social product*	143.0	192.0	240.0	307.0	395.1
Retail trade turnover*	148.0	201.0	258.0	309.0	446.2
Financial resources**	168.0	212.0	280.0	356.0	926.0
Short-term bank loans***	164.0	230.0	341.0	591.0	355.5
Saving bank deposits****	249.0	490.0	837.0	1182.0	2039.8

* In actual prices
** Profit, depreciation, sales tax
*** Balance of debt by the end of the year
**** Of population; balance by the end of the year

Sources: Narkhoz SSSR 1980, *pp. 39, 40, 380, 503, 511, 521*
Narkhoz SSSR 1985, *pp. 39, 448, 548, 561, 566*
Narkhoz SSSR 1990, *pp. 5, 6, 15, 20, 29, 48*

Cottarelli and Blejer made an estimation of excess money holdings (that is, of a monetary overhang) in the USSR in this period (late 1980s). Their paper shows that approximately at the middle of the 1980s the more or less stable relation between consumption and wealth of population broke down and the undesired holdings of wealth in the USSR at the end of 1990 amounted to about 170-190 bn SUR, close to 20 per cent of GDP and about one third of existing financial assets (Cottarelli, Blejer 1992, p.280) Other estimations put this ratio even higher to 70-75 per cent of all the money holdings and to 340-400 bn SUR. According to our estimation, this figure in Ukraine amounted to 75-90 bn SUR. This excess demand exerted on upward pressure on prices.

So Ukraine had reached its independence with a moderate open inflation and with a high hidden inflation able to cause high inflation at the first attempt of liberalization of prices.

2.2. Slow Start: 1990-1991

The Declaration of Sovereignty of Ukraine, adopted in July 1990, could not at once change the economic processes, including those in the monetary sphere. The economic process continued developing under its own momentum which had been determined by the previous development: the high aggregate demand, reduction of output and effectiveness of production, decline in labour productivity, inefficient militarized structure of production, etc. Moreover, Ukraine remained in the USSR and existed in the single monetary area nearly 1.5 years. For this reason Moscow continued to make the decisions regarding the Ukrainian economy: the labour remuneration, price level, money and credit policies, etc. The declaration of sovereignty of Ukraine had not changed the internal negative economic processes. Moreover, the young nation started to experience external pressure on its policies.

According to the forecast for 1990 a considerable growth of money emission was foreseen in the USSR as a whole, but in Ukraine the emission was frozen at the level of 1.2 bn SUR in 1989. In fact the emission in 1990 in the USSR was higher than it was expected and reached the unprecedented level of 24.0 bn SUR. At the same time, Ukraine withdrew 446 m SUR from circulation instead of emission. This fact was hailed by the government as a great achievement in the fulfillment of the directives from Moscow. This policy had a determining effect for the economy and the people of Ukraine in terms of slower growth of incomes of the population in comparison with other republics, increased growth of unsatisfied demand along with the outflow of commodity resources from Ukraine, and redistribution of credit resources in favour of other republics.

The negative influence of the Union authorities on the monetary conditions in Ukraine since 1991 was reinforced by the monetary policy of the Russian government. Against the background of the struggle for independence, by many republics of the USSR, the new Russian leaders started to ignore the Union government and to pursue their own economic policy. To attract more supporters, the Russian government raised the incomes of the population, gave credits and tax benefits to the enterprises that recognized the jurisdiction of Russia, and met the demands of various strikers for wider economic independence.

The result of this policy was an unprecedented increase of money emission undertaken by the Central Bank of Russia (CBR). In 1991 it issued 32 per cent more paper money than during the previous 30 years (1961 - 1990). At the same time in 1991 Ukraine increased money supply by 40 per cent less than during the previous 30 years. The total amount of paper money in circulation in 1991 grew 2.26 times in Russia and only 1.44 times in Ukraine (*Economika i zhyzn* 1992 No 10 p8; *Uriadovyj kurjer* 1992 No 6 p3) Huge amounts of paper money issued by the CBR circulated freely within the single ruble area, flooding the markets of all the union republics and the Ukrainian market in particular.

The CBR followed the policy through the easy credit policy for Russian enterprises. In spite of the fact that Russia, like other republics, was still a member of the Union and the requirements of the single credit policy determined by the State bank of the USSR (Gosbank) were still applied to her, CBR began to ignore them openly in 1991. In particular, Gosbank recommended the minimal reserve requirements of 14 per cent on average and the interest rate 12 per cent on commercial bank credit. At the beginning of 1991 CBR had set these normatives for commercial banks of Russia on the much lower level of 2.0 and 8.0 per cent respectively and exceeded the centrally determined credit quota almost twice.

On the other hand, the National Bank of Ukraine (NBU) and the central banks of other republics followed the quotas determined by Gosbank. As a result credit deposits of the banks of Russia in 1991 increased 2.3 times, and those of Ukraine - 1.7 times (*Ekonomika i zhyzn* 1992 No. p4; *Diengi i kriedit* 1992 No. p54) So, import of inflation to Ukraine had begun before her secession from the USSR. Its influence was so visible that the Ukrainian government had to adopt special measures to protect the consumer market from the inflow of money from outside; coupon ration system for retail trade was introduced and export of goods from Ukraine was subject to controls.

Nevertheless, these measures could not stop inflation because other forces were at work in the Ukrainian economy. First, the decrease of output was accelerating. For example, the gross social product fall by 11.3 and the national income by 11.2 per cent in 1991 compared with that in 1990.

Second, the state budget deficit in 1991 was 21.1 bn SUR or 27.4 per cent of the total national income, while in 1990 it amounted to 1.4 bn SUR.

Third, the situation got worse after the lifting the wage control in July 1991. Only in August 1991 payments from the banks for this purpose increased 2.1 times against 1990 and amounted to 7.5 bn SUR. In general, the income of population in 1991 grew by 87.0 per cent against 1990, and again exceeded their spending and saving deposits. Total excess demand and hidden inflation still increased.

At the same time, the rate of open inflation was also increasing. In January and February 1991 wholesale and state purchase prices were considerably raised. Essential changes were introduced in price formation starting with March 1, 1991. Prices for a great number of consumer goods were freed and state retail prices were increased. The price liberalization showed the true extent of inflation.

The national retail price index was 187 per cent in 1991 as compared to the previous year. Free prices in the collective farm and black markets were two-three times higher than those in state and co-operative trade. In this year the wholesale industrial prices also increased more than twice (*Narhosp Ukrajiny 1991* p13-15,34,39; *Uriadovyj kurjer* 1992 No.25-26 p3). One can assume that the open inflation including all prices and tariffs in Ukraine exceeded 200 per cent in 1991 and became a serious threat to the Ukrainian economy.

The government was forced to adopt such measures to protect the population as the indexation of savings bank deposits and of money incomes. But soon indexation of incomes as an inflationary factor was replaced by lifting of wage controls throughout economy. As a result, the rise in money incomes caught price rises and in 1991 even exceeded them.

2.3. Inflationary Wave: 1992 and After

In December 1991 the USSR disintegrated and Ukraine gained its independence. This event was the beginning of a new phase of inflation that made all negative factors stronger. Having gained the independence and having taken over the control over currency emission, Russia changed her price, credit and emission policies. In January 1992 the Russian authorities unilaterally lifted the price controls and as a result, the retail prices rose three-four times on average. The Ukrainian government was compelled also to raise retail prices on the majority of commodities three-four times (*Uriadovyj kurjer* 1992 No 6 p3)

After the secession of Russia from the USSR the CBR raised reserve requirements for commercial banks from 2 per cent in 1990 to 10 per cent in January, 15 per cent in February and 20 per cent in March 1992, increased the discount rate from 8 per cent in 1991 to 20 per cent at the beginning of 1992 (*Ekonomika i zhyzn* 1992 No 10 p8) In view of the fact that the NBU still followed the norms recommended by Gosbank, such measure led to the deterioration of balance of payments between Russian and Ukrainian enterprises. Usually Russian enterprises were unable to pay for the deliveries of products from Ukraine and in the middle of 1992 the total indebtedness doubled.

This situation widened the gap in economic relations between enterprises, caused the growing decline of production and worsened the supply of goods in the Ukrainian market. The NBU was forced to increase preferential bank crediting to enterprises to avoid bankruptcy of the enterprises which received no payments from Russia.

But the main channel of inflation increasing in 1992 was the dependence of Ukraine on Russian energy resources. Taking advantage of this situation, the government of Russia began to increase persistently prices on oil, oil products and gas, imported by Ukraine. For this reason the prices for oil products in Ukraine increased nearly 300 times during 1992 (*Uriadovyj kurjer* 1993 No 9-10 p3). Such jump in prices could destabilize not only the economy and monetary system of Ukraine, but the economy of any even highly developed country. Another important factor was a sharp raise in wholesale prices of the products of basic industries in January 1992. For example, in February 1992 the average level of wholesale prices in the coal-mining industry was 51 times higher than that in February 1991.

In general, the overall level of wholesale prices in industry in January 1992 increased 8.4 times compared with that in December 1991, and in February it rose again 2.3 times (*Uriadovyj kurjer* 1992 No 6 p6, No 11 p6). This development gave an additional impact to the retail price rise, the result of which was even stronger than the unilateral increase of prices by Russia. At that time it became extremely difficult for the government to control retail prices, and they became completely free on most goods and services. A spontaneous process of chronic increase of "free" prices and a spasmodic rise in regulated prices began.

A jump in prices after the "liberalization" at the beginning of 1992 led to the market balance and did away with excess amount of paper money in circulation, that had been accumulated for the previous year. As the growth of current incomes at the beginning of 1992 lagged behind the rise in prices, the falling demand for goods become noticeable very soon. The activity in trade declined and the features of the sales crisis were already observed in the first quarter of 1992. The prices for some commodities had even to be reduced.

However, this process was stopped very soon. The monopolistic position and state ownership of the majority of the enterprises gave them the possibility to avoid price-cutting, to obtain preferential credits and to get direct financial support, in particular in form of current assets indexation, and to raise quickly wages of their workers. So in the first six months of 1992 the average monthly wages in industry rose 11.4 times along with a 12.3 per cent reduction in industrial output and a 6.4 times increase of retail prices in state and co-operative trade compared with the same period in 1991 (*Biuleten Ministerstva statystyky Ukrajiny* 1992 No. p21)

As the incomes of workers in the production sector were persistently moving upwards, the government had to raise incomes of employees in the budgetary institutions, retired people, service personnel etc. The growth rates of incomes began to outstrip the growth of spending (1.22 times in September), and the excess demand and shortages of goods became greater.

The government policy of freeing the prices and income was fully supported by the NBU that, due to its excessive issue of money created favourable conditions for the realization and deepening of all the inflationary factors in Ukrainian economy.

The NBU followed the policy of "cheap money" and kept the discount rate at a much lower level than the level of inflation in Ukraine and the discount rates of other CIS states.

So in the last quarter of 1992, while the rate of inflation was more than 30 per cent monthly, the discount rate of the NBU was 22-25 per cent per annum on the average. In Russia it exceeded 80 per cent (although even that was still negative) . This was also the reason for the negative consequences in Ukrainian economy.

Deposits of the population in the saving bank started to decrease, the demand for hard currency in the black market increased, and the capital flight abroad (including Russia) intensified. The *karbovanec* (UAK, the Ukrainian currency unit from November 1992) was rapidly losing its value. The low discount rates of commercial banks contributed to the outflow of capital from the state sector of the economy to the private one. Actually that meant so-called shadow privatization and deepened payment crisis in the state sector.

During the eleven months of 1992 the overdue payments in the national economy had grown 125 times and on the December 1 they were equal to 406 bn UAK (*Uriadovyj kurjer* 1993 No.9-10 p5). All these processes increased the demand for credit, and forced the NBU to issue new credits.

During 1992 credit investments made by the Ukrainian banks had grown 27 times and money supply 47 times, compared with those in 1991. As a result of the NBU policy, the economic reforms were delayed and new indebtedness and new demand for credits were accumulated.

Negative results of the NBU "cheap money" policy became especially noticeable in the second half of 1992, when Russia had stopped the excess ruble flow from Ukraine. Having introduced payment procedure according to which all payment transactions with Ukraine were made through the centralized correspondent accounts in the central banks, Russia pushed Ukraine from the ruble zone to punish her for her unbalanced monetary policy. After this all the excess money was finally restricted to the territory of Ukraine and the Ukrainian karbovanec began losing its value more rapidly. Towards the end of 1992, the rates of inflation exceeded 30 per cent per month and the annual level was almost 2000 per cent (*Ibid.* p10). Price increasing lagged behind the growth of excess money because the prices on certain basic food items and consumer goods were still fixed by the state. The demand on these goods was not satisfied despite the price increase.

The extreme situation in the monetary sphere at the end of 1992 aggravated political life in Ukraine and was one of the main reasons for changes in the leadership of the Cabinet of Ministers and the NBU. The new government headed by L.Kuchma had got an extraordinary power to realize the stabilization policy. However, the inflationary potential accumulated under the previous government was so great that the new government was forced to start its activity with a new three-four times increase of fixed prices at the beginning of 1993.

Having promised to stop inflation, Kuchma's government actually narrowed its anti-inflationary policy to the limitation of consumption funds of the enterprises and freezing monetary incomes in the budgetary sphere. But even these measures that were not so decisive and consistent, gave some positive results. Prices on the consumer goods market and the exchange rate of UAK were relatively stable from the end of January 1993 up to the end of March 1993.

But this stabilization was a short-term one because it was not supported by radical reforming of the Ukrainian economy and an adequate monetary policy of the NBU. The old economic system, having a spending type, became a serious inflationary factor in conditions of rupturing economic relations and weakening of state control. The NBU helped to preserve this system by its monetary policy. The agro-industrial complex (AIC) of Ukraine is a vivid example of this policy. Only in the first quarter of 1993, near 1.0 trillion (1,000 bn) UAK of preferential credits (30 per cent annually) and near 3.0 tn UAK of state financial aid were given to support AIC (Calculated on: *Uriadovyj kurjer* 1993 No.72-73 p3)

Other branches of the economy also needed big credit aid. In March 1993 606.0 tn UAK were given in credit to them to settle inter-enterprise arrears (*Ibid.* No 68-69 p2). The total amount of paper money in January-April 1993 reached 598.3 tn UAK. It exceeded ten times the issue of money during the same period in 1992 (*Ibid.* No 75 p5)

This great money injection under conditions of declining output and raising prices of imported energy resources should have destroyed the very market balance, established after the price rise in January 1993. Actually, starting from March 1993, excess demand, shortages of goods, rising costs of production unmet by the enterprises' earnings, inability to settle inter-enterprise arrears were observed.

In spite of some monetary anti-inflationary measures, undertaken by the NBU in April-May 1993 (240 per cent discount rate per annum, strengthening control over the commercial banks activity, issuing credits for the government within the limits of budget deficit approved by the parliament), the situation in the monetary sphere had not changed. At the end of the first half of 1993 hidden inflation showed itself again and even exceeded the level of the end of 1992. Mutual non-payments and losses in the national economy have appeared again and have reached amounts of trillions of UAK.

In June 1993 the government was forced to increase fixed retail and wholesale prices and to increase all kinds of monetary incomes of the population. The parliament adopted the decision to grant financial and credit aid of 7.0 tn UAK to the enterprises to cover losses, to pay mutual debts and to meet other expenditures. Thus, a new and an extremely steep wave of hyperinflation has started, that worsened the economic situation and aggravated the social and political life in Ukraine.

Wholesale prices and UAK exchange rate obtained the highest speed. During the nine months of 1993 the wholesale prices in industry have risen 57.3 times to 11.1 times during the whole 1992. UAK exchange rate to US$ rose 22.8 times during the nine months of 1993. Retail prices on goods and services rose more than 16 times. It was the same as it had been in overall 1992 (See Fig 1).

Unreasonable price increasing started in June, when bank credit investment and money bulk increased abnormally. During the third quarter the money bulk has increased more than 50 per cent per month. The ceiling for primary monetary emission in the third quarter of 1993 was raised by 166 percent and reached 16 tn UAK that was 101 per cent of the government forecast for 1993 GDP (compared with 2.1 tn UAK in the first two quarters of 1993). The money supply grew in the first eight months of 1993 by 1140 per cent over the same period in 1992. The growth in M0, notes and coins in circulation, was a spectacular 5940 per cent. The reason of this has been the growth in state credits , used by the enterprices to pay wages, and the massive withdrawal of savings to escape punitively negative real interest rates (*The EIU Country Report; Ukraine, Belarus, Moldova*, 1993 4th Quarter, p.22-23)

The term of inflation wave noticeably shorted. The first top of inflation was in January, the second in June. The next leap was two months later - in September. As a result of advance growth of money supply compared with growth of price level during the last inflationary circle, there were all prerequisites to expect a new large price jump in November-December 1993.

During the first seven months of 1993 the dependence of the UAK market exchange rate on money bulk become obvious. Its value has changed each month (except January) in the same direction and approximately at the same rates as money supply. Only in August, when the NBU in accordance with the policy of the Cabinet of Ministers, established obligatory selling of 50 per cent currency proceeds to the government on fixed and overvalued rate, the value of karbovanec fall 2.2 times with no relation with change of money supply.

Inflation rising in 1993 was caused also by speeding up the rates of the velocity of money circulation. During the nine months of 1993 it had increased more than twice. This cam be explained by increasing rates of bank interest and deepening deficit of commodities, especially of the consumption goods.

In conditions of the second part of 1993, the Cabinet of Ministers and the NBU have adopted the set of administrative measures to change situation in monetary and credit sphere. They fixed currency rate, obliged enterprises to sell 50 per cent of currency proceeds, set 5 per cent credit limitation level to commercial banks and high norms of obligatory liabilities reservation. Price controls also have been re-established. Whereas previously 60 per cent of prices had been free, now they were only permitted to rise with energy costs. This was likely only to aggravate an already severe problem of repressed inflation caused by the inability of producers to pass on the full rise in their costs to consumers (*Ibid.* p.23)

Given the monetary laxity referred to above, September inflation stood at 80 per cent. Inflation has also been stoked by administrative price increases, a result of rising energy costs and desperate attempts to offset the cost of subsidies: on September 10 the price of bread rose 400 per cent and that of many services, such as transport, by 200-300 per cent (*Ibid.* p.26)

In October-November inflation was slightly lower at 45-55 per cent estimated. After a further round of administrative price increases on December 6 (bread prices rose 1.4-fold, meat 2.1-fold) monthly inflation reached 80-90 per cent in December (*EIU Country Report. Ukraine, Belarus, Moldova*. 1994 1st Quarter; p.21)

The only sign of monetary restraint came at the beginning of December 1993 when the NBU announced that it would sanction no more new loans for the rest of the month (*Ibid.* p.19). A tight credit squeeze has worked through the system to puncture hyperinflation. The figures for inflation have improved hugely: January 12.6 per cent, February 12.2 per cent, March 5.7 per cent. However, that policy has caused a new wave of inter-enterprise arrears and the record drop of output: 34.1 per cent in January (compared with the same month last year), 38.9 per cent in February and 42.6 per cent in March (*Financial Times* April 13 1994, p.25). Figure 2 makes this sharp decline extremely visible.

To settle the problem with arrears, the NBU is issuing 4 tn of new credits to the industrial ministries. However, it is promised that this credit issue will be non-emissionary and will be covered from the state reserves (through selling of arms and hard currency) (*Finansova Ukrajina* 16 February 1994 p.7)

The official forecast for 1994 still predicts a substantial inflation, however, much smaller than in 1993. It is estimated that prices will grow 4.45 times along with the monetary incomes of population growing 5.1 times (*Uriadovyj Kurjer* 17 January 1994 p.2), with the inflation in the 4th quarter of 1994 of mere 15 per cent (*Ibid.* 4 January 1994, p.3). Most of experts consider these estimates to be extremely optimistic. More discussion on the latest signals from the Ukrainian government about fighting the inflation is presented in the section 4.3.

3. Inflation Dynamics Analysis

This section is devoted to the numerical analysis of the quantitativedata available for the Ukrainian inflationary process. Paragraph 3.1 describes the data used for the analysis, paragraph 3.2 contains the results of the calculation of the correlation matrix and of the regression analysis. These results are discussed in the paragraph 3.3.

3.1. Data Sample

Two main price indices were used for the analysis: consumer price index (CPI) and wholesale price index (WPI).

WPI is in fact an industrial price index (at factory gate) that excludes export. It is not considered to be extremely accurate. There are the reporting problems at the enterprise level, the methodological problems (also connected with the structure of that index itself). Monthly reporting of wholesale price changes is considered to overestimate actual size of wholesale price increases. It is somewhat more reliable when price movements are assessed over longer periods of time. For 1992 data on WPI were taken from *IMF Economic Reviews*, 1993, No 10 (special issue devoted to Ukraine). For the first half of 1993 the source of data was monthly economic bulletin *Ukraine in Numbers*, 1993, No 8 (Special 6 Month Review). The latest period (July 1993 - February 1994) was covered by the monthly reports of Economics Department of the Cabinet of Ministers, published in *Uriadovyj kurjer* government daily newspaper.

CPI started to be calculated officially only in February 1993. For the period of 1992 and for January 1993 so-called 'hybrid' consumer price index had been computed by the officials on the basis of price observations collected for the previously reported retail price index (RPI). RPI was considered not to be an accurate measure of inflation because it did not include private sector trade, and hence tended to underestimate inflation. Data for CPI (including hybrid CPI) were taken from the already mentioned bulletin of the Ministry of Statistics *Pro khid ekonomichnoji reformy u 1993 r.*('*On Development of the Economic Reform in 1993*'), and for 1994 - in the monthly governmental reports.

The changes of the budget deficit, money supply and average monthly wages in the state sector were calculated on the base of the data found in the already mentioned sources. Budget deficit refers to the Consolidated State Budget, that includes the State Budget plus the following local budgets: oblast budgets, the city of Kyiv budget, the budget of Crimea and the city budget of Sevastopol. Money supply is broad money supply that includes currency in circulation, time and demand deposits of households and enterprises and does not include resident foreign currency deposits, thus tending to underestimate changes in money supply as with the development of the inflationary process foreign currency tends to play more important role.

Interest rate used in the analysis is an actual monthly average NBU refinancing credit rate, that differs greatly from the official NBU refinancing rate, especially in those months when big cheap credits to the agriculture or the state industrial enterprises are issued.

The price jumps for the imported crude oil and natural gas were calculated based on figures from different sources. Price for these commodities was taken in US$ terms.

The relation between WPI, CPI and changes in industrial output were also investigated. Monthly data for the industrial output were taken in *OECD Economic Indicators for Central and Eastern Europe,* 1994, No.1, p.B-1.

Data describing the inflationary process in Ukraine in 1992-1994 are presented in Table 3.

Table 3

	CPI, %	WPI, %	Budget deficit, bn of UAK	M2, bn of UAK	NBU ref. rate, %	Change of wages in state sector, %
January 92	252.4	688.1	3.2	263.0	12	33.9
February 92	22.8	36.5	23.7			11.5
March 92	10.4	17.6		375.7	14.5	12.0
April 92	13.7	25.1				48.3
May 92	22.8	9.5				16.4
June 92	18.0	17.1	20.0	778.0	14.8	53.0
July 92	27.5	0.2	53.0			-1.5
August 92	15.5	9.5				6.1
September 92	14.9	8.9	170.0	1262.9	22.3	34.8
October 92	25.4	27.0			58.6	13.3
November 92	22.6	24.0			80.0	29.8
December 92	38.2	35.0	367.4	2575.2	70.8	77.4
January 93	97.3	141.0	-125.0	2687.4	70.8	-24.4
February 93	28.3	33.0	-62.03	3413.5	31.8	26.8
March 93	20.5	18.0	56.69	3773.3	32.3	19.9
April 93	18.7	25.0	-567.2	5286.0	72.8	11.2
May 93	24.9	71.0	-513.66	5780.0	238.0	18.6
June 93	79.0	116.0	1598.87	7689.0	211.0	91.5
July 93	21.0	20.0	1722.97	12044.0	159.0	23.6
August 93	21.7	25.0	1458.74	18317.0	55.0	12.1
September 93	80.3	85.0	3646.54	28182.0	239.0	143.5
October 93	54.5	66.0	2882.0	32956.0	94.0	22.2
November 93	45.3	33.0	4955.0	39803.0	28.0	27.9
December 93	90.8	76.0	4255.0	40996.0	130.2	158.1
January 94	19.2	23.8	305.0	40392.0	126.2	-3.7
February 94	12.6	16.0		44289.0		12.5
March 94	5.7	6.7				-1.5
April 94	6.0	6.6				4.4

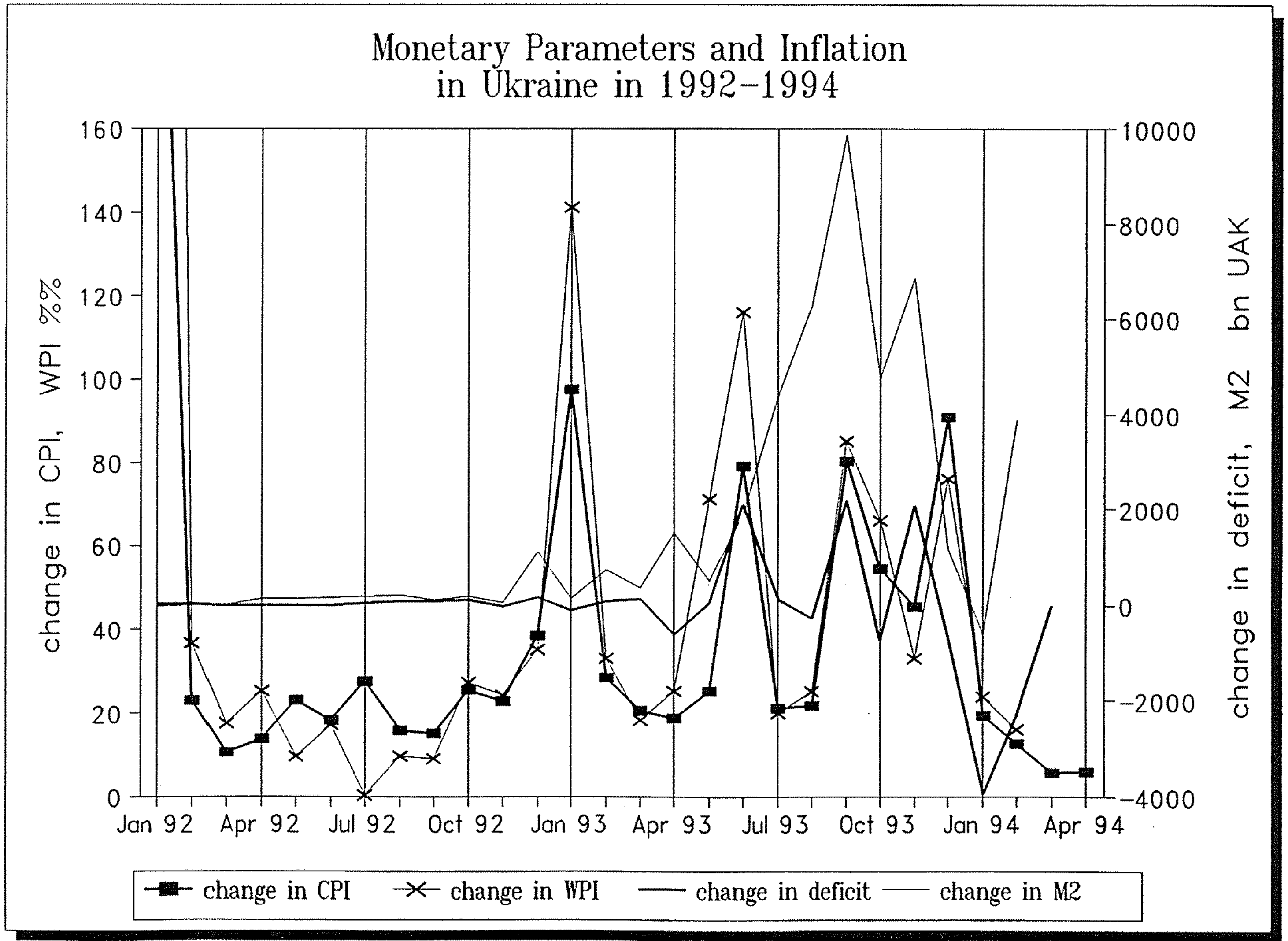
Monetary Parameters and Inflation
in Ukraine in 1992–1994
160
140
120
100
80
60
40
20
0
change in CPI, WPI %%
10000
8000
6000
4000
2000
0
–2000
–4000
change in deficit, M2 bn UAK
Jan 92
Apr 92
Jul 92
Oct 92
Jan 93
Apr 93
Jul 93
Oct 93
Jan 94
Apr 94
change in CPI
change in WPI
change in deficit
change in M2

Figure 1.

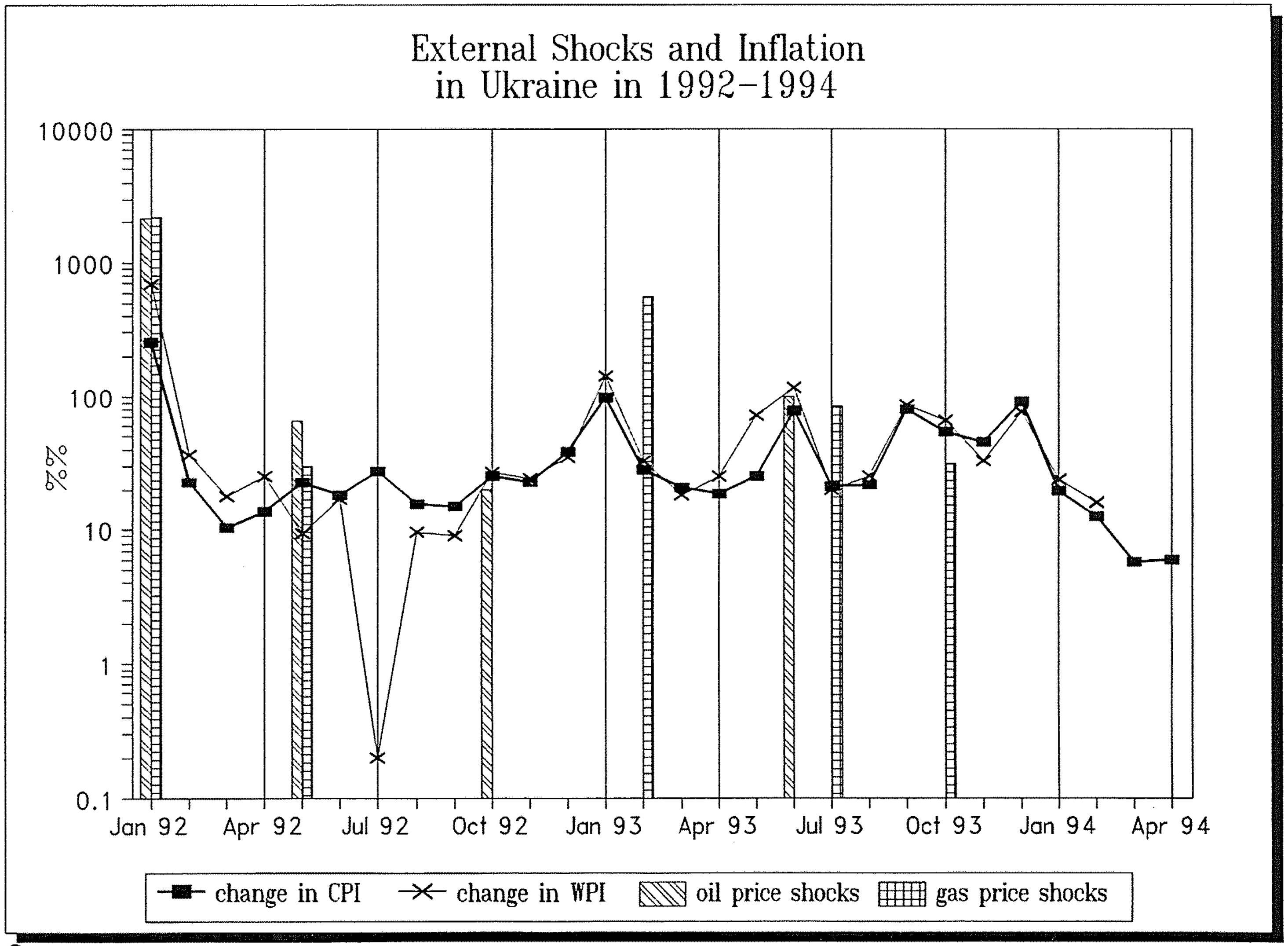
External Shocks and Inflation
in Ukraine in 1992–1994
%%
10000
1000
100
10
1
0.1
Jan 92
Apr 92
Jul 92
Oct 92
Jan 93
Apr 93
Jul 93
Oct 93
Jan 94
Apr 94
change in CPI
change in WPI
oil price shocks
gas price shocks

Figure 2.

3.2. Correlation Matrix and Regression Analysis

In the analysis two variables were considered as dependent: WPI and CPI. The independent variables were: D (monthly percentage change of budget deficit), M2 (monthly percentage change of broad money supply M2), OIL and GAS - price jumps for these commodities in percentage terms, W - monthly percentage change of average w age in state sector, R - nominal NBU refinancing credit rate, Y - monthly percentage change of industrial output.

For all independent variables data with lags from one to six months were calculated. Then the correlation matrix for all the variables was calculated. Curiously enough, WPI shows almost now correlation with the monetary parameters, while being substantially correlated with OIL (0.9662), GAS (0.9315), Y (-0.3163), Y_5 (change in output with five months lag) (-0.4265) and R_1 (-0.1427), R_2 (-0.1688), W (0.1113). CPI does show correlation with D (0.1909) and M2_1 (0.1738), R_1 (_0.1498) but it is much stronger correlated with OIL (0.8575), GAS (0.8212), W (0.3051), Y (-0.2473), Y_5 (-0.3439).

Two empirical models were built for CPI and WPI to explain their behaviour in Ukraine in 1992-beginning of 1994.

The results of the regression analysis using Ordinary Least Squares are presented below:

$$CPI = \underset{(6.0103)}{21.3718} + \underset{(0.0039)}{0.0104}\,D + \underset{(0.0017)}{0.0036}\,M2\_1 - \underset{(0.5307)}{1.7442}\,Y + \underset{(0.0380)}{0.0451}\,OIL + \underset{(0.0346)}{0.0451}\,GAS + \underset{(0.0999)}{0.1750}\,W - \underset{(0.0539)}{0.0442}\,R\_1$$

$R^2 = 0.9076$ Adjusted $R^2 = 0.8735$ $F(7, 19) = 26.6$ Root MSE = 17.525

$$WPI = \underset{(9.6401)}{20.3072} - \underset{(0.7408)}{1.2541}\,Y + \underset{(0.0633)}{0.3028}\,OIL + \underset{(0.585)}{0.0367}\,GAS + \underset{(0.1465)}{0.3168}\,W + \underset{(0.0851)}{0.0405}\,R\_2$$

$R^2 = 0.9525$ Adjusted $R^2 = 0.9418$ $F(5, 22) = 88.33$ Root MSE = 30.845

Figures show the comparison between the actual levels of inflation in Ukraine in 1992-1993 and those predicted by the above mentioned models.

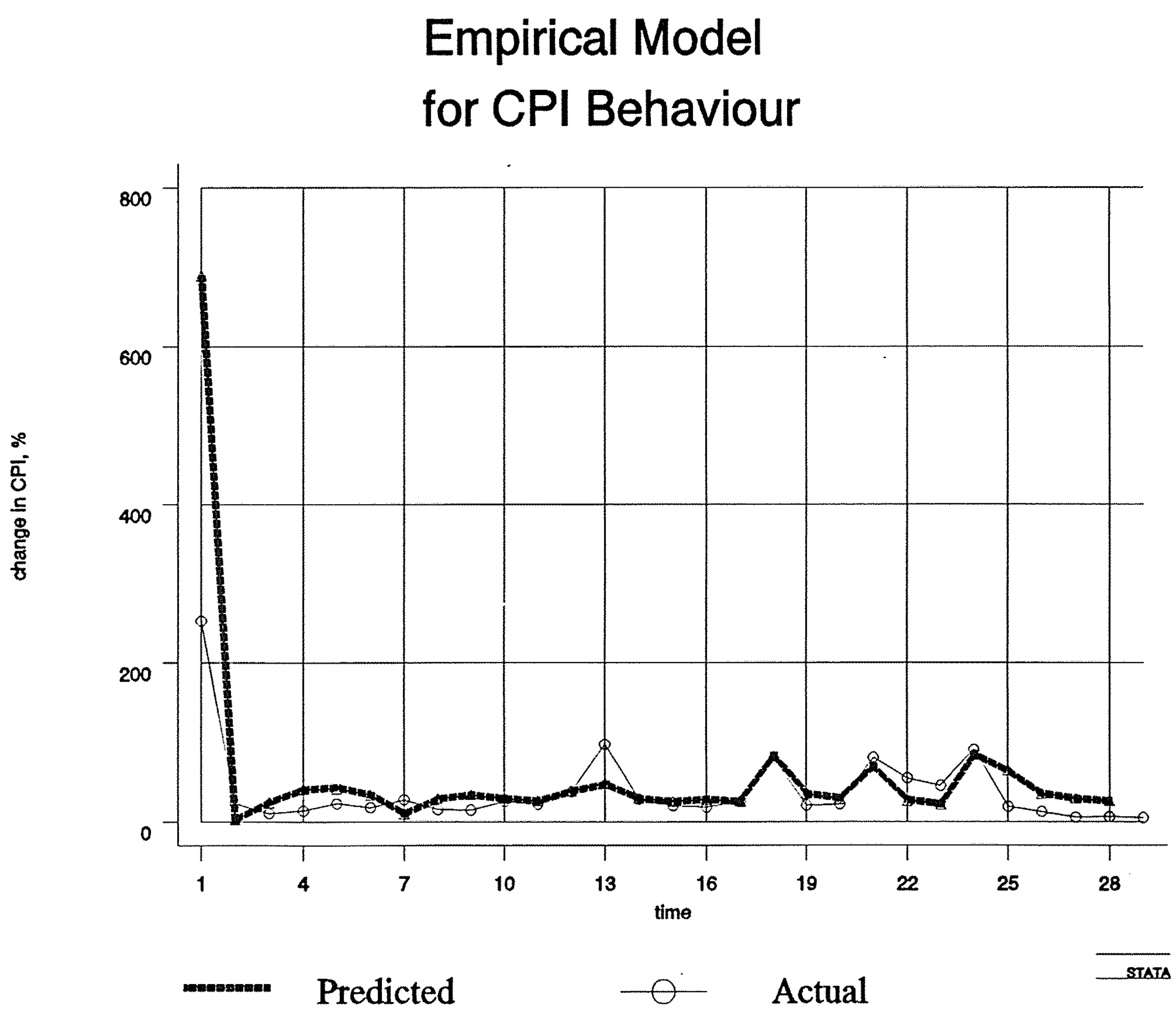
Empirical Model
for CPI Behaviour
change in CPI, %
800
600
400
200
0
1
4
7
10
13
16
19
22
25
28
time
Predicted
Actual
STATA

Figure 3.

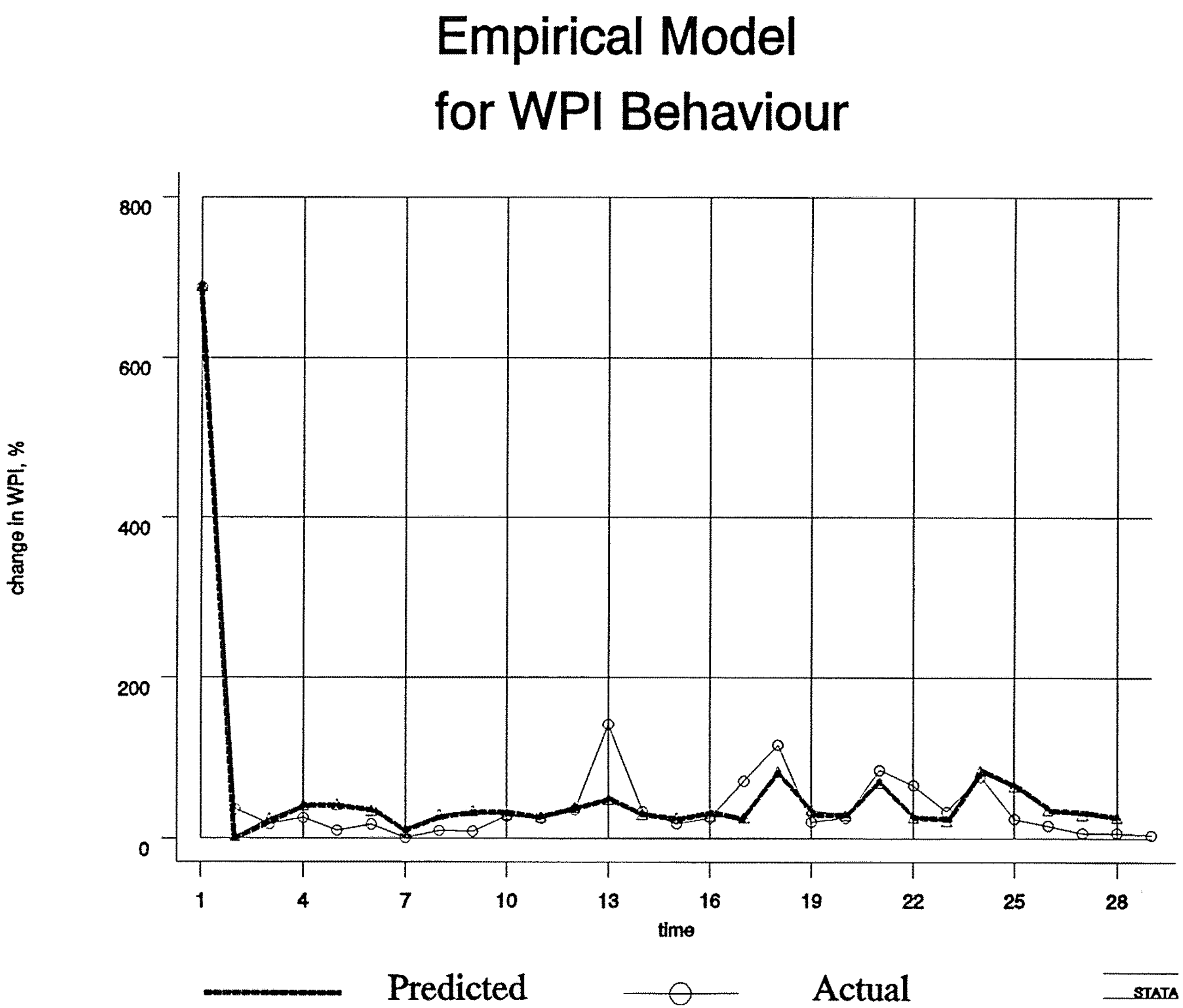
Empirical Model
for WPI Behaviour
800
600
400
200
0
change in WPI, %
1
4
7
10
13
16
19
22
25
28
time
Predicted
Actual
STATA

Figure 4.

3.3. Discussion on the Sources and Character of Inflation

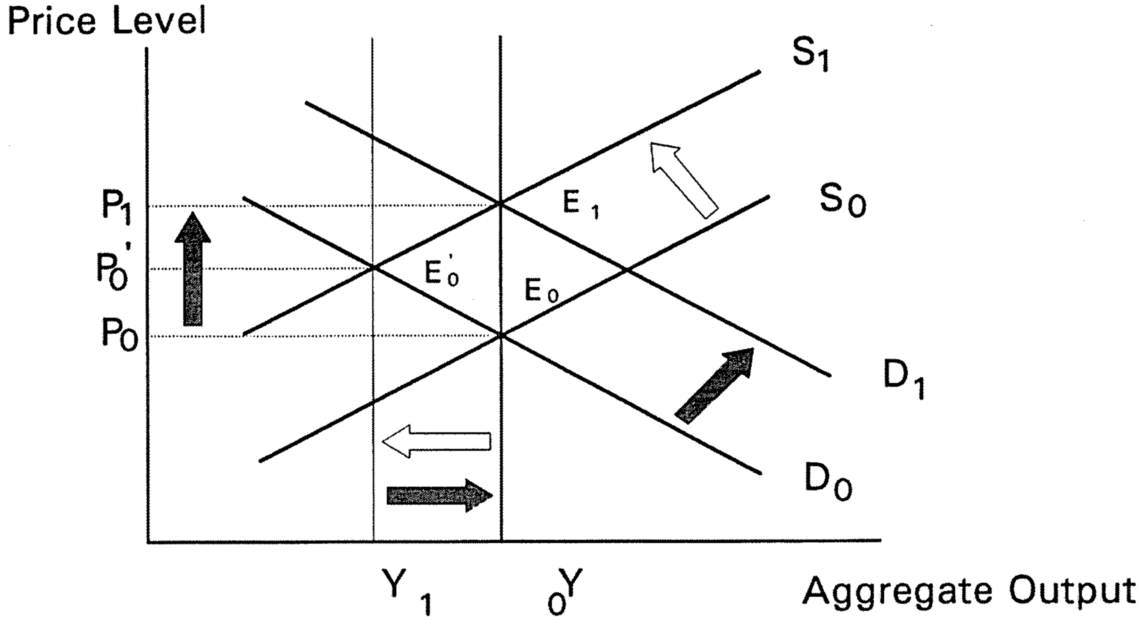

Figure 5.

The Ukrainian inflation has a definite cost-push character. Schematically that can be explained as on Figure 5. For some reasons (that will be discussed later) leftward shift in the aggregate supply curve (from S0 to S1) reduces aggregate output: equilibrium point moves from E0 to E0' so that aggregate output falls from Y0 to Y1 along with price level rise from P0 to P0'. If the government (or the central bank) is eager to avert the output decline, it may adopt easier monetary policy, thus shifting the aggregate demand curve to the right, from D0 to D1. The economy reaches the new equilibrium at point E1 with the restored level of output Y0 and higher price level P1.

As it was stated in section 2, the Ukrainian economy had the serious problems already in late 1980s. The old command-administrative coordination system had led the USSR into deep economical and political stagnation, and the society was no more willing to be quit with it. However, with the old production system broken down no new system of smoothly-functioning inter-enterprise links having sprung up in its place. The totalitarian-style discipline had collapsed without the economic discipline imposed naturally by market competition instead. Huge disproportions, multiple disequilibria in the economy that had been hidden by the central planning were freed now, causing a set of relative price shocks and chaotic arbitrage. That was even aggravated by the problems emerged from the creation of independent successor-states after the collapse of the former Soviet Union.

Ukraine clearly is not the only one successor state that suffers from the problems stated above. Titkov and Wörgötter (Titkov and Wörgötter 1994) discuss the case of Russia, showing that a high share of loss-making enterprises in Russian over-developed heavy industry contribute substantially to the inflationary process (p.32-34).

As about Ukraine, having been heavily industrialized during the Soviet era to became the undisputed iron, steel and coal centre of the USSR, she inherited a decaying and outdated capital stock. Moreover, the Ukraine's energy-intensive metallurgical and machine-building sectors were dependent heavily on the supply of Russian oil and gas on way-below-world prices. These cheap energy resources were used at least 1.5 times less efficiently then on average in Europe (Lanovyj, V. *Svojo dielo* 1993 No 36) and according to some estimates, more than 10 times less efficiently than in Japan (Boss 1993 p.13)

The Ukrainian industry was specialized on the production of low-value added semi-fabricates. E.g. while Ukrainian huge chemical plants produced chemical monomers, polymerization took place in Russian plants, from which Ukraine received back polypropylene, polyethylene etc. at 10 times the price (*Ibid.*)

Much of the industry was oriented, directly or indirectly, towards the production for the military. The 'military-industrial complex' was estimated to employ 18.6 per cent of the Ukrainian workers in 1985 and may had accounted for a quarter of GDP (*Ibid.* p.15) With the breakup of the USSR demand for the output of this sector fell away dramatically, leaving a press need for industrial restructuring and conversion. The products of the country's substantial processing and light manufacturing sector, meanwhile, were difficult to sell on world markets, making this sector highly vulnerable to the region-wide recession (*IMF Economic Review* 1993 No 10 p.3)

One more problem was huge, inefficient and misdeveloped agricultural sector, heavily dependent on imported fuel and feed for over-developed dairy and beef cattle sector.

It is clear from above-mentioned that so-called Russian 'Gaidar economic reform and price liberalization' hit the Ukrainian economy in two ways. First, squeezing the demand from Russian enterprises for the output of their Ukrainian suppliers, and second, skyrocketing prices for the Russian energy exports, and hence the Ukrainian enterprises' costs of production. Moreover, energy price jumps were accompanied with cutting off Russian energy supplies both due to shrinking Russian oil and gas production and to the non-payments of the Ukrainian consumers.

Figure 2 shows coincidence of the repeated oil and gas price jumps with the acceleration of inflation in Ukraine. Table 4 shows the connection between drop of output in different industries and rise of prices for their output in 1993. The highest price rise and fall of output occurred in more energy-consuming industries. That makes clear the severity of oil-price side of supply shock that hit the Ukrainian economy.

Table 4

Change in output and price level in different industries in Jan. 93 - May 93

industry	fuel	chemical and petrochemical	ferrous metallurgy	light
output fall	20.9 %	21.1 %	13.4 %	5.2 %
price rise	328 %	364 %	325 %	132 %

Source: Ukraine in Figures *1993 No 8*

The correlation coefficients between WPI, CPI and OIL, GAS (see section 3.2) support the statement that ex-USSR variant of 'oil price shock' is largely to blame for triggering of the inflationary process. However, the regression analysis shows that this factor (especially rise in the prices for imported natural gas) was not as responsible for the continuation of inflation. It is interesting to compare the results obtained with those reported by Dominick Salvatore (Salvatore 1988) for the industrial and developing nations suffered from oil price shocks in 1970s. His empirical results indicate that the increase in the cost of imported oil was not the sole nor the most important contributor to domestic inflation, and the inflation seems to have been 'imported' rather through currency depreciation resulting from sharply increasing petroleum import bills rather then directly through the price increase itself.

Not surprisingly, energy price increase affected WPI more seriously (as this index reflects primarily industrial prices - see section 3.1). In general, wholesale prices were reported to rise faster than the consumer prices. Such pattern was also a characteristic feature of the inflationary process in Russia (Titkov, Wörgötter, 1994 p.23-25) It is unlikely to be explained purely in terms of the usual lag between producer and retail prices. This different behaviour of WPI and CPI indices reflects their different composition and structure, because e.g. foodstuffs have much higher weight in CPI, and the control on food prices on the retail level was still widespread in 1992-1993.

This difference also likely reflects the cost-push character of the inflation, because in a case of demand-pull inflation caused by excess aggregate demand CPI would lead.

It is possible to argue that 'gradualism' in increase of prices for Russian energy imports to the world price level contributes to the inflation through the expectations of further price increases. Awaiting them, enterprises make markups on prices of their output to cover the prognosed increase in their production costs. Highly monopolistic structure of the Ukrainian industry makes this to be extremely easy, causing the snowball effect of negative supply shock move through the production chain.

Section 2.3 describes how the loose monetary policy of the NBU and government fueled the inflationary spiral. The state subsidies to the enterprises, agricultural sector, subsidies on social welfare programmes, retail price controls created an enormous deficit of the state budget, because the government and the parliament had promised demagogically far more in universal entitlements and subsidies than it was able to collect in revenue. Though 90 per cent of enterprises in 1993 were the state property, their 'owner' barely controls them in a fiscal sense. Fiscal impotence springs from lack of trained tax service personnel, confusing legislation (that was especially true for 1993). Tax rates are very high, close to prohibitive (28 per cent VAT etc.) but tax evasion is common, especially in private sector, to say nothing about the 'shadow economy'. So, the reliance on the inflation tax is quite understandable explanation of the financing of budget deficit through the monetary emission.

However, the reported growth of residents' deposits in foreign currency makes 'tax base' for the inflation tax (i.e. the karbovanci money supply) shrinking. Understanding this, the government adopted some measures to fight the 'dollarization' of the country's economy.

Budagovskaja (1993) stresses the importance of the month-to-month budget deficit in fueling the inflation and emphasizes that since February 1992 the monthly monetary emission was more than budget deficit growth and continued even in those months when there was budget surplus (as in November 1992 and January and April 1993). The excess emission was most likely channeled for financing of the costs of production, especially wages, of state enterprises, and that provoked skyrocketing of both prices and wages.

As stated in section 3.2, CPI correlates with budget deficit growth with three months lag (that in turn is strongly correlated with growth of money supply M2). CPI depends on current growth of money supply, and also reflects repercussions from the previous periods: it is correlated with one month lagged change in money supply. Curiously, in Russia CPI depends on four months lagged M2 growth (*The World Bank/PRDTE: Transition* 1993 No 8 p.4-5; Titkov, Wörgötter 1994 p.28) Probably this difference could be explained by the difference of size of Russian and Ukrainian economies.

Not surprisingly, changes in average wages in the state sector have more effect on WPI than CPI, although correlation between W and WPI is weaker than between W and CPI.

Correlation coefficients of (-0.1427) and (-0.1688) between R_1 and R_2 respectively and WPI and of (-0.1498) between R_1 and CPI show that tighter credit policy of the NBU does have effect on the inflation. However, coefficient for R_2 in model of WPI has a wrong sign to fit the theoretical assumptions.

Correlation between Y_5 and CPI and WPI respectively (-0.3439 and -0.4265) could be explained from the point of view of inverse causality, that is that drop of output causes laxing of the governmental monetary policy and thus fueling the inflation.

4. Possible way out

The structure of this section is as follows. The first part describes some aspects of the world experience with hyper- and high inflation in the last century. The next section includes a set of possible measures to fight hyperinflation, based on this experience. The last section shows the latest developments in the Ukrainian government indicating that the understanding of devastating danger of the hyperinflation finally emerged there.

4.1. World Experience with Hyperinflation

The episodes of very high inflation are not rare in world history. Hyperinflation happened in all geographical zones, in developed and undeveloped countries, during wars and during peacetime, under different political regimes and economical systems. Overview of cases with extremely high inflation was done in (Yeager 1981; Dornbusch and Fisher 1986; Dornbusch 1992a; Vegh 1992).

The historical experience of high inflation is extremely useful in the analysis of the Ukrainian case, because 'the evidence from some 20 experiences with high inflation establishes that the similarities between the experiences of various countries become sharper and clearer and the differences less significant as their inflation rate rises' (Dornbusch 1992a p.13)

Classical definition of the term 'hyperinflation' was given by Phillip Cagan (1956). Cagan defines hyperinflation 'as beginning in the month the rise in prices exceeds 50 per cent and as ending in the month before the monthly rise in prices drops below that amount and stays below for at least a year' (p.25) This definition is quite arbitrary, and Dornbusch argues that even if monthly inflation rate is 'only' 20 per cent, inflation is still the dominant factor in the economy and overshadows most other issues (Dornbusch 1992a p.17)

Anyway, according to Cagan's commonly accepted definition, the individual hyperinflation episodes compose three groups:

- those occurred after World War I: Germany, Austria, Hungary, Russia and Poland (with episodes of not as high inflation in Czechoslovakia and France);
- during and immediately after World War II: Greece, Hungary (with world record level: 3.81×10^{27} per cent rise in the price level in 1945-1946 (Makinen 1990 p.327)), China and Taiwan; Italy also suffered from very high inflation in 1946 but managed to implement a quick stabilization;
- during the 1980s: Bolivia, Peru, Argentina, Brazil, Poland and Nicaragua; also severe inflation occurred in Yugoslavia and Israel. Unlike in two former groups, high inflation in 1980s mostly was not associated with war, civil war or revolution, but was rooted in domestic mismanagement and to some extend in external shocks.

The Latin American experience is valuable also because cycles of price controls and hyperinflation (e.g. Argentine and Brazil) are not very different from the inflation in the post-communist economies that started from repressed inflation of the previous period.

Hyperinflation always occurred in countries with a large public sector deficit financed by money creation in the context of a monetary system using inconvertible paper money. The interaction between budget deficit and money creation transforms mild inflation into hyperinflation, as in the episodes of 1980s, where the transition to extreme high inflation started off with quite moderate rates and then suddenly gathered speed and became extreme. As an inflation intensifies, real budget deficits tend to increase, causing even greater reliance on the revenue from money creation. Common attempts to hold down the prices of state-supplied goods and services in the belief that this slows inflation only exacerbate this tendency.

Hyperinflations have generally lasted less than two years. A majority have ended in a final cataclysmic rise in the price level resulting in a level of real money balances so small that governments could no longer gather sufficient revenue from the inflation tax even at very high tax rates. So the scene was set for stabilization.

There is a substantial controversy about the costs of stabilization. Carlos A. Vegh distinguishes between 'hyperinflation' and 'chronic inflation' and argues that while the former could be stopped almost overnight with relatively minor output costs, stabilizing the latter implies a sluggish adjustment of the inflation rate, sustained real appreciation of the domestic currency, current account deficits and an initial expansion in economic activity followed by a contraction (Vegh 1992 p.626) The characteristic features of chronic inflation are that it may last for long periods of time (years), it has an intermediate intensity and does not have an inherent propensity to accelerate (*Ibid.* p.630) Vegh considers all but Bolivian episodes of 1980s extreme inflation as chronic inflation. Key point is that chronic-inflation countries have learned to live with high inflation (e.g. Argentina has suffered from chronic inflation since the late 1940s and has been unsuccessful in eliminating it, in spite of eight major planes and countless other attempts) and as a result, the incentives to eradicate inflation are much lower and there is always lack of credibility of public that the current stabilization plan will be sustained over time (Ibid. p.659)

Fortunately it looks like Ukrainian economy does not fit yet the definition of the chronic-inflation economy. Its institutions have not learned to live with high inflation. However, they are doing so: when inflation rises significantly and permanently, institutions adapt, and doing so they help to increase inflation. Moreover, there were few minor unsuccessful attempts to fight inflation, and their failure does not add to the credibility of the future stabilization programme. (Although it is quite usual that the successful stabilization was not the first one, but occurred after one or more failed attempts.) The most unpleasant thing is that the contractionary forces resulting from real distortions in misdeveloped Ukrainian economy, have an extremely severe character, and the cowardice of the policy makers could prevent from coping with them.

4.2. Possible Remedies

The task of stabilizing inflation involves stopping it quickly and avoiding the resurgence of inflationary pressures. As budget deficits are the ultimate source of inflation, successful stabilization programme involves are organization of government finance both to cut expenditures and to raise taxes. In each of the successful stabilizations budget deficits were significantly reduced. Not in all cases they were completely removed: if the fiscal measures have to be particularly large they are also particularly difficult. In that case deficit should be financed not by money creation but by debt - domestic or preferably external - with clear limitations on the deficits. As the experience of Argentina, Brazil and Peru shows, failure to correct the budget implies that high inflation will soon return.

In the case of Ukraine the tax reform is as important as cutting the budget subsidies to the state sector and over-expanded social welfare programmes. Section 3.3 shows how the inefficiency of the present-day tax system binds the government to the revenues from the inflation tax, so the improvement of the tax collection is extremely important in fighting inflation.

Balancing the budget is indispensable from two other steps - fixing the exchange rate and ensuring the independence of the central bank.

In most cases of hyperinflation, price stability was virtually achieved overnight following exchange rate stabilization (Vegh 1992 p.636) Fixing the exchange rate establishes immediately a stabilizing force and inertia with beneficial effects for expectations, the budget and politics. It is necessary to remember that the successful stabilizations typically start with substantial real devaluation, following during the early part of the programme by real appreciation as prices rise while the exchange rate remains fixed. So, without the initial overdevaluation, a balance-of-payments problem (already extremely severe for Ukraine) would result from the appreciation.

The risk of overvaluation may stem either from insufficient inflation control or from an overly ambitious nominal exchange rate policy. The sustained real appreciation of the domestic currency proved to be fatal for most failed stabilization programmes in chronic-inflation countries because it led to unsustainable trade and current account deficits (Vegh 1992 p.646- 649) From the other hand, overvaluation creates an expectation of a devaluation, and very high interest rates become necessary to stop speculation. This increases domestic debt service and worsens the budget. That financial crisis outweighs the fact that overvaluation may help cool inflation. Ultimately, the exchange rate adjustment becomes inevitable, and it is much better to start it as early as possible.

In most of the successful stabilization programmes the exchange rate was pegged. So the pragmatic recommendation is to move after two or three months of fixed exchange rate to a crawling peg, depreciating the exchange rate at a pace that maintains external competitiveness (Dornbusch and Fisher 1986 p.40, Dornbusch 1992a p.28)

As about the exchange rate control, Dornbusch (1992b) argues that although this is a contentious issue and there may be a case for controlling capital flows (if administratively possible), but there is no plausible cause for controlling commercial transactions (p.419)

Referring especially to the Soviet case (which is the Ukrainian too) he states that given the administratively overburdened and backward situation in the former Soviet Union, all kinds of exchange control should be avoided.

The creation of central bank independence can and should go ahead even if budget balancing is not fully possible immediately. The independence of the central bank acts as an insurance against relapse and thus helps to improve inflationary expectations. In the Ukrainian case the subordination of the NBU to the parliament dominated by the agrarian-industrial state sector lobby eager to support bankrupt state enterprises contributed enormously to the inflationary wave of 1992-1993.

As evidence shows, a new currency unit is often issued to replace the depreciated one. However, this is symbolic only, and if the stabilization programme fails in other aspects, this new currency depreciates almost as quickly as the old one (as Argentinean austral did). In the case of Ukrainian karbovanec it is necessary to bear in mind that it was issued for the first time as a temporary unit, 'a coupon', and although this is a real (even if unstable) money, the majority of the population still considers it as a temporary one and expects the long ago advertised introduction of the new currency unit. Almost every two or three months the rumours about the forthcoming monetary reform stimulated excess volatility of the karbovanec exchange rate to US$ and RUR. So, from this point of view, introducing at last the new currency unit (with simultaneous fixing of the exchange rate) government would get rid of this part of inflationary expectations.

It is clear that most of the above stated measures will inevitably produce some painful outcome in short run. Also particularly stern measures are necessary to rebuild confidence and stability after the destruction caused by high inflation. However, democratic institutions do not facilitate hard choices (and in Ukraine those institutions are in their infancy yet). So most democratic countries hit by high inflation almost invariably implemented special procedures to adopt and implement the hard measures necessary for stabilization. E.g. in Israel in 1985 the national unity government was created; in France in 1926 president Poincare was given a restricted special power to stabilize the economy; in Germany in 1923 special parliamentary committee was put in charge to interact expeditiously with the executive. What was considered as politically impossible before, has got done because the destruction brought about by uncontrolled inflation is so devastating that it forces cooperation.

In Ukraine the inflation was aggravated by the political crisis (and vice versa), and the solution of the political deadlock was to held early parliamentary and presidential elections. The former were hold in March-April, but the outcome at the moment is unlikely to create a strong executive power. However, there is no alternative to this but the final collapse of the economy and the state.

It was already mentioned at the beginning of the current section that the foreign aid is another important aspect of the stabilization. The foreign loans provide reassurance that the exchange rate can be held, and certification that outside governments are sufficiently impressed by the stabilization plan to bet on it. If the fiscal deficit is too large to get rid of it at once, it is far better to finance it by the foreign debt that by money creation (or even by the domestic debt). The role of the outside world was especially important in the episodes of high inflation experienced by the successor-states of the Habsburg Empire in 1920s: Austria, Hungary and (to much less extend) Czechoslovakia. There is a direct analogy between their case and the case of ex-USSR successor-states, with Ukraine among them.

Stabilizing Austria, Hungary and Czechoslovakia in 1920s became a very important issue because stability of the entire region was at risk. Today the stakes are at least as high, but there is no such readiness of the West to help ex-USSR stabilization programmes (Dornbusch 1992b p.420-421). In 1920s Western aid included subordination of the already existed external liabilities of the stabilizing countries to the need of the stabilization; substantial stabilization loans that were to be used, not held for decoration; stiff political conditionality of the programme, including requirement of full powers for the government and at the same time foreign supervision over the countries' finances; extremely high visibility and high level of international personnel that participated in that aid programmes. All that is a valuable lesson for 1990s (*Ibid.*)

As it was mentioned in section 3.3, stabilizing the Ukrainian economy means its complete restructuring. It is clear that Ukraine has no domestic capital that is enough for that restructuring. The ultimate source of the new investment should be the rest of the world. That is why the foreign aid is of exceptional importance for Ukraine.

Another lesson from the collapse of Austria-Hungary is that a cooperation among the successor states is important. It is necessary to overcome the force of nationalism and the tendency of moving towards autarky. The emerged barriers to trade should be lifted because of their disruptive effect on the economies. An explicit free trade area has to be created urgently in the region (*Ibid.* p.419) However, that was not achieved in 1920s and is unlikely to be achieved in 1990s, at least quickly. The political ambitions, mutual suspiciousness and unwillingness to coordinate their policies contributes to the hardships that hit the countries of the former Soviet Union, and to the inflation too. It is difficult to say what country is mainly to blame for this, but the outcome is evident.

4.3. Latest Signals From the Ukrainian Government: Understanding At Last?

After the skyrocketing inflation in the end of 1993 it felt drastically in the first quarter of 1994. It looks like the government had finally decided to stop hyperinflation at any price (section 2.3 describes what was the effect of such governmental policies on the industrial output in Ukraine).

There could be doubts about the sustainability of such policies, however, it is interesting to look at the Ukrainian state budget for 1994. The Ministry of Finance has worked out the draft budget that does not envisage budget deficit at all. It is necessary to maintain a policy of tougheconomizing to fulfill such a budget. Severe cuts of the state bureaucratic apparatus, tight credit policy and improvement of the tax system should be implemented. The Ministry of Finance also has a plan of cutting some welfare programmes such as cutting pensions for the still working retired persons (*Uriadovyj Kurjer* 1994 15 January)

The acting Prime Minister Yukhym Zviahilskyj had presented the governmental stabilization programme in the parliament in February 1994. This programme contains tight control over the monetary emission, direct state subsidies to the priority sectors enterprises only (that mean only those that fit the optimal structure of the economy), support of the growing private sector (that is estimated to be 30 per cent in industry and 40 per cent in agriculture by the end of 1994). Prime Minister stressed the importance of tax reform, especially in creating the incentives for the investment in the priority sectors. It was also stated that there should be no such price jumps in the imported oil and gas in 1994, that influenced the inflation so heavily in 1992-1993 (*Uriadovyj kurjer* 1994 5 February).

With all those measures implemented, the inflation in the fourth quarter of 1994 should be no more than 15 per cent. However, the fall of industrial output in the first quarter of 1994 was substantially more than it was predicted by the government at the beginning of the year. The nearest future will show whether the government will make U-turn in its policy once more (with all the devastating consequences) or will manage to cope with these inevitable problems.

5. Conclusions

The hyperinflation in Ukraine in 1992-1993 had the same origins as the inflations in all other post-communist countries that started the process of transition towards the market economy. The scale of the initial distortions of the Ukrainian economy and of the external shocks multiplied by the mismanagement of the Ukrainian government and central bank, helped to transform the inflation into the real hyperinflation that started (according to the commonly accepted definition as that with inflation rate exceeding 50 per cent per month) in the second half of 1993. In 1994 the government was successful in reducing the inflation rate, but there is not enough credibility that such policies will be sustained over time.

The experience from other episodes with high inflation in the last century gives a set of remedies composing a coherent stabilization programme. However, its successful implementation needs not only firm commitment of the Ukrainian government and central bank, but also a substantial foreign aid and cooperation with other successor states of the former Soviet Union.

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