PRICE CONTROLS AND INFLATION IN BULGARIA, 1991 – 1992

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I. PRICE CONTROLS

The IMF-supported stabilization programme in Bulgaria was launched on the background of mounting internal imbalances at the macrolevel, a substantial loss of traditional export markets, and a severe cutback in voluntary foreign financing in the wake of the 1990 moratorium on foreign debt amortisation and interest payments. Its key ingredients were the fiscal, monetary and incomes policies, the currency regime liberalization, and the price reform.

The price-reform approach of the Bulgarian government centered on the one-time liberalization of most price categories in February 1991. Only a limited number of essential goods prices remained under control. Over a period of nearly two years price controls were subject to constant adjustment in view of narrowing their scope.

The present paper aims at analysing the nature of price controls and inflation processes in Bulgaria since the onset of the reform, viz. over a period of nearly two years.

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The 1990 measures for creating a system of market prices proved too weak and the greater part of goods and services (accounting for 2/3 of the retail sale turnover) remained subject to direct price controls. Notwithstanding the high year-end inflation rate (64%), the Bulgarian economy disclosed a powerful residual inflationary potential. Therefore the government was forced to carry out a radical price liberalization as an intrinsic part of the overall stabilization effort. Though to a different degree, the liberalization measures affected all goods and services prices. Only within a month’s time the average price level jumped more than 2.2-fold, recording a considerably larger increase than expected*.

The prices of a small number of essential goods, raw materials of strategic importance, and certain energy products stayed within set limits which, however, were lifted in turns as projected in the stabilization programme. Price liberalization entailed a price system which included several categories of prices depending on the severity of price growth controls:

* About 3-fold annual increase in 1991.
1. Fixed Prices. These are fully controlled prices introduced on February 1, 1991, covering four categories of goods: electricity, heating, gas and coal. Petrol products were added to the list soon afterwards, only to be taken out of it in June 1991. Since then fixed prices have been applying only to electricity, heating and coal, and from May 1992 onwards - to compressed slack as well. By June 1991 their share in the 1990 retail sale turnover amounted to about 9% and then dropped down to 2.5%.

Compared to previous levels, the growth in fixed prices has been differentiated viz-a-viz the actual consumers. As a result of the two price adjustments in February and June 1991, the prices of electricity and heating for industrial purposes stepped up by 786% and 1459%, and those for households - by 646% and 750% respectively. The wholesale price of coal went up by 2322% and its retail price rose by 1175% in the same period. The June growth rate of all categories of fixed prices amounted to 70% against the February level. The price adjustment in May 1992 only raised the level of electricity and heating prices by 35%, and the level of coal prices for industrial purposes and for households - by 25% and 35% respectively.

The prices of donor blood, serums, vaccines and bio-products for humane purposes are fixed by the Ministry of Health and the National Commission on Prices by 1 September of the current year and are effective in the subsequent year.

2. Prices of State-Monopoly Services. The prices in some key state-run service sectors like railway transport, postal services and telecommunications, are also subject to direct government regulation. Compared to the overall inflation level, the administratively-set prices of these services remain fixed and stable for relatively long periods of time. In the short term they function as an anchor to the overall price growth. With time, however, the enterprises providing such services form a growing balance-sheet deficit which pushes the budget deficit up. The relative weight of this price category, gauged by its share in the 1990 retail sale turnover, amounted to 2% (including 0.9% in railway transport plus 1.2% in postal services).

In 1991 railway transport prices underwent two basic adjustments. The first one, in February 1991, resulted in a 4.8-fold increase in their level (such a sharp rise was common for all the other previously subsidized prices like energy prices). The second one was effected in July-August 1991, the
bimonthly increase amounting to 31%. As to postal service prices, the first-quarter adjustments led to a 386% rise against their December 1990 level. Since then the prices in railway transport remained unchanged until September 1992, while postal service prices went up by 262% in May 1992.

3. Limit Prices. They were introduced in June 1991 as the next step in the liberalization of oil product (petrol, diesel fuel and gas oil) and carbohydrate liquid gas prices. Limit prices serve as a ceiling for traders in fixing the contractual prices. Goods with limit prices comprised about 7% of the 1990 retail sale turnover. Limit prices are set on the basis of average world prices of the corresponding products and the average exchange rate of the national currency. The leva equivalent thus formed is added to the limit profit margin amounting to 8% of turnover costs and profit, excise and customs duties, customs fees and other payments on the import of liquid fuels. As an additional stimulus to the output and import of liquid fuels, the resultant prices are raised by 5%. Initially limit prices of liquid fuels were set on a monthly basis by the National Commission on Prices, and since December 1991 - every 15 days. The two price adjustments in February and June 1991 entailed a rise in the prices (first fixed, and then limit) of these goods, ranging from 369% to 792% for industrial purposes, and from 125% to 343% for households.

4. Forecast Prices. They were introduced in February 1991 as a means of government control over the prices of essential goods and services*. Initially the list of forecast prices included 14 goods and services. Since then their number has been gradually diminishing. In August 1991 passenger transport fares were struck out of the list, and in May 1992 the number of government-controlled goods was reduced to 7. Thus the relative weight of these goods in the 1990 retail sale turnover experienced a gradual decrease, dropping from 12% at the onset of the stabilization effort (re 14 goods) to 6% (re 7 goods). The level of forecast prices set in February 1991 was on the average 5 times higher than the previously administered price levels. By mid-1992 the initially set forecast prices had undergone three adjustments in June and August 1991, and in May 1992.

*Mostly staple food (flour, meat: veal, pork and lamb, fowls, milk and yogurt, cheese, meat and milk products, sunflower oil, sugar, pasta), fees for intercity coach and railway transport and bus fares for city public transport.
Unlike limit prices, forecast prices can be exceeded. This accounts for their weaker controlling function. The prices of essential goods are subject to control only in case they outgrow the forecast prices set for the respective goods. The instances of selling prices exceeding their forecast equivalent requires that calculated prices observe the normatively stipulated maximum total cost profitability (up to 8%). Revenues resulting from a higher percentage are treated as illegal. There is no limit to price increases provided sufficient evidence is found to substantiate the expenditures declared. Experience has shown that despite the ongoing adjustment of forecast prices, they still fall behind the actual selling prices. For instance, over the period between the two adjustments (August 1991-May 1992), the actual selling prices gradually exceeded the forecasted ones (up to 15% in May), and for the period May 1992-September 1992 - by 18.5%. This indicates that forecast prices are relatively free with no practical restraint to their increase.

5. Minimum Procurement Prices. They serve as the lower limit to the actual contractual prices at which farmers sell their produce to purchasing organizations. Agricultural produce prices began to be regulated in July 1991 when minimum procurement prices were set up for the basic agricultural products: wheat grain, pigs, calves, buffalo-calves, broiler fowl, weaned lambs, and cow milk. The mechanism of their formation allowed for subsidies for adverse production conditions as well as for preference credit terms by commercial banks which, however, were only recommended and not obligatory.

The ensuing unforeseen rise in procurement prices was a potential inflation booster and forced the government to curb it. In August 1991 procurement prices were included in the regime of forecast prices. Given the controls on the retail prices of staple food, the regulation of their profitability was inevitable. The preference credit terms and price subsidies were granted only if trade prices did not outgrow the set forecast procurement prices. The export of wheat and fodder grain was prohibited. Grain was imported and the state reserves were opened in order to guarantee the forecast price of bread.

Some progress was made with the breakdown of monopolies in procurement and processing of agricultural produce as well as the setting-up of one-man trade companies with state interest superseding the former Cereals and Fodder Industry economic association. A special organization for regulating the production, procurement and sale of wheat and fodder
grain began functioning in October 1991, viz. the Grain one-man limited liability company. Its operation mechanism involves interventive procurement prices, bonuses and allowances, providing additional inflow (import included), granting short-term (up to 1 year) low-interest credits, covering the price margins of import wheat and fodder grain etc. Since March 1992 the mechanism has been allowing for short-term credits against a collateral of the 1992 agricultural yield; this provision, however, did not take the form of a government regulation remaining only a recommendation to commercial banks. Being under no formal obligation, the banks shun from granting agricultural credits against such a high-risk collateral. This has impeded and slowed down the granting of credit concessions to farmers.

The recent adjustments of controlled prices in May 1992 reintroduced the minimum procurement prices of agricultural produce (on the average 30% higher than the last forecast level). They, however, do not automatically facilitate their sale. Grain supply is estimated as exceeding the needs of domestic consumption. The Ministry of Finance allocated a temporary financial aid to the one-man trade companies with state interest for the purpose of wheat grain procurement which, however, covered only one-third of the grain yield. The renting of the Grain state fund warehouses would substantially raise the cost of sales, thus making it quite unprofitable for producers to wait for favourable market conditions. The liquidation of the former cooperative farms is another factor influencing the quicker sale of production. The imposed export quotas (a total of 200 000 tones both for flour and fodder grain) further restricted the possibilities for export. They were recently substituted by export fees whose impact is still unclear.

The above analysis indicates that problems are tackled incoherently by separate overdue decrees. The lack of a clearly outlined, comprehensive and stable mechanism for regulating the prices of agricultural produce makes the effect of procurement price fluctuations on the overall inflation level quite unpredictable.

The high prices at the sessions of the commodity exchanges which still trade unrepresentative quantities, are due to the participation exclusively of intermediaries. Nevertheless, prices go up to 1600 leva/ton and rarely reach 1800 leva/ton (the minimum procurement price of wheat grain is 1500 leva/ton) thus remaining below the level of international marker prices. The minimum price of wheat grain at the Chicago Board of Trade dropped from 130 USD/ton in mid-June to 111 USD/ton in mid-August.
6. Fully Liberalized Prices. This category includes all remaining categories of commodity prices. True, for the period March 1991-January 1992 restrictions in the form of a 20% maximum profitability allowed were imposed on their growth. In this respect the government price reform paralleled those in Hungary and Poland. The restrictions having been lifted, the prices of these goods reflect the supply-demand interplay in the marketplace and are subject to direct interfirm negotiation. This price category is continually widening in scope due to the gradual lifting of certain price controls imposed on other commodity categories. Immediately after the price reform launch (February 1991), those goods represented 76% of the 1990 retail sale turnover. Following the liberalization of transport fares in August 1991 the percentage rose to 78% and subsequently reached 84% in the wake of further price liberalization in May 1992. In this way the increase in the share of liberalized prices has paralleled the tendency to slacker price controls within the separate price categories (cf. Fixed Prices; Limit Prices).

The changes in price controls exert a decisive influence on price dynamics and determine to a great extent the inflation trend in 1991 and 1992.

II. THE IMPACT OF PRICE CONTROLS ON INFLATION

The approach to the price reform implementation conditioned the hybrid nature of the price system, i.e. the co-existence of both market and controlled prices. As we pointed out, the structure of the price system is characterized by multi-polarity. Beside the two clear-cut categories, there exist intermediate groups of goods and services where price controls are more relaxed and tend to be indirect (viz. forecast prices).

The gradual move to market prices strongly influenced the rate and trend of inflation. Undoubtedly, the restraints on certain prices temporarily peg the rise in the overall price level. However, the prolonged price growth curbing may have a gravely negative impact on the supply of the respective goods. The existence of controlled prices and their stepwise liberalization sustain the vigour of inflation expectations. In long-term perspective the increase in the market prices share (and the respective decrease in the controlled prices share) would lead to economic stabilization despite the inevitable discrete price shocks in the separate stages of the price liberalization.
As developments in the last two years have indicated, in the months of price liberalization the government-controlled price indices of goods and services are higher than the overall retail price index (RPI). In the subsequent months they lagged behind until the next adjustment, thus professing a cyclic movement of development.

Relative Retail Prices of Commodities and Services

The separate categories of controlled prices have exerted different influence on the overall level of inflation, depending on their individual indices and their weight within the overall RPI.

Relative Prices of Electricity and Thermal Energy
Following the initial price liberalization, the adjustments in the fixed prices of electricity and heating over the period April 1991-September 1992 amounted to 2.78 percentage points out of the overall price growth (140.8%). In June and July 1991, and in May 1992 they accounted for 0.5, 0.8 and 0.73 percentage points of the retail price growth (7.37%, 9.78% and 10.94% respectively). Since the onset of liberalization about 7-8% of the overall monthly rate of inflation has been directly influenced by fixed price adjustments. Naturally, the latter relate only to the immediate impact of price growth. Their indirect impact, which is much more difficult to gauge, is much stronger due to the higher electricity and heating prices having been calculated in commodity prices.

![Graph showing Relative Prices of Railway Transport and Communications](image)

When comparing the prices of electricity and heating to fees for state-run services, the latter prove to have exerted a greater impact on the overall price level rise, amounting to 3.58 percentage points for the period under survey. Their 1992 growth has been much more significant due to the rise in postal service prices. In May 1992 about one-third (3.22 percentage points) of the overall price growth has been due to the same reason. Therefore, given the equal percentage growth in energy prices in July 1991 and May 1992, the latter exhibited a sharper rise in the overall price level.
Goods with fixed prices as well as the state-monopoly services remain potential sources of inflation. The need to make regular adjustments with a discrete inflationary effect is inevitable in case subsidizing continues and the concurrent prices fall short of production costs.

Relative Prices of Fuels

The post-June 1991 dynamics of the petrol and diesel fuel limit prices virtually reflected the fluctuations in world prices and the lev exchange rate. Their significant weight in the retail trade turnover presupposed the substantial immediate impact of their increase. In the period under survey it amounted to 4.48 percentage points. In June and July 1991, when petrol and diesel fuel prices recorded a maximum rise, and accounted for over one-fifth of the overall price growth.

In June-July 1991 and May 1992 the overall impact of fixed and limit railway and postal services and telecommunication prices amounted to 30%, 33% and 38% of the monthly growth rate of all retail prices. The above periods saw a substantial increase in the overall price level. During the remaining periods controlled prices lagged behind the overall price growth level and deterred inflation.

In the entire period following the liberalization of prices, the sum-total share of the three controlled-price categories in the overall inflation level (140.79%) amounted to 10.8 percentage points. For the April-December 1991 period it amounted to 5.39 percentage points
(inflation rate: 56.24%), and for the first nine months of 1992 - to 4.57 percentage points (retail price growth rate: 54.11%). One should not forget that this minor share (8-9% of the overall price growth rate) reflects only the direct impact on overall inflation. As it was pointed out, this has had a multiplying effect to the costs and prices of manufactured goods, and markedly influenced the overall inflation level.

We can draw the conclusion that during the period of price liberalization controlled prices largely outstripped the overall price level in growth and accounted for over one-third of the monthly inflation rate. Conversely, over a longer period their contribution to the inflation rate is negligible.

III. RELATIVE PRICES AND INFLATION SCOPE
IN 1991 AND 1992

The most common practices of gauging the scope and dynamics of inflation processes rest on the consumer price (CPI) and retail price (RPI) indexes. They have been assessed since May 1990 on the basis of a total of 1400 goods and services, using similar methods of calculation. The RPI indexes across various categories of goods and services play a key role in the assessment of the overall RPI and CPI. The overall RPI gauges the change in the retail prices of goods and services weighted by the turnover of the respective goods and services. The overall CPI is assessed on the basis of the retail price indexes of 11 categories of goods and services*, weighted by the structure of household expenditures.

It is customary for the increase in consumer prices to be identified with the level of inflation. In a number of cases, the RPI’s practical import is quite substantial. Its estimated value served as one of the coefficients in the quarterly wage bill revisions by mid-1992, while its projected value will be used as a coefficient of adjustment by the end of 1992.

The similarity between the calculation methods of RPI and CPI has led to close levels and trends of retail and consumer prices. The existing deviations arise mainly from the different weight of food and

*Including foodstuffs, spirits, cigarettes, clothes and shoes, housing, heating, electricity, interior decoration, leisure and public activities, personal hygiene and health, postal and transport services, taxes and fees, and other.
non-food items within the overall price indices. The CPI dynamics has been mostly influenced by the changing food price levels whose weight in the CPI amounts to about 47%. They, however, account for just 24.6% of the retail trade turnover which is used as weights in assessing the RPI. Amounting to 58% of the overall goods and services turnover in 1990, it is the non-food item prices that fundamentally affect the RPI. Consequently, the CPI surpasses the RPI when food prices grow faster than all remaining price categories. As a result, the CPI recorded higher values than the RPI in February, August and December 1991, and in March and May 1992.

For the period January 1991-September 1992 the overall price level rose more than 8.5-fold. The price dynamics was largely determined by the stages in the price liberalization. The start-of-1991 price shock entailed a 235.5% consumer price increase in February and March 1991, and a 226.6% increase in retail prices. The second discrete inflation impulse was generated in the summer of 1991 as a result of the changes in the price regime. Prices grew by 23.4% over a period of three months. Adjusting for the period of the price shock, the average monthly increase in consumer prices from April through December 1991 amounted to 4.65%. The third price shock generated by the liberalization of the price regime occurred in May 1992 when prices rose by 11.9%. For the first nine months of 1992 consumer prices recorded an average growth
rate of 4.7%, viz. the high level of inflation in 1991 has persisted throughout the subsequent year. Adjusting for all price shocks (in February, March, July and August 1991, and in May 1992), the average monthly rate of inflation verges on 3.8%.

![Rates of Inflation](chart)

(quarterly indexes at annual rate)

After the initial price liberalization inflation processes enfolded unevenly. The retail prices of goods and services in the second quarter of 1991 grew at an annual rate of 68.5%, while in the same period in 1992 they recorded a 115.3% increase. Inflation followed the opposite trend: in July-September 1991 it reached a considerably higher level (108% on an annual basis) as compared to the same period in 1992 (44.76%). The uneven trend of the overall price level contributed to sustaining the high inflation expectations of economic agents which in turn had a negative impact on actual inflation.

Liberalization aimed at creating conditions for the necessary changes in the structure of relative prices. That is why throughout the surveyed period good and service prices diverged in their respective dynamics and had a different impact on the trend of the overall RPI. This brought about significant changes in the structure of relative prices as well.
Retail price indexes

Overall: Goods and services
Food and beverage
Non-food items
Services

Source: NSI

Contribution of Commodities and Services to the Overall Growth of RPI

Source: UN, ILO
At the beginning of 1991 there was a sharp and steep rise in food prices, amounting to 185.6% only in February. Their dynamics transcended the average price increase only in a few months of the surveyed period. In February and August 1991, however, food prices increased well above the average. In 1991 they grew up at an average annual rate of 375.8% - 41.6 percentage points above the average growth level. However, if the initial price adjustment after March 1991 is disregarded, food prices would lag far behind the average increase. By September 1991 they recorded a 195.7% rise against an average level of growth by 240.8%.

A considerable diversity has been observed within the foodstuffs category, too. For the period February 1991-September 1992 the prices of some essential categories of foodstuffs like bread and bread products, meat products, butter, milk, cheese, and baby food rose over 9-fold against an average food price increase of 684.4%. These products account for about one-third of the foodstuffs turnover.

The prices of non-food items have been determining the retail price dynamics. In most cases the chain indices of non-food item prices have recorded slightly higher values than the overall RPI. The largest rift occurred in June and July 1991 when petrol and diesel fuel prices, accounting for about 10% of the non-food retail turnover, were liberalized. Until October 1992 their increase had been lower than the overall rise in non-food prices. With February 1991 = 100, the price index of petrol fuel amounted to 367%, of diesel fuel - to 475%, and the overall price index of non-food items - to 714%. During the months of highest inflation rate (February, August 1991, and May 1992) non-food prices lagged behind the average price growth rate. In 1991 they jumped by 292.6%, i.e. by 51 percentage points less than the overall price level. Adjusting for the price shock effects, non-food prices surpass the overall price level in growth (the respective indices being 253.4 and 240.8).

Since the start of the price reform, service prices have recorded the largest increase, viz. by 815.6%. At the time of the initial price shock (February-March 1991) the adjustment of service retail prices (as well as of food prices) resulted in growth rates higher than the average. Their largest increase was observed in June and July 1991 (by 7.5% and 9%), and in May-June 1992 (by 28.5% and 6.5%). The peaks were largely due to the higher fixed price levels of electricity and heating.
By October 1992 the highest price growth rate was observed in air transport (13.2-fold), heating (11.7-fold) electricity (9.3-fold), communication services (13.2-fold). They accounted for 27.6% of the overall value of services. Even disregarding February and March 1991, service prices record a higher growth rate than the average (the respective indices being 263.9 and 240.8).

The liberalization of prices entailed certain changes in the structure of relative producer prices in industry. The largest increase was observed in extraction industry prices (viz. in electricity and heating, mining, oil and gas extraction) which previously had been heavily subsidized and thus maintained at a low level. Due to the cutback in subsidies and the regular price adjustments, price growth in these industrial branches was well above the average. For the first four months of 1992 (as compared to the same period in 1991) the group index in the extraction industry recorded a 20% increase than the average producer price index. The juxtaposition reflects only the first discrete price shock in February. The comparison between the first seven months of 1992 and the same period in 1992 encompasses the remaining price shocks in June 1991 and May 1992, bringing the ratio up to 25%.
Simultaneously, price growth in processing industry branches (viz. mechanical and electric engineering, electronics, chemical industry*) and in light industry lagged behind the average growth rate of producer prices in industry.

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Based on the price dynamics of 80 good and service categories, two indicators measuring the scope of inflation have been calculated, viz. the diffusion index and the dispersion of prices.

The diffusion index indicates the expansion of inflation processes. It measures the share of goods and services whose prices have increased during the month. Ever since June 1991 there has been a steady rise in over 70% of commodity prices. This is indicative of a wide inflation scope. The overall diffusion index has been manifesting an upward trend despite considerable fluctuations.

By means of the diffusion index we can establish whether the overall price growth is due to a price shock within a limited number of goods or is a result of some general commodity price rises. For instance, in April 1991 inflation scope amounted to 58%, and in March 1992 it rose to 78%, while price growth for both months was on the same level - 3.5%. This is due to the

*Including its sub-sectors: industry of building materials, logging and manufacture of wood and wood products, pulp and paper industry, glass, china and earthenware industry.*
different contribution of the diffusion index elements, viz. prices increasing up to 3%, and those increasing above 3%. As the figure shows, the highly-inflationary elements (goods with prices increasing above 3%) have been determining the overall diffusion index for the last two years. That is why the average price growth rate amounts to 3% even with price shock adjustment.

The general trends in the level, dynamics and structure of the diffusion index show that inflation processes in economy have persisted despite a certain improvement in the four preceding months of the current year.

Average Quarterly RPI* and Standard Deviation of its Components

The dispersion of prices indicates the average deviation of the relative prices of 80 commodity and service categories from the overall RPI. The effect of the uneven price growth in separate commodity and service categories on households differs along the incomes line and hence, along the structure of expenditures line, leading to income redistribution.

The analysis shows that the development of inflation processes throughout the surveyed period (January 1991-September 1992) was characterized by a relatively high positive correlation between the level of inflation and the dispersion* of the separate price indexes around the average ($r^2 = 63.6\%$). If we limit the period to March 1991-September 1992, the correlation becomes still higher ($r^2 = 92.5\%$). The ongoing intensive changes in the price dynamics of various goods and services indicates that a stable structure of relative prices has not been attained yet.

*The dispersion is measured by the coefficient of variation of the mean square deviation.
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