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Inflation Dynamics in Kazakhstan

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Abstract

In January 1992, Kazakhstan initiated a reform program to move toward market-determined prices. The price liberalization process was characterized by large relative price shifts and an increase in the overall price level toward those observed in market economies. The paper shows how the piecemeal manner in which prices were liberalized resulted in strong relative price variability over a prolonged period of time, against a background of high inflation. Convergence toward international relative and absolute price levels has progressed but is not complete, with prices for energy and services in particular still below market economy level.

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### Summary

With the breakdown of the Soviet Union in late 1991, newly independent Kazakhstan inherited a still largely administered price system. A major price liberalization effort in January 1992 initiated a reform program to move toward market-determined prices. The price liberalization process continued until late 1994, and resulted in strong shifts in relative prices and an increase in the overall price level toward levels in market economies. The liberalization took place against a background of macroeconomic instability and double-digit inflation.

This paper offers a detailed analysis of the price structure and price level dynamics in Kazakhstan during the transition period, and shows the extent to which relative prices have changed and how fast they have converged to market economy levels. The paper highlights the different phases of the stabilization and price liberalization process in Kazakhstan, examines the long-run realignment of domestic relative prices, discusses the dynamics of the realignment of consumer and producer prices across regions and alternative distribution channels, and offers a measure of the movement of the overall price level in Kazakhstan toward levels in neighboring countries.

The paper highlights three characteristics of the price liberalization and convergence process in Kazakhstan. First, the decontrol of prices has been piecemeal, with an initial period of rapid progress followed by phases of stagnation and even reversal. As a result, the realignment of prices was spread out in time and relative price variability remained high over a prolonged period. Second, price liberalization and convergence and macro-stabilization were interrelated. Price reform and convergence progressed only in periods of tight fiscal and monetary policies and macroeconomic stabilization. Third, the process of price liberalization and convergence is not yet complete. Prices of energy products and of many mainly energy-based services are still below the levels in comparable market economies, notwithstanding sharp increases in relative domestic terms.

## I. Introduction

With the breakdown of the Soviet Union in late 1991, newly independent Kazakhstan inherited a still largely administered price system. Soon afterwards, the country initiated a reform program to move towards market-determined prices. The price liberalization was characterized by strong shifts in relative prices and an increase in the overall price level towards levels in market economies, against a background of macroeconomic instability and high inflation. This paper offers a detailed analysis of the price structure and price level dynamics in Kazakhstan in the 1991 to mid-1995 period, and highlights the piecemeal manner of the price liberalization and the interaction between stabilization and price reform efforts.<sup>1</sup> The paper is organized as follows. After a section which describes the different phases of the stabilization and price liberalization process, a statistical study of both the long-run and short-run dynamics of prices is presented. A price level comparison to Russia and the Kyrgyz Republic concludes the analysis.

## II. Background<sup>2</sup>

The ambitious dismantling of price controls that began in January 1992 in Kazakhstan resulted in a large price jump followed by high inflation. (Chart 1). Monthly inflation--which peaked at 55 percent in November 1993, and remained solidly in the double digit range until early 1995--was driven by a number of inter-related factors. In contrast to some of the other transition countries, price liberalization in Kazakhstan was conducted in a piecemeal manner in that prices for various goods were freed sequentially rather than all at once. Administered prices were changed frequently and by substantial magnitudes, and the policies governing these changes were often revised. Moreover, failures to maintain tight monetary and credit policies fueled inflation. The sources of inflation in Kazakhstan, however, were not only domestic. The Russian ruble was the sole legal tender in Kazakhstan until November 1993 when the Kazak tenge was introduced. As a result, Russia's failures to maintain monetary discipline during the first two years of the transition played a key role in fueling Kazak inflation. With the introduction of the tenge, the National Bank of Kazakhstan was ultimately able to implement on a sustained basis tight monetary policies, resulting in a declining rate of monthly inflation since late 1994. A more detailed description of Kazakhstan's route to free prices and relatively low monthly inflation is contained in the following sections.

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<sup>1</sup>The analysis has been facilitated by the technical assistance work from the Fund Statistics Department to bring Kazakhstan's price statistics up to international standards. For a more detailed discussion of data related problems see Koen (1995) and Zieschang (1995).

<sup>2</sup>For a more detailed discussion of the factors contributing to inflation in Kazakhstan, see IMF (1995), IMF (1993), and IMF (1992).

1. Pre-1991

Before 1991, most prices in the Soviet Union were set according to official price lists. In Kazakhstan, the vast majority of prices for consumer goods and services were set administratively, mainly at the Union level. Only such items as wool, shoes, ready-made clothing, and national costumes had prices set at the republic or oblast level. Because adjustments to administered prices were limited and infrequent, retail price inflation remained quite low throughout the 1980s. The retail price index, for example, increased at an average annual rate of only 1.4 percent over the period 1980-90.

With most prices controlled, monetary and inflationary developments were largely disconnected from one another. Monetary policy was conducted at the Union level so as to achieve the quantitative targets of the central plan without regard for inflationary consequences.<sup>1</sup> The price controls effectively contained inflationary pressures--which were building up because of the continued monetization of enterprise deficits--but resulted in shortages and rationing, forced saving, and expansion of black market transactions. As illustrated in Section IV, black market prices could be three to four times higher than official prices.

2. Price reforms in the Soviet Union, 1991

As in the other republics of the Soviet Union, price reform in Kazakhstan began in early 1991 with partial price liberalizations and sharp increases in administered prices.<sup>2</sup> At the retail level, fixed prices were maintained for a majority of consumer goods other than food, which were still mainly set at the Union level, and for most agricultural consumer goods. For other consumer goods, free or regulated prices (prices subject to a maximum profit margin or to an upper limit) were introduced. The partial price liberalization brought about a large discrete increase in retail prices of around 83 percent. Soon after the price reforms were implemented, the growth rate of monetary and credit aggregates started to increase and by the end of 1991, currency in circulation and credit had doubled. With a majority of prices still administratively set, however, and in the absence of further major price adjustments, open inflation remained relatively subdued during the rest of 1991.

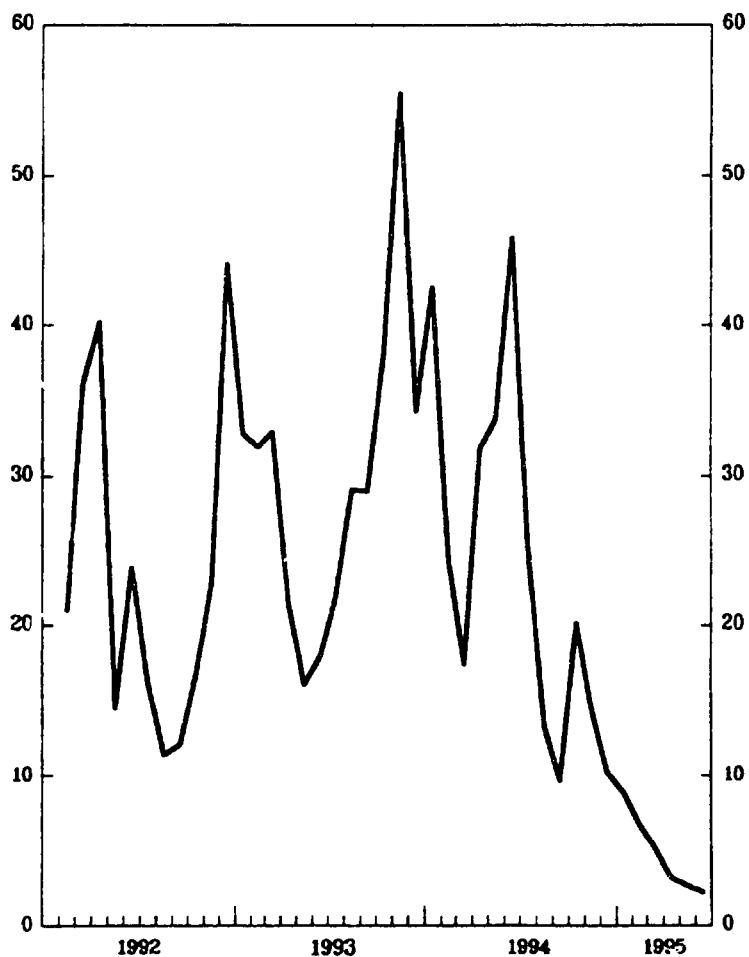
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<sup>1</sup>Targets for total credit growth in each of the republics, including Kazakhstan, were decided at the central level, and the National Bank of Kazakhstan was a branch of the Union State Bank (Gosbank).

<sup>2</sup>Price reform at the producer level was introduced in January 1991, and at the retail level in April 1991. The impact of these price reforms can be seen in the inflation numbers for the corresponding months in Appendix Tables A1 (consumer prices) and A4 (producer prices).

**Chart 1. Kazakhstan: Monthly CPI Inflation,  
February 1992 - June 1995<sup>1</sup>**

*(Percent change)*



Source: Goskomstat.

<sup>1</sup>Inflation in January 1992 was measured to be 212 percent.

3. Price liberalization and tight monetary policy. first half of 1992

Following the break up of the Soviet Union, Kazakstan launched a price liberalization program on January 6, 1992 in which prices for all but a limited list of goods and services were freed. At the producer level, prices for energy products, transportation, and communications remained controlled, although they were increased three- to tenfold. At the retail level, prices of basic food items (bread and flour, dairy products, salt, sugar, vegetable oil, alcoholic beverages),<sup>1</sup> energy products, rents, utilities, and passenger transportation remained controlled. With the exception of rents, these prices were increased three- to fivefold; the smallest increases were applied to food products, diesel and gasoline, and utilities, while larger increases affected coal, fuel oil, and gas. About two-thirds of the 110 percent increase in the retail price index in January 1992 can be attributed to this increase in controlled prices.

As these price reforms were introduced, the National Bank of Kazakstan, and the Central Bank of Russia implemented relatively tight monetary policies during the first half of 1992 to limit the inflationary consequences of the price adjustments. In addition, legislation was introduced to ensure that prices set by monopolies did not result in excess profits;<sup>2</sup> the minimum wage was increased; and cash benefits for the most vulnerable population groups were increased.

The tight monetary policy kept inflation in check, and by May 1992, monthly inflation at the retail level had declined to less than 15 percent. Throughout this period of disinflation, the price reform process continued. First, administered energy prices were sharply raised--a six- to sevenfold increase for coal, oil, and oil products and an up to twentyfold increase for gas and gas products--to bring them more in line with world market levels.<sup>3</sup> Second, prices were further liberalized in a piecemeal fashion: prices for most transportation services other than by railway were freed in

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<sup>1</sup>The January 6 price liberalization maintained administered prices for only a limited number of bread and dairy products. A week later, the Kazak government partially rolled back the liberalization, bringing most bread and dairy products under regulation.

<sup>2</sup>The January 1992 decree on price liberalization, and an additional April 1992 decree, envisaged the introduction of legislation regulating monopoly pricing. The legislation, which was introduced in September 1992, identified many products produced by monopolists and instructed an Anti-Monopoly Committee to verify that prices did not result in excessive profits. For a more limited range of products, additional controls could be introduced at the regional level. Enterprises were classified as monopolies if their market share amounted to 35 percent or more of either the national or the regional market. A large proportion of the Kazak enterprises were subject to Anti-Monopoly controls, mostly at the regional level.

<sup>3</sup>The price for electricity provided to consumers, however, was not changed.



March; prices for alcoholic beverages in May; and, finally, prices for dairy products, sugar, salt, vegetable oil, and matches in July 1992. Retail prices remained regulated at the national level for bread, flour and bakery products, baby food, some energy products (including gasoline, diesel fuel, lighting kerosene, and electricity), and some communications and transportation services; while rents and related charges (heating, water, etc.) and local transportation fees were set by regional authorities. In addition, fees for some health care related services were set administratively; these fees were sharply adjusted in September 1992.

4. Inflation rises and price liberalization stalls, second half of 1992

In the second half of 1992, however, the Central Bank of Russia had relaxed monetary and credit policies, and inflation started to pick up. Average monthly inflation increased to more than 25 percent in the September 1992-September 1993 period. Progress in the area of price liberalization stalled with only marginal reductions in the list of price controlled items.<sup>1</sup> Administered prices were, however, adjusted in successive rounds, so as to avoid their erosion in real terms in the context of high inflation. Prices for energy products and energy-based services were raised in November 1992 and in January and August 1993, with each time a two- to threefold increase. In both September 1992 and September 1993, bread prices were increased fivefold. Despite these large adjustments, however, by the end of September 1993 regulated prices of most energy products and of bread had not returned to their January 1992 level in real terms.

5. Currency reform turmoil and reintroduction of price controls, 1993

The decision of the Central Bank of Russia to recall all pre-1993 Russian ruble notes circulating in Russia at the end of July 1993 effectively separated the Kazak and Russian currency systems. Kazakhstan was left without a national currency. After attempts to establish a new monetary union with Russia failed, Kazakhstan introduced its own national currency, the tenge, on November 15, 1993. Inflation accelerated in the months prior to the currency reform, fueled by high rates of credit growth, an influx of ruble notes from other states where pre-July 1993 rubles were still circulating, and speculation in anticipation of a change in currency arrangement.

Accompanying the November 15 currency reform were some adjustments to the remaining administered prices.<sup>2</sup> Prices for energy products increased on average twofold, while prices for bread and for utilities were raised up to four times. At the same time, price controls and temporary profit margin

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<sup>1</sup>Prices for some medical products and services were liberalized in the last quarter of 1992.

<sup>2</sup>Increases in administered prices, however, account for only about one tenth of the sharp increases in late 1993 and early 1994.

regulations were introduced on some additional basic consumer products (dairy products, salt, sugar, vegetable oil, eggs, meat, and laundry soap);<sup>1</sup> these additional price controls were lifted in early January 1994.

6. Free prices and low inflation, 1994-95

An initial effort to arrest inflation following the introduction of the tenge failed when the National Bank of Kazakhstan provided financing to clear domestic interenterprise arrears in March 1994. The credits enabled enterprises to purchase foreign currency; as a result, the value of the tenge fell sharply. An inflation-exchange rate depreciation cycle ensued, with monthly inflation reaching 46 percent in June 1994.

In the aftermath of this policy failure, however, the National Bank of Kazakhstan initiated and sustained relatively tight monetary and credit policies. Interest rates became positive in real terms, and the rate of depreciation of the tenge slowed. A trend decline in inflation soon became apparent, with the monthly increase in the CPI declining from more than 10 percent at the end of 1994, to about 5 percent at the end of the first quarter of 1995, and to less than 3 percent at the end of the second quarter (Chart 1).

During this period of stabilization, and for the first time since mid-1992, new measures to reduce the scope of price controls were also introduced on a gradual basis starting from the second quarter of 1994. After April 1994, prices for crude oil and oil products were set by producers, subject to fixed maximum profit margins.<sup>2</sup> These margins were abolished in December 1994, thereby freeing prices completely.<sup>3</sup> In addition, administered prices for energy products other than coal and oil and communication and transportation fees were increased in May 1994; prices for bread, bakery products, and flour were first administratively adjusted in July and then fully liberalized in October 1994. By the end of 1994, the only prices administered at the national level were producer prices for electricity, natural gas, and thermal energy; and consumer prices for gas, electricity, and telephone services. These prices, with the exception of gas and electricity prices at the producer level,<sup>4</sup> were not adjusted in the October 1994-June 1995 period. Rents, utilities fees (heating, water), and local transportation fares are still set administratively at the regional (oblast) level, with regular adjustments to reflect cost increases. In many

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<sup>1</sup>As noted previously, prices for most of these products had been liberalized in the second wave of the 1992 price reforms.

<sup>2</sup>A similar system of price setting whereby producers were subject to a maximum profit margin was introduced for coal in May 1994.

<sup>3</sup>More general profit margin controls in the oil sector, based upon the Anti-Monopoly legislation, were eliminated in the second quarter of 1995.

<sup>4</sup>In the first half of 1995, electricity prices at the producer level were reduced, so as to give customers an incentive to pay off arrears to suppliers.

instances, however, regional authorities delay adjustments and then increase prices by large and uncoordinated amounts.<sup>1</sup>

### III. Long-Run Trends

The piecemeal nature of Kazakhstan's price liberalization and the frequent adjustments to administered prices have resulted in dramatic and repeated shifts in the structure of relative prices in Kazakhstan during the transition to a market economy. Overall, prices of goods initially increased more rapidly than prices of household services such as rent, water, and electricity (Chart 2).<sup>2</sup> However, by late 1992, prices of services began to increase more rapidly. This disparity in price increases is starkly apparent across individual goods and services on an annual as well as a cumulative basis over the period of transition.<sup>3</sup> For example, during 1990-94 goods prices overall increased by a factor of 5,450 but the price of detergent increased by a factor of 21,155, whereas the price of wool fabrics increased by only a factor of 1,703. Similarly, prices of services increased overall by a factor of 10,815 with the price of laundry services increasing by a factor of 60,631, and the price of savings bank services by only 18.

Examining the behavior of administered prices provides additional perspective on how relative prices have shifted during the period of transition. The behavior of two administered prices is illustrated in Chart 3, showing the evolution of the price of bread and household electricity since December 1991.<sup>4</sup> Nominal prices have been adjusted by the Kazak government on an infrequent basis but by large amounts, accounting for the observed "saw-tooth" pattern characterizing real price developments. The increase in cost-recovery ratios for household electricity in mid-1994 and the elimination of most subsidies for bread in late 1994 translated into large and permanent upward adjustments in their relative price levels.

Although examples of individual commodities provide vivid illustrations of the range of relative price movements, they do not convey a sense of the extent of the overall movement in the price structure. One measure of the overall magnitude of relative price shifts that have occurred since 1991, is the correlation between price structures over time. As free prices adjust to market forces, and other controlled prices are adjusted, the correlation

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<sup>1</sup>During the first six months of 1995, prices were raised more than fourteenfold for housing, more than sixfold for water and tenfold for heating in the region with the highest price adjustment, while they were kept constant or even lowered in at least one other region.

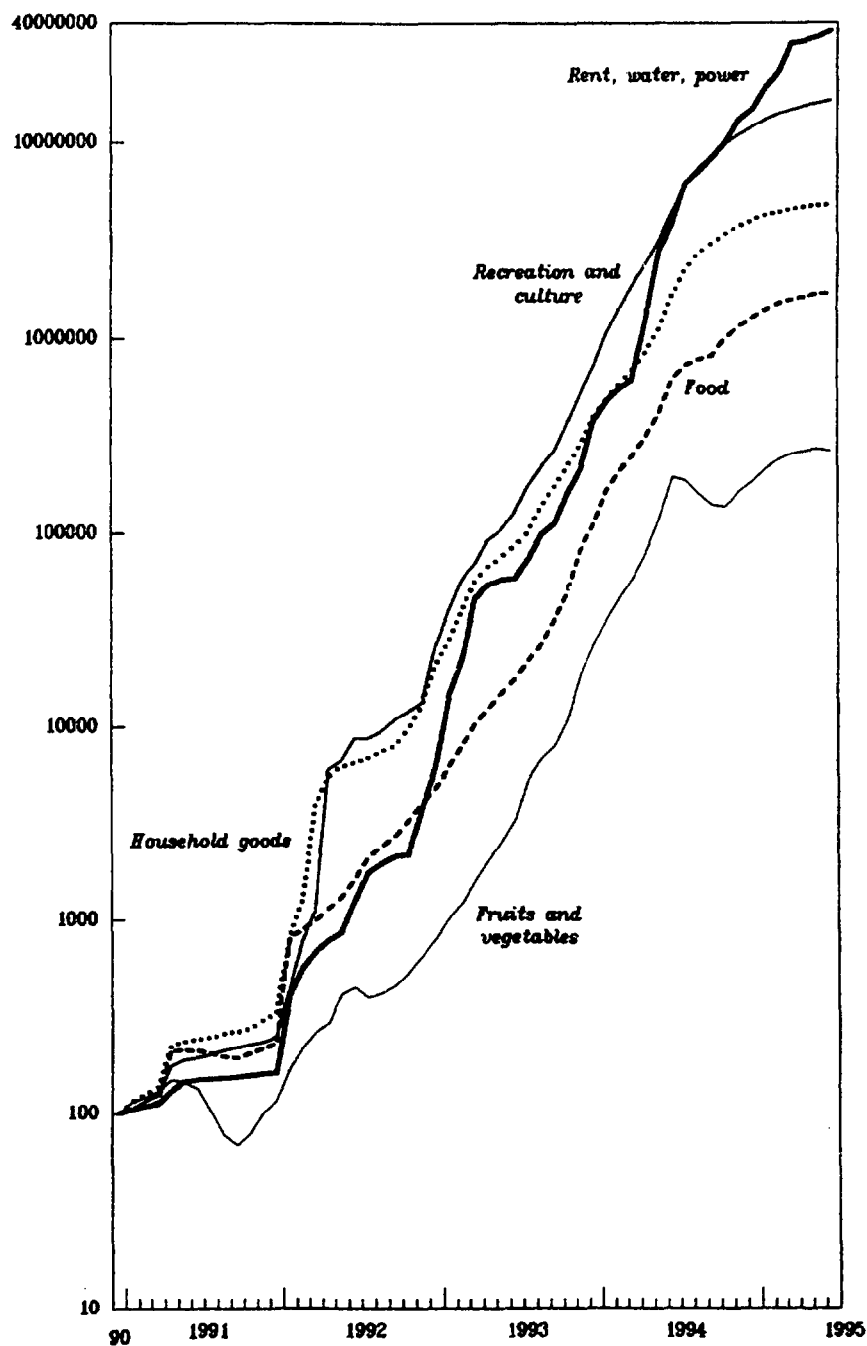
<sup>2</sup>The underlying data for Chart 2 as well as data on other food and non-food groupings are contained in Table A1 of the Statistical Appendix.

<sup>3</sup>See Table A2 in the Statistical Appendix for data on annual and cumulative inflation rates for various goods and services.

<sup>4</sup>Similar patterns exist for other administered prices.

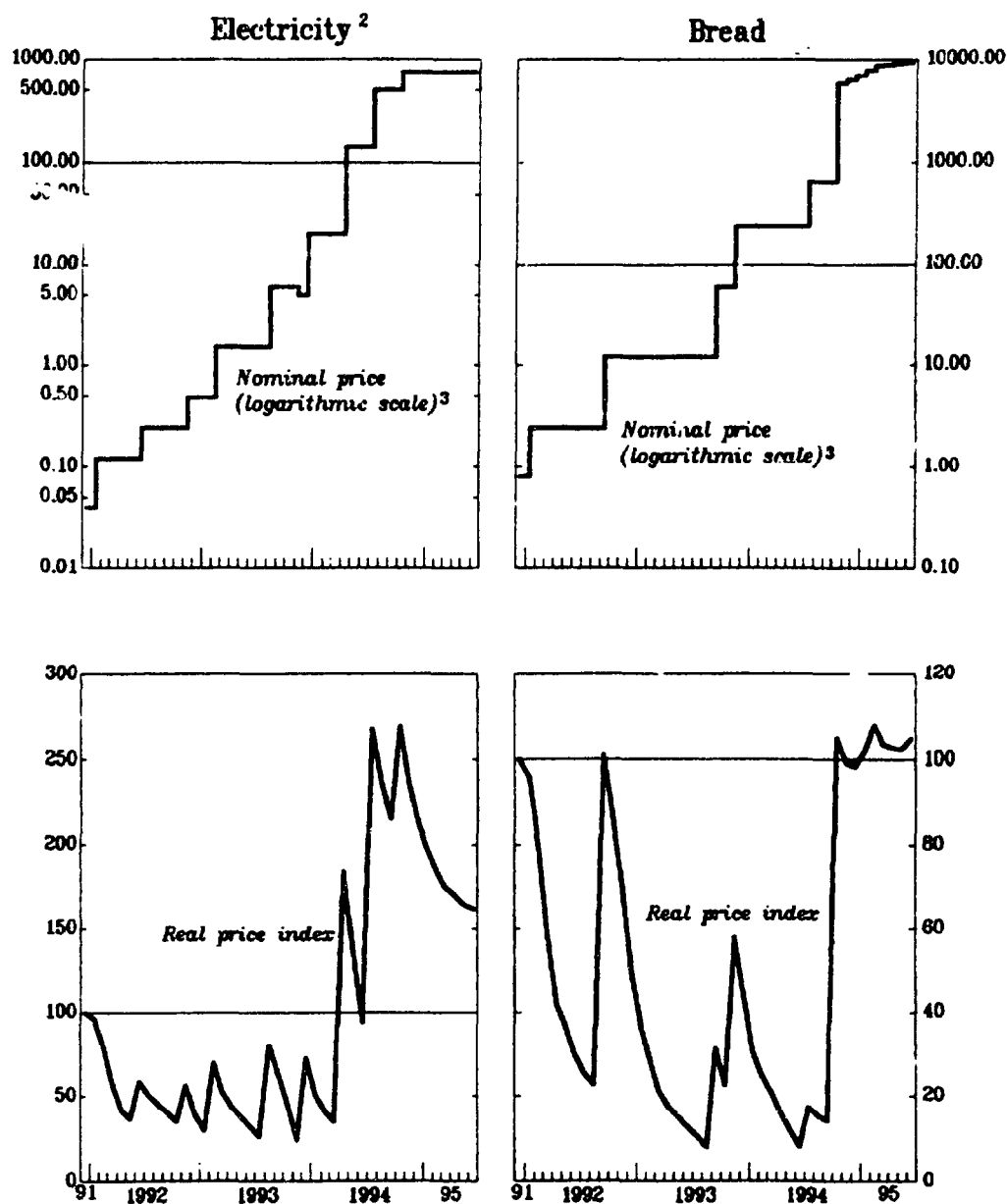
**Chart 2. Kazakhstan: Price Levels,  
December 1990 - June 1995**

(December 1990 = 100; Logarithmic scale)



Source: Goskomstat; and authors' calculations.

**Chart 3. Kazakhstan: Nominal and Real Price of Electricity and Bread, December 1991 - June 1995<sup>1</sup>**



Source: Goskomstat.

<sup>1</sup>Overall CPI is used as a deflator.

<sup>2</sup>Price per Kwh, household rate.

<sup>3</sup>In rubles through November 1993. From December 1993, the price in tenge is multiplied by 500 to express it in the same unit.

with the pre-transition price structure should diminish over time. Cross-period correlations for a set of 79 food prices from January 1991 to January 1995 are presented in the top panel of Table 1. Relative prices changed steadily over this four-year period, reflecting the piecemeal manner in which prices were liberalized in Kazakhstan. In contrast, a similar analysis conducted for Russia indicates that the largest change in relative prices took place in 1992, as a result of the comprehensive price liberalization of January 1992.<sup>1</sup>

To provide some further perspective on the magnitude of the shift in relative prices in Kazakhstan, cross-period correlations for a set of similar U.S. food prices over the period 1990-94 are also presented in the bottom panel of Table 1. For the United States, the correlation in relative price structure remained at 0.99, suggesting that relative prices in a market economy remain relatively constant, and thereby underscores the extent to which relative prices have shifted in Kazakhstan.

It should be noted that these cross-period correlations, as a measure of the shift in relative prices, suffer from two shortcomings. First, the sample includes only food items which behaved relatively differently over time than did non-food goods, particularly services. Second, the sample is small and unweighted and therefore might produce misleading results.

#### IV. The Dynamics of Open Inflation

As prices move toward their equilibrium levels, price increases across goods, sectors, regions, and outlet channels are likely to become more synchronized. The massive shifts in relative prices are no longer necessary and, instead, prices tend to rise in accordance with overall inflation. In this section, an analysis of disaggregated data on the consumer price index, producer price index, and across regions demonstrates that prices in Kazakhstan are, indeed, becoming more synchronized.

##### 1. Consumer price inflation

An alternative way of measuring the changes in relative prices is to examine the behavior of relative price variability and its relationship to the overall rate of inflation. From a theoretical perspective, the relationship between these two variables could be positive, negative, or unstable. Empirical evidence from a number of industrialized, developing, and transition countries has provided conflicting results.<sup>2</sup> Relative price variability can be described as a weighted variance of inflation rates:

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<sup>1</sup>De Masi and Koen (1995).

<sup>2</sup>See for example, Fischer (1982), Blejer (1983), Goel and Ram (1993), Reinsdorf (1994), and De Masi and Koen (1995).

Table 1. Cross-Correlations of Food Prices:  
Kazakstan and the United States

	April 1991	January 1992	February 1992	March 1992	January 1993	January 1994	January 1995
<u>Kazakstan<sup>1</sup></u>							
January 1991	0.95	0.87	0.88	0.86	0.77	0.75	0.64
April 1991	1.00	0.92	0.93	0.92	0.87	0.82	0.76
January 1992	...	1.00	0.99	0.98	0.83	0.83	0.75
February 1992	...	...	1.00	0.99	0.85	0.84	0.76
March 1992	...	...	...	1.00	0.88	0.86	0.77
January 1993	...	...	...	...	1.00	0.88	0.81
January 1994	...	...	...	...	...	1.00	0.86
	July 1991		July 1992		July 1993		July 1994
<u>United States<sup>2</sup></u>							
July 1990		0.99		0.99		0.99	
July 1991		1.00		0.99		0.99	
July 1992		...		1.00		0.99	
July 1993		...		...		1.00	

Sources: For Kazakstan, Goskomstat; and authors' calculations. For the U.S., U.S. Bureau of Labor Statistics, *CPI Monthly Detailed Report*, various issues; and authors' calculations.

<sup>1</sup>Based on sample of 79 food prices.

<sup>2</sup>Based on sample of 56 food prices.

$$V = \sum_{i=1}^n \omega_i \left[ \pi_i - \sum_{i=1}^n \omega_i \pi_i \right]^2 \quad (1)$$

where

$$\sum_{i=1}^n \omega_i = 1,$$

where  $\omega_i$  and  $\pi_i$  denote the weight and monthly percent change in price associated with item  $i$ .

Chart 4 shows this measure of relative consumer price variability for food ( $v^{\text{food}}$ ), nonfood goods ( $v^{\text{nonfood}}$ ) and paid services ( $v^{\text{services}}$ ).<sup>1</sup> The inflation rates shown are weighted averages of the inflation rates of the individual goods in each of these three categories. Several lessons can be drawn from this chart. First, with the exceptions of August and December 1993,<sup>2</sup> relative price variability for food is consistently higher--on average about 40 times higher--than for nonfood goods. This result was also found for Russia, France, and the United States, and perhaps reflects the extent to which seasonal factors are more important for food prices.<sup>3</sup>

Second, relative price variability for services is also consistently higher than for nonfood goods. The sharp spikes in  $v^{\text{services}}$  are typically related to substantial adjustments in administered services prices, and provide indirect evidence of movements in prices towards cost recovery. For example, about 90 percent of the relative price variability of services in January 1993 is attributable to the 452 percent increase in rental prices for housing occurring that month. Similarly, about three-fourths of the increase of  $v^{\text{services}}$  in May 1994 is attributable to the 478 percent increase in water prices. A similar measure of relative price variability

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<sup>1</sup>Using 1992 consumer price index weights,  $v^{\text{food}}$  was based on 38 food categories,  $v^{\text{nonfood}}$  on 15, and  $v^{\text{services}}$  on 10. Altogether these 63 items accounted for about three-fourths of the CPI. Table A3 of the Statistical Appendix contains the price data used in these calculations.

<sup>2</sup>As noted in Section II, in December 1993 price controls had been reintroduced on a number of basic food items. This might explain why in this month the relative price variability of food fell below that of nonfood items.

<sup>3</sup>See De Masi and Koen (1995).



for the United States was constructed to provide a basis for comparison.<sup>1</sup> Even by 1995 when the level of *vservices* in Kazakhstan had fallen significantly, it was still at least 80 times greater than the level in the United States. In the United States, the level of *vservices* is much smaller than *vfood* and *vnonfood*, whereas in Kazakhstan, *vservices* is consistently higher than *vnonfood*, and frequently higher than *vfood*.

Third, by early 1995, *vfood* and *vnonfood* had dropped considerably, suggesting that many of these prices may have moved closer to "equilibrium" levels, and that the massive shifts in relative prices were over. In contrast, *vservices* remains much higher, reflecting the shifts in services prices that are still occurring as prices for various public utilities are brought up to levels which are consistent with cost recovery.

Fourth, there is a strong positive relationship between inflation and relative price variability, as confirmed in the regressions contained in Table 2.<sup>2</sup> Adding a change in inflation variable to the independent variables does not contribute significantly to explaining relative price variability.

De Masi and Koen (1995) constructed similar measures of relative price variability for Russia, France, and the United States, and found that relative price variability in Russia during 1993 was more than 20 times larger on average than in France and the United States. A comparison between Russia and Kazakhstan reveals some interesting insights (Table 3). *vfood* in Kazakhstan is consistently higher than in Russia; on average *vfood* in Kazakhstan is about 15 times higher than in Russia. In contrast, *vnonfood* in Kazakhstan is higher in 8 of the 12 comparable months of data by an average factor of about 10, and smaller in 4 months by an average factor of about 0.4.

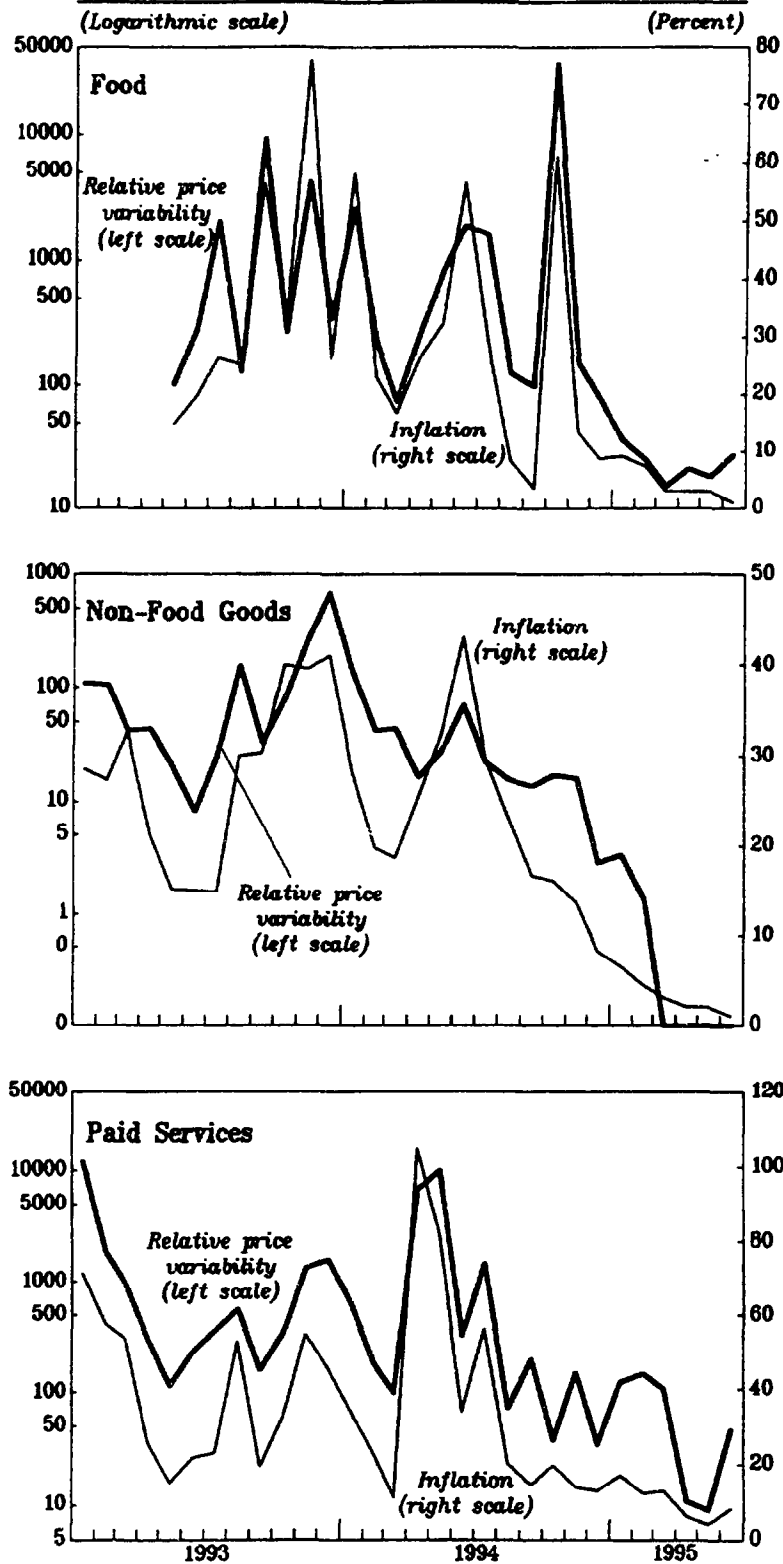
Higher relative price variability in Kazakhstan probably reflects the way in which price liberalization was carried out. In Russia, the January 1992 price liberalization was comprehensive, whereas in Kazakhstan it was conducted on a piecemeal basis. It is not surprising that gradual liberalization would result in higher levels of relative price variability. As discussed above, relative price variability for both Russia and Kazakhstan is positively correlated with inflation.

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<sup>1</sup>Monthly values for *vservices* were calculated for the United States for the period November 1993-October 1994, based on a set of 51 services (using price indices from the monthly *CPI Detailed Report* and 1993 weights from the bulletin on the *Relative Importance of Components in the Consumer Price Index*, both published by the U.S. Bureau of Labor Statistics).

<sup>2</sup>The results for *vfood* and *vnonfood* are very similar to the ones obtained for Russia in De Masi and Koen (1995).

**Chart 4. Kazakhstan: Relative Price Variability and Inflation for Food, Non-Food Goods, and Paid Services, January 1993 - June 1995<sup>1</sup>**



Source: Goskomstat; and authors' calculations.

<sup>1</sup>Monthly inflation rates in percent.

Table 2. Kazakhstan: Consumer Price Inflation and Relative Price Variability, Regression Results, January 1993-June 1995

(t-statistics in parentheses)

Dependent Variable: Variability <sup>1</sup>	Regressors			$\bar{R}^2$	Durbin Watson	AR(1) Correction (Rho)
	Constant	Inflation	Change in Inflation			
(May 1993-June 1995)						
<u>Food</u>						
(1)	3.4 (12.1)	0.1 (10.1)	...	0.80	1.55	...
(2)	3.3 (9.5)	0.1 (7.8)	-- (0.3)	0.79	1.51	...
(January 1993-June 1995)						
<u>Nonfood goods</u>						
(3)	-0.3 (-0.8)	0.1 (9.7)	...	0.76	0.80	...
(4)	0.3 (0.3)	0.1 (4.1)	...	0.86	...	0.8 (6.3)
(5)	-0.4 (-1.1)	0.1 (9.2)	-- (-0.4)	0.77	0.68	...
(6)	-- (--)	0.1 (4.4)	-- (-0.6)	0.88	...	0.8 (5.4)
(January 1993-June 1995)						
<u>Services</u>						
(7)	3.6 (15.6)	0.1 (11.5)	...	0.82	1.94	...
(8)	3.4 (14.4)	0.1 (11.2)	-- (-2.2)	0.83	2.01	...

<sup>1</sup>Log of the variable as defined in equation (1).

Table 3. Relative Price Variability:  
Kazakstan Compared to Russia, 1993<sup>1</sup>

	Food	Nonfood
January	n/a	1.7
February	n/a	2.1
March	n/a	1.4
April	n/a	1.6
May	2.1	0.8
June	1.5	0.1
July	13.7	0.3
August	1.2	3.9
September	55.1	0.5
October	2.9	1.7
November	40.2	8.3
December	5.5	61.9

Sources: De Masi and Koen (1995); and authors' calculations.

<sup>1</sup>Calculated as the level of relative price variability for Kazakstan divided by the level for Russia.

## 2. Producer price inflation

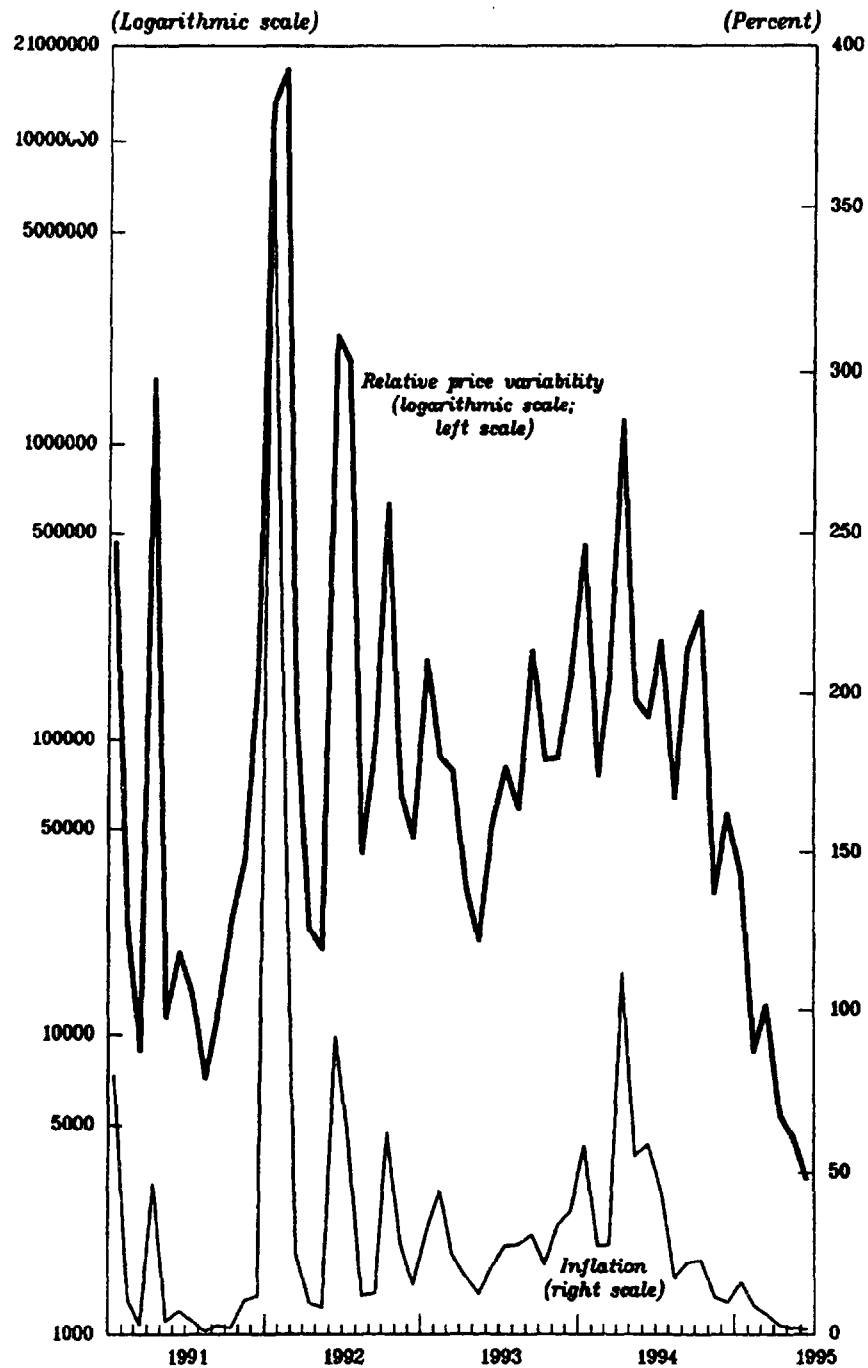
Relative producer prices have also shifted considerably during the transition. Therefore, questions of whether the frequency of producer price adjustments have increased or if price increases have become more synchronized are particularly relevant.<sup>1</sup> Disaggregated producer price data for 76 sectors were used to construct a measure of relative producer price variability ( $V^{prod}$ ) and producer price inflation over the period January 1991 to June 1995 (Chart 5).<sup>2</sup>

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<sup>1</sup>Unlike consumer prices, producer prices can be paid on a noncash basis with considerable delays thereby complicating the meaning of these prices.

<sup>2</sup>Ideally, enterprise specific data should be used for examining producer price setting behavior. Although sectoral data are used in this analysis, in most cases they are based on information provided by a relatively small--about five--number of enterprises in a particular sector. Producer price data used in computing  $V^{prod}$ , as well as annual data for 1989 and 1990 are contained in Table A4 of the Statistical Appendix.

**Chart 5. Kazakhstan: Relative Producer Price Variability and Inflation,  
January 1991 - June 1995<sup>1</sup>**



Source: Goskomstat; and authors' calculations.

<sup>1</sup> Monthly inflation rates in percent.

Early in the transition, and particularly at the beginning of 1992,  $V^{prod}$  exhibited considerable volatility reflecting significant shifts in enterprise pricing during the first round of price liberalization. Even so, enormous price increases in particular industries accounted in some cases for a large proportion of the  $V^{prod}$  spikes. For example, in January 1992, 45 percent of price variability is accounted for by the 5,697 percent increase in the price of asbestos; in February 1992, 90 percent is accounted for by a 1,525 percent increase in the price of ferrous metals. However, by mid-1994, apparently a regime change occurred with inflation declining quite steadily to low levels, and also  $V^{prod}$  dropping off sharply. Over time and in a low inflation environment, price adjustments become more synchronized as prices move toward "equilibrium" levels.  $V^{prod}$  is also highly positively correlated with overall inflation, as is clear from Chart 5 and confirmed by regression results similar to those reported in Table 2.

### 3. Regional inflation

Further evidence of shifts in relative prices can be found by examining the dispersion of prices across regions. As price liberalization proceeds, local subsidies or other local price controls that differed substantially across regions under central planning are likely to diminish over time. Based on disaggregated inflation data for 20 regions in Kazakhstan, the average coefficients of variation were computed for food, nonfood goods, and paid services (Chart 6).<sup>1</sup> For all three categories, the average coefficients of variation tend to fall over time, indicating a convergence of regional inflation rates as local price controls and subsidies are abolished. The regional price dispersion for paid services has been consistently above that for food and nonfood goods, most likely reflecting local subsidization. Paid services have also exhibited the sharpest decrease in regional price dispersion.

More detailed evidence on regional differences in prices for essential services is contained in Table 4. Based on this more limited sample of regions, price increases for rents and utilities tend to be nonsynchronous across regions. In contrast, other utility prices such as electricity and telephone service are set centrally. Overall, since early 1994, the share of housing services in household budgets has increased, corresponding to a much more rapid growth in rents and utilities prices.

### 4. Official versus market prices

An alternative way to measure price convergence is to examine the evolution of the margin between market prices and prices in state retail outlets. As price liberalization proceeds, this margin is expected to disappear. Based upon a limited sample of commodities taken at the end of 1990, black market prices for food items were on average three times higher

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<sup>1</sup>Underlying data used to compute the average coefficients of variation are contained in Table A5 of the Statistical Appendix.

**Table 4. Kazakhstan: Rents and utilities prices in percent of the level in Almaty 1/**

	Jan. 1, 1992	June 1, 1992	Nov. 1, 1992	Feb. 1, 1993	Feb. 1, 1994	Feb. 1, 1995
<b>Ust-Kamenogorsk</b>						
Rent	132	132	132	167	200	283
Heating	100	100	100	100	100	600
Hot water	33	66	66	66	67	444
Cold water and sewage	40	40	40	40	39	99
Gas	260	186	126	126	175	120
Radio-socket	100	100	100	100	100	103
Antenna	100	100	100	100	100	100
Electricity	100	100	100	100	100	100
Telephone	100	100	100	100	100	100
<b>All</b>	<b>99</b>	<b>119</b>	<b>104</b>	<b>111</b>	<b>114</b>	<b>128</b>
<b>Karaganda</b>						
Rent	132	132	132	4	550	291
Heating	150	150	150	150	133	190
Hot water	54	107	107	107	113	570
Cold water and sewage	146	146	146	146	139	85
Gas	267	190	142	141	234	145
Radio-socket	100	100	100	100	100	103
Antenna	100	100	100	100	100	100
Electricity	100	100	100	100	100	100
Telephone	100	100	100	100	100	100
<b>All</b>	<b>117</b>	<b>136</b>	<b>121</b>	<b>109</b>	<b>149</b>	<b>124</b>
<b>Kustanay</b>						
Rent	132	132	6000	200	200	377
Heating	244	244	244	244	233	583
Hot water	47	94	93	94	97	743
Cold water and sewage	220	220	220	55	217	80
Gas	100	100	100	100	100	23
Radio-socket	100	100	100	100	100	103
Antenna	100	100	100	100	100	100
Electricity	100	100	100	100	100	100
Telephone	100	100	100	100	100	100
<b>All</b>	<b>120</b>	<b>128</b>	<b>214</b>	<b>137</b>	<b>118</b>	<b>113</b>
<b>Semipalatinsk</b>						
Rent	132	132	132	88	400	1225
Heating	233	233	233	233	233	533
Hot water	63	126	126	126	127	1359
Cold water and sewage	110	110	110	110	111	37
Gas	260	186	133	133	245	218
Radio-socket	100	100	100	100	100	103
Antenna	100	100	100	100	100	100
Electricity	100	100	100	100	100	100
Telephone	100	100	100	100	100	100
<b>All</b>	<b>130</b>	<b>148</b>	<b>129</b>	<b>134</b>	<b>150</b>	<b>192</b>
<b>Memorandum item:</b>						
Rents plus utilities in Almaty in percent of average wage 2/	6.6	4.3	5.1	8.5	7.1	22.7

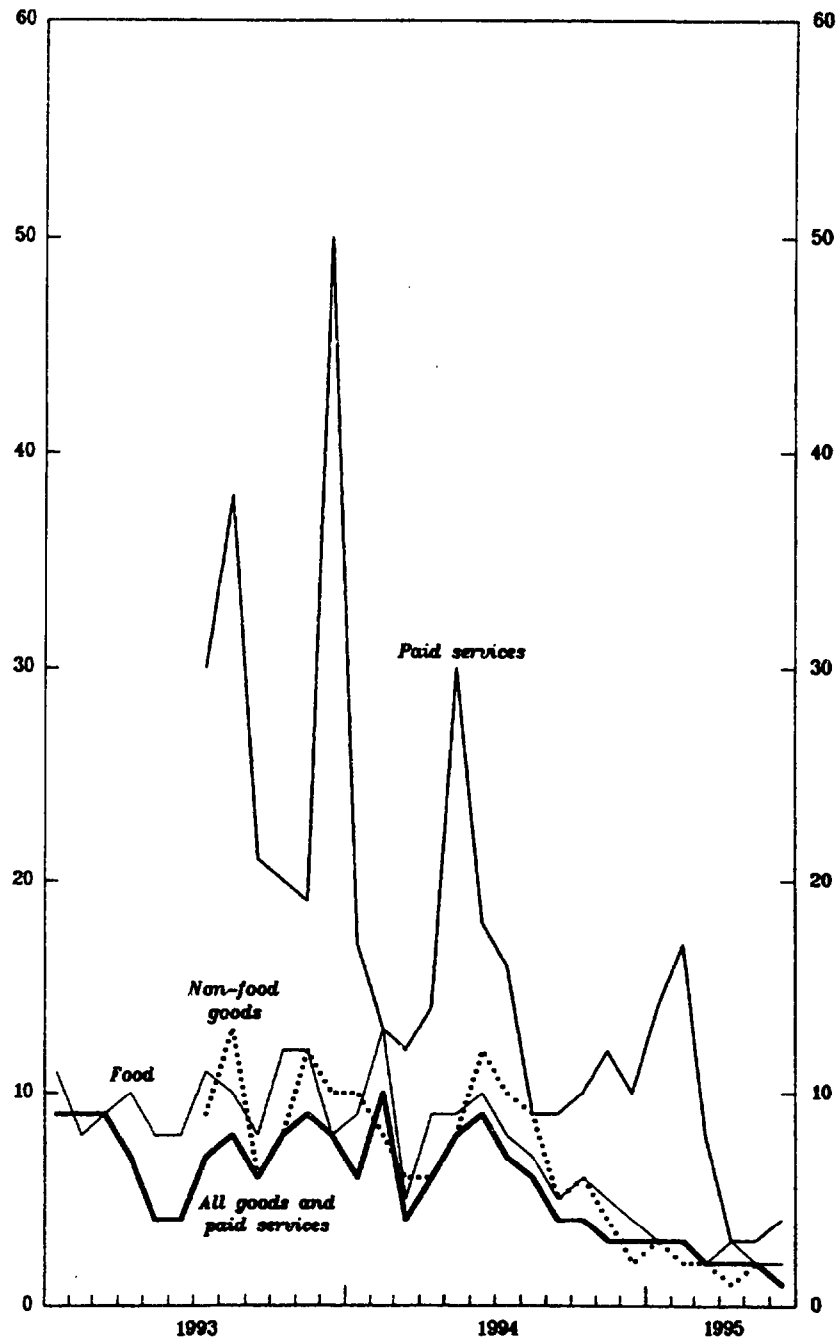
Sources: Goskomstat; and authors' calculations.

1/ Based on rates for a three-room apartment of 64 square meters for a family of four.

2/ National average wage.

**Chart 6. Kazakhstan: Coefficient of Variation of  
Regional Consumer Price Inflation Rates,  
January 1993 - June 1995<sup>1</sup>**

(In percent)



Source: Goskomstat.

<sup>1</sup>Coefficient of variation based on data from 20 regions in Kazakhstan: Akmolinskaya, Aktuinskaya, Almatinskaya, Atyrskaya, East-Kazakhstan, Zhambylskaya, Zhezkazganskaya, West-Kazakhstan, Karagandinskaya, Kzyl-Ordinskaya, Kokchetavskaya, Kostanayskaya, Manghitauskaya, Pavlodarskaya, North-Kazakhstan, Semipalatinskaya, Tselkorganskaya, Turgayskaya, South-Kazakhstan, and Almaty-city.



than the official prices, while nonfood products could be four times more expensive (Table 5). From 1992, Goskomstat data on a basket of 8 staples (beef, vegetable oil, milk, eggs, potatoes, fresh cabbage, onions, and carrots) indicate that market prices were still 30-40 percent higher than state outlet prices during the period January 1992 to mid-1993. The temporary reintroduction of price controls at the time of the currency reform in November 1993 raised the margin to more than 160 percent by the end of the month. By the end of December 1993, the price difference had dropped to less than 80 percent, and, following the removal of the temporary controls, by April 1994 it had returned to its pre-currency reform level of around 20 percent. By Summer 1994, the market premium had virtually disappeared, and prices in state outlets and in the market have remained more or less in line from then on.

#### V. Price Level Comparison to Russia and the Kyrgyz Republic

A final issue we consider is the extent to which prices in Kazakhstan have converged to levels observed in Russia and in the neighboring Kyrgyz Republic. Table 6 shows the prices in Almaty, the capital of Kazakhstan, of a basket of food and nonfood goods and that of its food component alone as a percentage of the price of the same assortment in Moscow and in Bishkek, the capitals of Russia and the Kyrgyz Republic, respectively. It appears that in March 1992, shortly after the liberalization measures of early 1992, prices in Almaty and in Bishkek were virtually the same, and well below those recorded in Moscow. This discrepancy presumably reflected a lag in the removal of price subsidies and the traditional higher price level in the capital of the former USSR. Subsequently, and with the exception of April 1994, the price level has been higher in Almaty than in Bishkek and lower than in Moscow. The gap with respect to Moscow, however, became narrower during 1994 and 1995.<sup>1</sup>

Based upon an alternative basket of 19 staples analyzed in De Masi and Koen (1995), by end-1994, the price of the basket in Kazakhstan stood at around the level on average across Russian cities and at about 30 percent of the U.S. level.

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<sup>1</sup>The April 1994 observation is an outlier; the tenge had depreciated sharply following the clearing of interenterprise arrears and domestic goods prices had not yet caught up with the exchange rate drop.

Table 5. Kazakstan: Ratio of Black Market to  
State Outlet Prices, December 1990

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Food products

Meat	390 - 500
Tea	200 - 330
Coffee	200 - 420
Vodka	280 - 330
Cognac	170 - 240
Wine	200 - 250
Champagne	180 - 380

Clothing

Woman winter coat	200 - 400
Night underwear	200 - 400
Man winter shoes	200 - 700
Woman winter boots	200 - 770
Woman slippers	220 - 570

Cars

Vaz	330 - 670
Muscovite	260 - 420
Zaz	210 - 600
Gaz	300 - 600

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Source: Goskomstat, Report on the Socio-  
Economic Situation in Kazakstan in 1990.

Table 6. Comparison of Goods Prices in Almaty, Moscow, and Bishkek

(Almaty price in percent of price in Moscow or Bishkek)

	March 1992	October 1992	April 1993	December 1993	April 1994	October 1994	April 1995
<u>Food and non-food goods basket</u>							
Bishkek	99	97	113	116	77	146	130
Moscow	62	70	81	78	30	96	90
<u>Food basket</u>							
Bishkek	95	108	113	110	74	140	121
Moscow	58	71	81	78	30	89	85
<u>Memorandum item:</u>							
Kazak wage in percent of Russian wage	67	76	75	63	33	78	94

## VI. Conclusions

The analysis of price movements in Kazakhstan during the transition process has illustrated how the country's relative prices and overall price level have moved closer to those in market economies, while price variability and regional price dispersion have diminished. Three characteristics of the price liberalization and convergence process in Kazakhstan can be highlighted.

First, the decontrol of prices has been piecemeal, with an initial period of rapid progress followed by phases of stagnation and even reversal. The last series of price liberalization measures was taken nearly three years after the major January 1992 price decontrol. The piecemeal manner in which prices were liberalized in Kazakhstan is reflected in a steady change of relative prices and a high level of relative price variability over a prolonged period of time.

Second, price liberalization and convergence and macroeconomic stabilization were inter-related, as illustrated by four key episodes. Price reform stalled when more expansionary fiscal and monetary policies were adopted from the second half of 1992 on. A partial rollback of price decontrols was among the measures introduced to stabilize the new currency after its introduction in late 1993. The convergence of Kazak prices towards market-determined levels was reversed when the exchange rate sharply depreciated in early 1994 following a credit expansion to clear interenterprise arrears. Finally, price reform resumed against the background of tighter monetary policies and a downwards trend in inflation from the Spring of 1994 on.

Third, the process of price liberalization and convergence is not yet completed. Prices of energy products and of many, mainly energy-based, services in Kazakhstan are still below the levels in industrialized market economies, notwithstanding sharp increases in relative domestic terms. The relative price of services will continue to increase substantially in the coming years. As prices of services are adjusted at the regional level in a non-synchronized manner, regional price dispersion for services will remain high. More generally, the domestic overall price level in Kazakhstan is still below the level prevailing in industrialized countries.

Table A1. Kazakhstan: Price Levels, December 1990 – June 1995

(December 1990 = 100)

	199/1	199/2	199/3	199/4	199/5	199/6	199/7	199/8	199/9	199/10	199/11	199/12	199/1	199/2	199/3	199/4	199/5	199/6
Total	105	114	120	219	227	229	227	226	228	228	235	228	836	1012	1377	1981	2211	2757
Food	104	109	115	209	211	209	202	195	192	202	215	227	880	985	985	1136	1306	1822
Bread and cereals	100	108	104	281	281	280	282	283	283	283	286	291	1067	1382	1371	1457	1617	1750
Meat and poultry	104	107	109	261	260	267	269	270	270	271	272	276	1706	2003	2076	2518	2797	3122
Fish	102	106	111	245	254	251	253	256	257	260	264	276	576	656	740	792	871	1054
Dairy products	100	102	108	220	224	224	225	226	226	228	231	233	914	924	947	1196	1277	1373
Eggs	100	104	105	234	234	233	233	234	234	234	236	302	1172	1270	1341	1485	1659	1893
Oil and fat	100	104	107	241	242	242	242	244	244	244	245	247	1624	1814	2072	2343	2891	3727
Fruits and Vegetables	114	121	130	149	145	133	108	76	64	79	100	115	170	215	239	289	405	440
Sugar, coffee, tea and condiments	101	105	114	245	247	248	249	250	254	260	264	274	924	1018	1260	1524	1848	2167
Beverages at home	101	107	109	133	137	136	139	142	142	136	142	173	591	617	688	754	795	1354
Food and beverages away from home	107	111	115	180	180	180	182	180	186	191	195	205	533	584	689	778	1012	1305
Tobacco	109	135	140	220	232	232	243	251	251	251	232	265	805	942	1209	1534	2072	2879
Clothing and footwear	109	134	131	268	286	294	302	310	322	337	358	386	871	1344	2013	2488	3043	3453
Rent, water, power	100	109	112	132	147	149	150	152	153	158	160	161	398	535	681	784	880	1258
Household goods	115	126	137	225	234	239	244	255	262	270	360	374	821	1274	1962	2403	3023	3586
Medical care	101	109	104	114	118	118	118	118	120	121	122	122	497	537	547	595	613	627
Transportation and communication	102	104	107	190	197	198	198	198	199	199	208	208	931	972	1450	1786	1904	3471
Recreation, education and culture	105	115	124	176	180	188	200	209	216	222	231	242	427	776	1309	2052	2625	3712
Personal care	101	108	111	182	198	202	206	211	219	225	236	251	525	870	1275	1383	1689	2169

	199/7	199/8	199/9	199/10	199/11	199/12	199/1	199/2	199/3	199/4	199/5	199/6	199/7	199/8	199/9	199/10	199/11	199/12
Total	3180	3543	3972	4635	5085	5482	10000	14377	19122	23214	28951	31775	38702	49865	64354	88776	138515	186181
Food	2109	2404	2734	3291	4029	4786	6251	8132	10409	12533	14762	17671	21839	27411	36127	48639	63195	81016
Bread and cereals	1946	2084	2452	4419	5118	5880	6404	7575	9883	11079	12264	13687	15643	17831	20391	24046	30406	39723
Meat and poultry	4167	4584	5010	5882	6784	8412	12618	18002	23026	26482	37767	43545	49772	63331	87908	114898	145453	189609
Fish	1234	1273	1373	1532	1573	1657	2086	3834	4463	5280	6705	7738	9038	10473	12465	16579	23166	30568
Dairy products	3566	4074	4700	5322	6077	7220	10805	15467	20854	24631	34786	41569	49842	61972	78351	100061	125713	161541
Eggs	2279	2333	2480	4023	5705	6487	8984	11194	14586	18047	21894	24521	28532	32119	40389	59171	80034	102973
Oil and fat	5072	5782	6164	6632	7985	9388	13101	18678	24316	28957	34421	41649	48523	53944	68073	93518	124684	170322
Fruits and Vegetables	391	411	453	528	634	796	1026	1344	1653	2067	2528	3342	4321	5650	8117	11896	18897	27336
Sugar, coffee, tea and condiments	2707	3316	4181	4632	5712	7271	9110	12472	16650	19889	27749	32619	38719	44755	54175	68333	88367	112129
Beverages at home	1537	1801	1846	2201	2793	3211	3880	4335	5374	6488	8714	8144	9390	11643	15870	22503	30426	40350
Food and beverages away from home	1289	1383	1564	1880	2159	2680	3430	4843	5700	7456	9469	11789	13994	17422	23764	32295	44826	60425
Tobacco	3113	4285	7234	10127	12456	14863	20880	22945	25308	28879	29272	32463	36973	47661	63486	106742	202586	325977
Clothing and footwear	3850	4897	4537	5190	6249	8230	10172	12563	16820	20827	23477	27257	30537	38879	51475	74073	101998	131680
Rent, water, power	1763	1980	2166	2188	3859	6193	14884	23204	42932	54301	57394	58444	74116	99687	113842	164047	215557	302829
Household goods	6968	7512	8082	9877	13225	20750	28531	41171	57680	67570	73590	86323	101862	140569	176555	228401	288404	408171
Medical care	697	735	987	2798	5196	7025	8746	10784	14504	18072	23506	27079	34744	51773	69897	88419	110780	151006
Transportation and communication	3302	3772	3904	4210	5212	13990	18800	25890	36722	43112	53933	63367	78556	125725	145841	191489	278772	378586
Recreation, education and culture	8721	9480	10802	11992	13419	23751	39837	58122	68979	92302	109286	127971	175577	218768	288967	373232	527206	707513
Personal care	2631	3423	4730	5052	5709	7159	9578	13112	17308	24647	28294	33561	39770	53928	75661	111979	161249	281702

	199/1	199/2	199/3	199/4	199/5	199/6	199/7	199/8	199/9	199/10	199/11	199/12	199/1	199/2	199/3	199/4	199/5	199/6
Total	265468	328709	387078	510169	642806	805922	1288886	1411988	1552742	1864742	2128846	2346119	2554934	2726108	2855135	2958819	3084633	3186496
Food	167902	211556	246886	318977	413394	489264	733208	786733	820562	1041122	1149508	1271654	1393378	1502061	1565148	1618348	1668352	1693229
Bread and cereals	136585	167180	198447	231739	279014	371925	576625	628423	771359	2088702	2336277	2549278	2776148	3081005	3124228	3211708	3279154	3277528
Meat and poultry	375046	481834	541104	680674	876027	1143216	1454170	1641212	1733580	1870543	2007082	2105440	2309648	2496751	2651549	2891834	3085739	3223693
Fish	54227	70939	90686	112994	142938	188349	236441	270232	296467	341132	377781	411682	441682	471275	485528	490482	502568	511613
Dairy products	708834	965367	1084831	1312386	1656037	2177531	3399675	3524804	3641122	4278379	5347898	6620698	7795956	8837388	9457941	9875474	9800281	9722148
Eggs	350546	521011	634592	848084	980314	1195112	1988281	1489170	1754889	2083598	3319400	3481214	3729070	3632114	3479583	3399535	3253355	3151613
Oil and fat	337742	472501	564166	705151	913163	1259182	1353465	1447826	1583370	1805736	2116323	2434822	3281897	3481830	3862239	3869964	3815784	3731837
Fruits and Vegetables	34172	47132	57680	80531	117670	187086	180852	140424	177536	164894	146894	146894	242334	257117	266116	271970	267075	267075
Sugar, coffee, tea and condiments	178110	210526	230447	300333	390177	648462	791367	902159	972527	1076588	1185323	1281334	1779997	1495917	1495917	1574566	1588737	1590658
Beverages at home	78028	83724	92026	112131	140434	319216	336688	340412	385576	421913	434331	434331	434331	440609	440609	471505	478577	482406
Food and beverages away from home	84650	117151	139995	230212	282532	411649	521559	590772	646610	730300	877827	884071	940174	1043580	1111413	1182546	1265292	1328556
Tobacco	384633	423118	497774	514092	616910	764352	887413	994790	1056467	1120911	1157901	1191639	1207130	1257830	1257830	1257830	1370851	1414718
Clothing and footwear	167233	197837	230480	288791	382937	543771	680289	847818	1080100	1215758	1413600	1540833	1647151	1716331	1774686	1811935	1842758	1866714
Rent, water, power	488108	545229	625143	1267164	2773825	3847282	6133584	7017664	8415475	10005899	12007789	14685805	18076861	22663311	31772962	32663403	34231487	36627891
Household goods	499932	597418	682603	848778	1211413	1673467	2226243	2756080	3070283	3414153	3704538	3971072	4197429	4377912	4522343	4609280	4784973	4844973
Medical care	194798	288209	357192	619495	872249	1174819	1674380	2048294	2406708	3101876	3302131	3628230	4129387	4329938	4720185	4866521	5027136	5117804
Transportation and communication	492234	554641	615673	1196488	1874286	2449704	3206609	4218072	4651188	5323548	5807851	6367248	7223990	7722445	8409740	8863980	9208010	9389981
Recreation, education and culture	1065314	1422461	1849200	2394412	3116741	4351926	6044362	7421723	8772090	9864740	10873376	11873789	12891561	13865928	14510399	15250689	15677857	16210880
Personal care	384324	474887	600732	740907	985910	1324412	1685316	1912121	2197026	2552945	2823357	2981676	3112870	3324545	3450878	3578580	3675181	3745010

Source: Goskomstat; and authors' calculations.

Table A2. Kazakhstan: Inflation Rates for Goods and Services, 1991-94 1/

(Year averages, in percent except for cumulative increase)

	1991	1992	1993	1994	Cumulative 1994/90 (times)
All Goods	94.9	839	1,197	2,198	5,438
Food goods	94.6	1,017	1,179	2,246	6,525
Meat and meat products	114.8	1,155	1,236	1,989	7,523
Fish and fish products	114.6	1,100	1,456	2,831	11,748
Butter	112.8	1,755	937	2,351	10,034
Vegetable oil	63.1	1,225	2,806	2,123	13,956
Margarin and margarin products	111.0	1,792	1,678	2,175	16,143
Milk and milk products	96.8	953	1,963	2,699	11,963
Cheese	88.2	1,628	1,562	2,266	12,782
Eggs	96.2	961	1,055	3,006	7,467
Sugar	117.8	1,380	2,723	2,012	19,217
Parties	120.5	1,599	1,132	2,651	9,926
Tea	119.1	792	1,673	1,298	4,845
Flour	176.5	753	1,142	2,024	6,224
Bread and bread products	121.3	464	712	2,784	2,923
Grains and beans	145.8	575	973	1,545	2,930
Macaroni products	167.8	1,329	1,085	2,139	10,147
Potatoes	222.6	674	1,306	3,015	10,941
Vegetables	225.2	580	1,739	2,608	11,889
Fruit, berries, and melons	127.9	636	1,576	2,388	6,982
Alcoholic drinks	41.2	1,371	1,011	2,272	5,473
Non-food Goods	95.1	667	1,230	2,130	4,434
Cotton fabrics	97.2	1,190	811	1,891	4,613
Wool fabrics and shawls	116.6	518	616	1,676	1,703
Silk fabrics	169.3	648	868	2,398	3,788
Linen fabrics	136.0	714	794	2,306	4,134
Clothing and underwear	110.0	665	965	1,656	3,805
Fur and fur products	121.6	580	989	2,131	3,658
Knitwear	110.8	731	1,019	1,804	3,734
Socks and stockings products	82.7	921	992	2,208	4,702
Leather, textile and composite footwear	86.1	822	1,213	1,881	4,461
Industrial soap	114.5	1,406	2,108	2,775	20,505
Synthetic detergents	66.7	1,854	1,665	3,581	21,160
Toilet soap	72.2	957	1,909	3,409	12,838
Perfume and cosmetic products	70.6	712	1,303	2,262	4,590
Haberdashery products	82.3	612	1,201	2,009	3,561
Tobacco products	74.0	1,137	1,732	1,652	6,908
Sporting goods	85.8	450	972	3,250	3,670
Radio products	78.2	507	1,556	1,767	3,342
Furniture	105.5	960	1,736	1,718	7,263
Rugs and rug products	118.8	627	1,384	1,662	4,160
Porcelain ware	93.7	819	1,269	1,942	4,977
Glassware	88.2	988	1,356	1,806	5,685
Clocks	63.3	775	1,318	1,799	3,896
Electronic goods	90.5	1,498	2,011	1,534	10,580
Bicycles and motorcycles	83.6	958	1,495	2,559	8,236
Construction materials	97.2	1,013	1,382	2,591	8,100
Jewelry	162.7	383	1,388	2,487	4,624
Cars	65.2	1,419	2,654	1,819	13,270
Paid services	59.1	853	1,839	3,581	10,815
Everyday services	108.1	882	1,887	2,443	10,324
Shoe repairs	123.2	913	2,509	2,196	13,537
Individual stitching of shoes	123.9	1,062	1,290	1,718	6,572
Repairs of sewn articles	154.3	675	1,464	2,392	7,681
Individual stitching of sewn articles	111.1	817	1,837	1,921	7,575
Individual stitching and knitting of knitwear	120.1	828	1,301	1,890	5,690
Repairs of household appliances	107.5	1,139	2,358	2,432	15,999
Repair of furniture	105.7	925	1,707	2,066	8,175
Dry cleaning and dyeing	117.0	1,262	2,004	2,964	19,053
Laundry services	108.1	2,060	2,740	4,651	60,631
Housing repairs	103.0	1,007	3,395	1,455	12,210
Photographic services	83.5	685	1,863	3,108	9,071
Bathroom and shower services	112.1	1,384	2,238	3,851	29,071
Hairdresser services	129.9	803	1,694	2,557	9,899
Hairstyle and haircuts	5.1	646	1,880	6,824	9,763
Rents	1.9	1	6,535	15,929	10,945
Payments for housing services (housing construction cooperatives)	-0.4	210	1,572	3,779	2,085
Hotels	73.6	2,201	1,564	2,413	16,786
Dormitories	6.5	1,136	2,533	4,273	14,298
Electricity	8.8	498	1,760	9,002	10,282
Water	9.9	492	12	3,097	233
Gas	0.5	1,899	1,928	6,512	26,943
Central heating	1.1	402	1,223	3,580	2,469
Hot water	1.6	523	1,101	3,067	2,405
Sewers	5.6	512	1,028	3,288	2,470
Trash collection	13.6	635	2,701	7,266	17,238
Culture	71.5	438	1,385	4,816	6,732
Cinema	87.4	508	1,261	4,558	7,217
Videos	17.5	705	1,219	4,640	5,914
Theater	34.5	132	1,235	4,680	1,994
Concert	45.2	252	2,720	3,623	5,370
Circus	32.2	317	1,813	9,053	9,647
Museums and exhibits	54.9	294	1,463	6,402	6,205
Passenger transportation	63.2	870	1,939	3,666	12,158
Car	71.3	819	1,742	4,020	11,942
Trolley	136.7	470	1,018	8,026	11,942
Rail	38.4	482	1,518	6,575	8,694
Tram	134.4	538	1,098	8,662	15,714
Air	53.1	1,929	2,515	2,433	28,567
Communication	31.1	844	737	3,397	3,622
Mail	32.8	1,966	1,832	497	1,855
Telegraph	21.2	922	273	6,583	3,092
Long-distance telegraph	18.1	544	548	4,346	2,190
Urban and rural telephone	67.6	732	1,085	3,972	6,723
Radio	0.0	567	759	3,026	1,791
Legal and banking services	1.7	152	(57)	213	3
Notarial services	0.4	8	(83) 2/	168	0
Legal consultations	26.7	172	675	5,489	1,489
Swings banks services	1.7	31	87	611	18
Kindergarten services	0.0	674	2,560	3,164	6,716
Tourism and excursions	48.7	980	1,806	3,657	12,042
Health reports	112.9	1,838	2,141	2,257	12,796
Health care services	65.5	1,161	2,265	4,467	22,544

Source: Goskomstat Yearbooks, various issues.

1/ Goods sold in retail trade and city markets.

2/ The price of notarial services was reduced by Presidential decree in 1993.

**Table A3. Kazakhstan: Changes in Average Prices for Selected Goods and Services, January 1993 – June 1995**

(In percent compared to previous month)

	1993												1994												1995					
	Jan.	Feb.	Mar.	Apr.	May	Jun.	July	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	July	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.
Foodstuffs	-	-	-	-	17.8	18.7	23.7	25.4	31.8	37.1	67.8	32.8	32.2	28.0	16.7	28.2	28.8	48.8	18.4	7.3	4.3	23.1	13.8	10.8	8.4	7.8	4.2	3.4	3.1	1.7
Beef	-	-	-	-	24.2	20.2	12.4	23.5	28.5	35.7	57.8	3.8	84.5	30.6	10.9	22.9	41.6	28.6	23.1	5.5	1.5	6.3	4.9	4.6	11.6	11.5	8.2	10.1	15.2	5.3
Lamb	-	-	-	-	18.5	21.8	11.7	31.1	28.0	21.4	40.8	8.7	88.5	33.3	10.6	25.2	30.5	35.3	35.9	6.4	2.1	6.7	5.0	3.2	8.3	6.4	7.8	9.8	13.1	6.7
Pork	-	-	-	-	28.6	15.8	15.0	33.5	33.8	20.6	84.0	5.3	74.9	28.0	10.8	19.1	48.7	27.0	21.6	7.9	7.6	5.4	7.5	4.2	10.1	11.4	5.3	5.7	10.2	9.2
Poultry	-	-	-	-	18.7	13.3	15.2	42.4	28.5	35.5	56.1	18.5	101.3	33.9	16.6	18.7	28.2	21.7	26.9	14.0	8.4	10.0	7.5	7.6	12.4	7.0	4.9	5.3	4.4	3.3
Boiled sausage	-	-	-	-	28.2	9.3	13.6	27.6	37.1	32.9	24.5	18.1	123.7	22.5	10.9	31.5	21.8	35.3	31.4	18.6	4.7	7.6	8.2	2.9	4.4	8.2	5.5	5.6	2.7	3.8
Semi-smoked sausage	-	-	-	-	34.6	12.4	15.0	25.2	43.2	36.8	30.1	17.9	100.2	18.0	11.9	37.3	28.9	40.7	22.3	18.0	6.4	10.5	8.8	2.7	6.2	6.5	5.2	5.4	3.6	3.9
Roast fish	-	-	-	-	17.0	26.8	17.4	11.5	22.5	25.3	33.3	37.1	31.9	31.1	33.3	31.7	31.7	27.6	21.9	13.3	23.1	5.3	7.5	4.8	13.1	3.5	2.2	1.8	1.4	1.4
Smoked or salted fish	-	-	-	-	25.9	14.3	9.9	12.9	14.9	32.2	53.4	51.0	42.0	17.8	32.7	20.9	37.5	12.5	26.1	11.9	11.6	10.5	9.7	12.3	16.0	6.8	2.7	2.4	3.8	2.2
Butter	-	-	-	-	12.5	23.4	8.1	17.9	23.6	37.3	41.4	26.2	94.7	45.2	21.7	28.2	33.9	36.0	8.9	5.6	7.3	11.4	17.4	27.3	30.3	16.0	5.7	0.0	-1.9	-3.5
Vegetable oil	-	-	-	-	32.8	10.5	11.6	28.0	53.8	47.8	48.8	46.2	52.7	16.9	8.8	9.0	17.2	41.9	9.6	14.1	20.9	31.5	18.8	4.2	3.3	1.2	0.7	0.3	0.6	-0.5
Margarine	-	-	-	-	22.5	14.2	10.7	15.1	40.2	28.8	26.9	55.1	88.6	27.5	8.2	5.5	6.1	28.5	15.0	10.4	18.6	24.3	16.9	27.4	12.5	5.9	2.8	0.5	-1.0	-1.6
Milk	-	-	-	-	9.9	32.6	11.9	11.3	24.5	45.1	63.6	11.9	171.8	41.4	14.2	35.8	18.9	41.7	23.5	4.5	-0.7	12.5	35.3	28.9	18.5	12.2	5.2	0.0	-0.6	-3.1
Sour cream	-	-	-	-	18.8	27.2	11.3	18.2	58.8	60.7	17.1	147.0	45.1	4.5	38.2	20.3	31.8	18.0	7.5	7.1	17.7	16.7	28.4	16.3	11.4	16.2	1.4	-0.8	-2.3	-2.4
Cottage cheese	-	-	-	-	20.4	17.5	13.7	10.1	12.1	37.7	35.3	18.9	172.0	45.0	15.2	58.3	20.1	53.3	18.8	5.2	7.5	21.4	18.1	28.3	8.6	4.9	3.8	0.5	8.9	-2.4
Cheese	-	-	-	-	9.5	16.0	20.8	17.6	21.6	31.3	43.3	31.4	88.8	29.3	11.3	37.5	27.9	35.6	19.6	5.3	7.3	11.2	9.8	14.6	16.7	13.7	6.2	9.0	5.6	4.9
Eggs	-	-	-	-	7.6	12.0	14.4	14.5	18.5	33.3	78.2	22.2	177.5	44.9	21.8	33.8	13.1	7.1	16.2	17.0	6.5	16.5	54.8	23.6	11.0	1.3	-2.6	-4.2	-2.3	-4.3
Sugar	-	-	-	-	8.2	3.4	27.1	30.0	28.3	61.6	70.1	12.6	52.5	27.1	21.8	21.2	28.4	72.7	11.8	1.3	2.0	6.0	10.8	8.1	8.9	12.0	4.0	1.0	0.2	0.6
Cocoa	-	-	-	-	22.5	20.9	9.5	27.6	28.9	78.4	68.6	40.9	13.8	13.3	10.8	12.8	23.8	48.2	28.4	18.5	9.8	8.9	17.2	15.1	11.9	6.4	3.0	1.1	1.6	0.3
Tea	-	-	-	-	10.5	3.3	5.1	15.9	7.3	31.0	38.7	27.9	26.4	10.7	26.6	20.8	34.0	47.8	28.5	22.0	11.6	7.2	5.0	4.3	4.4	4.8	2.6	2.3	0.8	2.4
Salt	-	-	-	-	7.6	32.9	8.8	23.0	18.1	25.1	16.2	-6.9	22.6	17.9	28.6	23.1	20.6	55.9	46.5	4.7	17.1	8.4	13.5	9.5	7.4	6.0	6.0	4.9	3.3	3.3
Vodka	-	-	-	-	8.6	27.5	17.4	25.6	41.4	46.3	98.7	44.2	11.7	4.2	12.1	17.3	27.7	117.8	9.8	4.7	7.3	8.1	7.7	2.1	1.8	0.9	-1.8	0.9	0.4	0.7
Potatoes	-	-	-	-	12.4	22.9	50.6	38.4	27.8	10.6	47.8	68.0	26.3	31.3	18.2	43.5	28.6	57.4	24.5	-12.3	-16.8	-6.1	18.9	18.0	15.5	11.3	4.7	1.9	-0.1	4.6
Onions	-	-	-	-	8.3	77.6	284.6	40.3	28.5	17.6	37.9	23.7	15.9	17.6	24.8	54.1	120.1	148.8	-5.5	-15.1	-13.3	-14.7	1.2	-2.6	7.6	3.1	1.1	-1.0	2.0	-0.2
Fresh cabbage	-	-	-	-	48.1	4.9	18.1	47.3	-4.5	3.4	78.4	62.4	48.7	17.5	26.5	88.2	28.1	8.1	-3.4	6.0	-31.3	-3.1	38.6	11.2	18.9	20.3	6.0	22.2	9.9	-24.2
Wheat flour	-	-	-	-	5.2	11.3	10.5	24.3	30.5	66.5	24.9	15.9	33.4	35.8	35.0	13.9	36.8	55.4	42.3	18.0	15.6	31.2	24.9	8.4	-4.0	4.7	2.1	1.8	2.0	0.8
Rice	-	-	-	-	9.0	7.6	12.1	17.9	23.9	21.8	68.8	44.9	24.8	21.6	9.4	27.2	33.1	36.5	27.6	21.9	27.3	38.6	14.2	7.9	9.2	1.5	1.9	1.6	2.0	2.8
Semolina	-	-	-	-	9.8	1.5	3.5	1.4	228.8	15.7	88.2	36.1	7.5	26.5	18.1	7.8	24.4	23.4	75.2	26.4	10.5	58.8	51.3	48.2	15.8	17.3	10.0	8.2	4.4	7.5
Buckwheat	-	-	-	-	3.6	9.6	11.4	13.3	64.6	48.9	56.3	38.2	50.8	41.3	18.3	12.2	11.6	19.5	17.2	13.7	10.7	9.9	17.4	11.5	8.1	4.3	6.5	5.6	1.1	4.3
Oatmeal	-	-	-	-	7.7	3.6	9.4	7.5	23.8	6.8	85.5	22.8	3.2	19.8	21.6	24.8	15.0	28.4	43.8	30.2	17.9	38.3	27.7	18.3	12.5	11.9	3.6	20.1	1.3	5.0
Barley	-	-	-	-	9.9	11.3	11.0	8.2	11.4	6.2	35.3	46.4	77.4	35.3	17.0	18.2	22.0	22.5	42.5	108.6	28.7	11.2	13.9	13.4	14.6	11.9	6.9	12.2	3.0	10.3
Millet	-	-	-	-	11.0	6.7	8.7	0.2	186.3	0.9	88.2	80.5	8.1	108.8	6.8	1.8	10.8	20.8	64.3	31.2	13.2	68.7	38.4	56.0	26.5	11.2	15.0	14.5	10.8	9.7
Rye and rye/wheat flour bread	-	-	-	-	4.6	4.6	2.7	2.4	388.5	10.0	238.8	0.0	1.7	3.8	0.0	0.0	0.0	198.4	6.0	0.4	821.5	-1.3	6.2	13.0	14.9	0.0	-0.3	1.0	4.1	3.1
Bread from superior wheat	-	-	-	-	6.5	4.0	5.5	4.0	397.6	13.3	285.2	1.2	1.7	3.8	3.7	6.9	0.5	8.8	208.1	6.5	1.3	612.8	6.8	2.2	10.3	13.7	0.2	2.5	0.8	4.5
Bread from first grade wheat	-	-	-	-	0.0	0.0	0.0	0.0	398.8	8.0	386.7	0.0	0.0	0.0	0.0	0.4	0.0	137.7	4.1	0.8	788.8	8.3	9.2	12.0	12.7	0.9	2.3	2.4	4.7	4.7
Spice cubes	-	-	-	-	14.8	14.7	17.6	19.0	41.0	27.6	44.7	58.0	28.9	27.5	33.5	25.6	18.2	30.7	31.2	26.2	5.5	13.2	21.4	17.7	5.5	7.5	4.9	2.5	1.0	2.1
Regular biscuits	-	-	-	-	24.8	14.5	9.6	19.8	27.9	36.1	56.2	58.5	35.7	21.6	12.4	18.8	24.0	40.6	28.0	9.5	7.9	17.4	18.4	15.8	7.5	10.5	4.2	2.3	2.7	1.6
Cakes and tarts	-	-	-	-	20.0	28.0	16.3	16.7	37.4	38.0	46.4	55.5	34.5	51.2	28.0	33.0	16.9	21.4	16.7	28.2	12.7	16.1	24.4	18.7	14.4	5.4	4.3	5.6	0.5	-0.1
Miscellaneous products	-	-	-	-	15.8	12.4	28.4	23.3	23.2	18.8	28.5	25.6	47.6	35.4	37.9	22.8	37.1	63.4	40.9	32.7	16.4	9.4	31.7	8.4	4.9	6.5	3.3	1.5	2.7	0.5
Non-food goods	32.7	32.2	33.6	31.5	12.0	9.4	15.4	38.7	28.9	38.1	38.1	35.4	28.1	28.5	19.4	25.5	32.2	42.7	30.4	22.5	16.6	16.0	13.6	8.2	6.4	4.4	3.4	2.3	1.8	1.3
Clothes	23.3	21.8	33.8	22.3	15.1	16.7	11.6	27.4	30.4	44.7	38.2	31.1	27.5	18.5	17.1	24.5	32.3	38.9	28.2	25.0	18.8	18.2	17.0	9.4	7.1	4.3	3.3	2.0	1.5	1.0
Fabrics	15.0	20.6	28.0	24.1	14.9	6.5	10.5																							

Table A4. Kazakhstan: Monthly Producer Price Inflation in Industry, 1989-1995

	1989	1990	Jan 91	Feb 91	Mar 91	Apr 91	May 91	June 91	July 91	Aug 91	Sept 91	Oct 91	Nov 91	Dec 91	Jan 92	Feb 92	Mar 92	Apr 92	May 92	June 92	July 92	Aug 92	Sept 92	Oct 92	Nov 92	Dec 92	
Oil extraction	0.0	0.0	76.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	436.4	0.0	0.0	0.0	104.5	554.0	0.0	0.9	134.3	34.2	13.5	
Oil refining	-0.3	0.3	117.9	1.0	-0.6	0.6	-0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	313.7	154.4	11.2	6.1	491.2	0.0	0.0	0.0	213.2	82.5	24.2	
Natural gas extraction	0.0	0.0	150.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	200.0	0.0	0.0	0.0	0.0	153.3	0.0	0.0	0.0	0.0	0.0	
Extraction of coal	NA	-1.3	163.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	441.6	0.0	0.0	0.0	0.9	280.0	0.0	3.9	205.0	39.7	0.0	
Processing of coal	NA	1.5	143.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	461.5	0.0	0.0	0.0	0.6	290.0	0.0	10.4	0.0	10.6	0.0	
Extraction of ore	NA	0.6	23.2	49.7	0.9	3.1	-0.8	26.9	17.8	7.6	0.1	2.2	-0.1	-3.4	173.8	36.4	10.5	27.7	6.2	-2.6	57.9	27.1	9.8	-6.7	61.0	-14.0	
Production of ferrous metals	NA	6.9	64.2	27.8	-2.7	1.7	-2.2	3.1	4.9	0.8	0.2	0.9	1.1	7.0	18.9	1525.7	80.3	-6.0	6.6	3.3	9.0	6.0	1.6	-3.7	11.6	18.1	
Electro ferroalloys	NA	0.0	79.2	10.5	-2.0	-5.3	-1.9	6.0	4.5	-2.3	-0.1	-4.5	2.1	-3.4	493.8	73.5	94.8	1.2	1.5	190.0	12.2	-2.0	3.5	9.3	29.7	4.6	
Lead and zinc	NA	0.0	228.0	24.7	7.5	-2.3	2.4	37.9	7.9	-6.8	1.9	-8.7	36.5	-2.2	783.4	71.0	0.0	6.0	0.0	26.6	39.8	0.0	0.0	60.0	0.0	0.0	
Basic chemicals	NA	-0.9	64.8	-0.6	0.3	-0.9	0.1	-0.5	0.8	-1.7	-1.7	2.4	61.1	54.6	833.6	89.0	29.4	33.0	27.4	25.2	83.1	63.4	18.3	3.0	27.1	9.5	
Fibers and filaments	NA	12.0	74.5	0.8	0.9	-0.7	0.5	-0.9	0.6	-1.0	-0.5	79.6	-3.6	2.7	101.0	33.7	1.1	43.4	0.0	-2.9	145.3	0.0	-5.6	0.0	0.0	16.0	
Synthetic resins and plastics	NA	0.0	57.7	1.7	0.0	0.0	0.0	30.0	30.3	0.0	0.0	0.0	0.0	0.0	663.2	0.0	33.3	50.0	91.3	0.0	0.0	29.3	20.0	44.2	0.0	50.0	
Plastics, glass-fibers	NA	-1.1	49.4	0.0	0.0	26.1	0.7	0.7	0.0	0.7	0.6	90.8	22.7	5.7	1410.6	12.9	0.0	0.4	15.7	1.8	0.0	0.2	2.3	2.4	5.8	0.9	
Varnishing-dyeing	NA	13.0	80.1	17.2	11.1	8.8	6.8	1.6	0.0	-0.4	17.2	24.9	24.4	18.6	678.2	-1.7	16.8	0.0	0.0	73.2	0.0	0.0	0.0	-0.8	134.7	133.9	
Synthetic rubber	NA	0.0	133.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	112.6	0.0	0.0	0.0	382.4	102.0	-0.6	29.5	0.7	13.9	34.7	15.7	-16.3	-5.3	-11.9	56.8	
Basic organic synthetic products	NA	8.9	30.7	6.5	9.4	57.7	-0.3	5.2	-10.0	-4.2	4.6	3.6	3.2	6.2	252.2	75.3	109.6	58.7	16.6	-1.9	21.8	11.6	-2.2	31.2	29.7	12.8	
Tires	NA	0.0	90.7	0.0	0.0	0.0	9.7	0.0	0.0	0.0	0.0	-3.0	54.9	54.9	301.8	0.0	-5.9	4.1	40.9	16.3	58.8	39.5	-2.8	23.6	109.0	13.3	
Rubber and asbestos	NA	17.0	77.7	15.8	0.0	9.8	0.0	-2.1	0.0	0.4	-0.7	0.0	60.7	0.0	1618.2	0.0	-2.9	0.0	0.0	0.0	42.3	0.0	0.0	0.0	59.2	-7.4	
Metallurgical engineering	NA	1.7	29.4	13.9	8.6	-13.9	-0.7	2.3	2.3	12.2	-5.8	-5.8	16.0	15.2	0.0	423.5	56.7	11.2	-4.4	17.9	17.8	4.4	41.9	0.5	33.8	-3.3	
Fit and mining engineering	NA	7.6	116.7	0.0	27.4	27.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	82.8	16.8	0.3	19.9	0.0	0.0	25.0	0.0	0.0	0.0	107.0	0.0	
Electro technical	NA	4.1	7.2	10.1	13.9	-2.3	5.6	1.1	5.8	1.5	0.6	0.0	0.0	0.0	30.6	570.4	116.8	1.2	-1.4	40.9	0.4	4.7	-1.8	64.7	1.2	0.2	16.8
Chemical and oil machinery	NA	7.6	53.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2355.1	122.5	86.1	67.0	5.9	0.0	18.8	1.4	1.4	48.4	30.2	21.0	
Machinists	NA	27.6	41.6	1.3	0.0	8.3	0.4	2.1	-13.1	0.0	2.4	11.9	10.8	10.2	1640.0	57.8	109.5	23.7	4.3	5.6	351.4	11.3	0.0	11.2	0.1	13.8	
Tools	NA	NA	NA	0.0	0.0	0.0	6.8	0.0	0.0	0.0	58.6	0.0	0.0	0.0	0.0	71.8	172.0	0.0	0.0	36.5	0.0	0.0	0.0	0.0	0.0	100.6	
Cars	NA	0.0	0.0	-0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.4	0.0	0.0	633.0	0.0	0.0	52.7	0.0	0.0	67.9	0.0	0.0	0.0	10.0	72.7	
Tractors and agricultural machinery	NA	0.9	73.6	6.0	1.3	-3.0	6.0	0.4	2.3	4.1	-1.7	2.9	40.1	39.1	262.7	214.5	3.5	8.3	-2.5	4.4	3.0	37.2	-2.6	38.7	36.9	30.6	
Road construction engineering	NA	6.1	59.6	19.0	0.6	0.7	17.6	3.4	1.6	0.0	-6.8	-0.9	33.6	21.7	148.1	116.1	4.5	3.5	0.0	0.0	0.5	35.9	39.3	36.5	37.6	35.9	
Timber	NA	5.3	26.3	8.8	0.1	2.4	0.1	2.3	-7.7	39.0	1.1	44.4	4.2	2.7	582.6	116.4	31.9	7.4	-2.4	25.9	7.6	-0.1	0.0	3.1	24.9	21.3	
Wood-processing	NA	3.6	26.7	1.2	10.7	5.5	1.9	12.5	26.9	13.3	-0.2	9.1	19.6	12.1	331.9	93.4	53.9	17.4	1.5	3.0	5.1	6.0	19.9	23.1	22.1	53.2	
Sawing production	NA	4.4	30.5	16.4	-0.4	1.1	6.7	2.7	52.0	40.2	3.2	32.9	0.0	-4.7	999.6	129.1	-3.0	40.6	-5.0	20.3	2.5	3.6	-2.9	2.6	53.4	62.0	
Wooden construction details	NA	0.1	26.4	0.1	20.3	-5.6	2.0	74.0	99.1	7.2	0.9	-1.4	12.6	17.0	547.8	17.7	39.2	12.2	6.7	-8.6	3.6	-9.4	17.1	22.6	1.9	89.7	
Production and repairs of wooden products	NA	9.3	150.9	0.0	0.0	0.0	0.0	0.0	-13.9	0.0	0.0	8.7	0.0	0.0	-5.8	789.6	15.2	-1.5	1.6	0.0	9.0	0.0	0.0	6.0	0.0	139.4	
Furniture	NA	3.7	8.9	-3.4	12.8	10.2	0.5	1.2	3.8	7.0	-1.6	4.0	29.4	17.3	95.6	48.4	79.4	12.6	2.3	0.4	6.0	11.0	29.7	31.8	18.7	34.3	
Pulp, wood mass paper and paperboard	NA	-1.4	13.2	8.5	0.0	83.6	0.0	0.0	0.0	0.0	24.5	12.1	19.6	9.0	446.5	33.0	-6.1	2.9	1.5	0.0	106.1	-19.5	-0.6	-5.0	0.0	0.0	
Cement	NA	0.1	89.8	38.4	1.1	0.0	0.0	1.6	1.5	0.7	16.1	0.8	3.1	99.9	330.3	9.1	79.0	2.5	0.0	0.0	27.6	29.9	-3.3	0.0	20.3	71.7	
Asbestos and cement items	NA	0.1	134.3	0.1	2.5	0.0	6.4	0.0	0.0	0.0	81.1	3.5	9.4	16.0	298.5	96.9	32.6	22.2	0.5	-1.5	1.2	21.3	1.2	1.6	11.5	28.8	
Soft roofing and hydroinsulating mat	NA	1.4	135.9	-3.7	-1.9	2.5	8.9	-11.9	21.8	5.4	1.1	7.9	0.8	45.8	64.4	64.4	0.0	0.0	475.5	30.6	11.2	15.5	97.5	28.7	-1.6	0.0	
Ferro-concrete and concrete	NA	1.9	40.1	5.9	9.5	0.3	0.0	5.8	18.6	0.4	5.7	5.0	3.8	23.3	256.1	57.9	25.0	17.4	8.8	62.5	13.2	11.3	3.9	23.2	21.2	31.7	
Walls materials	NA	5.6	62.1	78.7	1.1	-1.2	1.0	1.7	0.9	-0.7	2.8	-1.5	0.0	99.1	183.1	53.0	34.8	14.5	28.4	27.3	-1.2	7.2	47.3	0.9	12.0	5.2	
Ceramics	NA	1.7	116.6	0.0	0.0	10.6	0.0	0.0	86.4	0.0	0.0	0.0	0.0	102.0	201.6	0.0	43.6	0.0	0.0	40.0	0.0	0.0	1.8	27.9	30.0	0.0	
Non-ore building materials	NA	1.4	73.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	665.0	1.9	3.6	9.5	30.9	0.2	47.5	42.2	30.5	17.6	10.3	10.8	
Porous fillings	NA	NA	78.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	103.5	0.0	0.0	52.9	18.9	1.9	140.8	2.5	3.9	2.3	3.6	133.1	
Asbestos	NA	2.7	102.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5997.0	0.0	0.0	0.0	54.7	0.0	0.0	0.0	74.7	0.0	14.9	8.8	
Glass	NA	NA	NA	0.0	374.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	204.0	200.0	0.0	0.0	0.0	100.0	33.4	0.0	0.0	0.0	0.0	0.0	
Cotton-cleaning	NA	3.0	212.0	0.0	0.0	0.1	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	150.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.6	10.9	
Wood initial processing	NA	2.0	155.8	-2.1	-2.3	-14.9	15.6	9.1	122.4	-0.1	-4.1	-2.3	0.5	-0.8	126.3	-2.2	41.5	-1.1	0.0	48.9	0.0	0.0	18.6	4.6	1.9	-0.6	
Cotton	NA	1.6	36.9	-1.3	9.0	87.1	0.7	0.3	5.5	-7.9	5.0	1.8	0.8	70.3	194.5	1.0	133.1	10.3	2.7	-2.2	-0.1	7.1	-0.4	0.0	32.8	0.7	
Wool	NA	1.8	43.1	17.4	1.0	83.3	2.3	0.6	-0.2	62.3	28.8	2.1	0.1	2.6	193.7	85.9	0.5	-0.6	-0.2	0.5	-0.1	0.0	1.9	3.1	9.7	35.2	
Silk	NA	0.0	121.5	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	31.9	0.0	787.1	11.5	0.0	0.0	0.1	49.8	49.8	25.0	0.4	0.0	0.0	
Non-woven materials	NA	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.7	11.9	0.0	0.0	200.0	-1.0	19.7	0.0	11.6	13.3	88.3	59.1	30.3	46.9	0.0	0.0	
Knitwear	NA	1.7	44.5	1.2	7.7	9.7	14.6	38.3	1.9	1.7	13.5	4.9	-3.4	1.8	310.5	8.8	58.4	20.9	5.6	17.1	3.2	17.6	9.7	1.8	27.2	13.4	
Felting	NA	7.0	27.5	26.7	6.9	136.0	5.4	3.4	-8.2	0.0	-2.7	5.0	31.7	0.1	NA	-2.5	-1.6	30.8	0.5	0.0	0.0	44.4	2.7	9.4	34.3	-3.5	
Clothes	NA	1.4																									



Table A4. Kazakhstan: Monthly Producer Price Inflation in Industry, 1989-1995 (concluded)

	Mar 89	Apr 89	May 89	June 89	July 89	Aug 89	Sep 89	Oct 89	Nov 89	Dec 89	Jan 90	Feb 90	Mar 90	Apr 90	May 90	June 90	July 90	Aug 90	Sep 90	Oct 90	Nov 90	Dec 90	Jan 91	Feb 91	Mar 91	Apr 91	May 91	June 91	July 91	Aug 91	Sep 91	Oct 91	Nov 91	Dec 91	Jan 92	Feb 92	Mar 92	Apr 92	May 92	June 92		
Oil extraction	0.0	-0.2	0.0	0.0	2.8	78.3	0.9	6.5	71.0	0.0	0.4	6.2	0.0	465.2	40.1	25.5	89.5	0.3	0.0	14.0	0.0	0.1	71.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Oil refining	-2.7	18.4	-2.5	1.0	74.5	1.1	24.6	8.7	46.8	25.0	112.4	28.0	9.4	132.2	38.7	25.8	125.5	0.0	2.7	5.6	0.1	0.0	25.1	2.3	-2.3	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Natural gas extraction	163.2	0.0	0.0	0.0	0.0	0.0	160.0	0.0	54.6	18.2	129.9	92.2	61.9	159.0	41.3	11.8	6.3	66.4	1.2	15.0	0.0	0.0	25.0	0.0	-1.3	15.7	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Extraction of coal	0.0	0.0	4.2	0.0	76.1	27.2	0.0	24.3	31.1	4.5	102.0	0.0	0.0	171.2	30.4	90.2	43.4	5.1	21.2	31.3	0.0	0.0	25.1	2.8	0.0	0.0	-4.8	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Processing of coal	0.0	0.0	0.0	0.0	35.5	26.2	0.0	0.0	72.7	0.0	336.4	0.0	0.0	247.3	77.5	72.9	23.3	22.9	0.0	70.6	0.0	0.0	22.7	4.8	0.0	0.0	-2.1	5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Extraction of ore	74.0	10.0	5.0	-3.6	13.9	21.5	54.3	22.7	13.6	134.7	24.9	33.6	14.5	45.4	58.9	88.2	45.4	1.5	4.3	0.2	1.0	4.1	4.6	7.7	3.9	-0.9	5.4	6.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Production of ferrous metals	17.7	11.6	13.4	41.2	50.1	22.1	10.8	18.3	6.5	34.7	31.9	2.1	24.6	39.5	134.7	89.0	35.5	6.3	4.8	4.9	12.3	4.9	1.5	20.5	1.4	1.9	-2.5	-7.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Electrometallurgy	37.3	15.0	-1.8	22.9	1.6	55.0	4.4	13.6	5.6	137.6	4.5	33.0	24.8	30.9	136.8	83.4	-15.1	19.4	192.4	-15.0	37.5	-17.2	23.5	12.1	46.8	-11.0	-11.8	16.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
L and zinc	6.5	11.9	0.0	64.2	-0.6	0.6	51.9	0.3	-0.1	36.2	23.2	76.6	44.1	130.2	22.6	38.3	19.5	-6.1	4.6	0.8	2.9	0.2	1.8	19.7	22.8	0.6	3.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Basic chemicals	65.1	22.8	12.1	16.5	25.8	21.4	-3.2	14.1	43.8	77.2	53.1	17.9	67.3	52.1	49.3	41.5	30.5	16.7	9.6	9.8	2.5	8.3	10.9	6.9	4.7	4.7	15.3	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Fibers and filaments	7.6	38.9	0.0	39.5	0.0	17.1	13.6	0.0	74.0	0.0	58.4	0.0	172.4	0.0	159.7	101.9	10.2	26.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Synthetic resins and plastics	37.4	46.0	15.4	2.2	0.0	59.8	0.0	0.0	114.7	31.5	0.0	8.8	55.7	8.7	16.2	178.7	97.7	63.7	-19.0	-21.4	29.0	27.7	16.3	16.0	6.8	19.1	7.8	14.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Plastics, glass-fibers	32.8	22.0	5.4	-7.9	84.2	1.3	42.8	-10.1	26.9	43.0	0.1	19.5	66.4	104.7	76.5	37.8	0.1	37.6	20.1	13.2	0.0	18.5	0.4	1.1	0.0	0.0	0.8	6.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Varnishing-dyeing	114.7	76.3	16.4	9.0	0.0	41.4	109.2	6.7	0.0	28.7	2.6	0.0	243.3	46.3	15.6	88.5	85.1	5.0	0.0	27.4	0.0	41.3	0.0	0.0	0.0	0.0	36.5	42.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Synthetic rubber	10.3	9.6	36.4	19.8	17.3	39.4	3.1	23.8	3.1	90.7	21.7	17.9	36.0	36.7	62.5	77.9	29.0	12.1	39.0	18.4	3.3	2.2	2.1	0.0	12.1	7.5	-8.6	-3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Basic organic synthetic products	16.7	25.1	71.5	-1.5	0.6	12.2	14.3	1.9	9.3	14.6	-0.1	34.7	0.2	188.6	108.4	34.0	35.5	26.7	4.2	7.3	11.0	14.1	20.0	5.9	0.0	0.0	5.7	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Textiles	40.3	121.4	0.0	-3.5	-12.3	13.5	0.0	45.6	8.8	29.5	4.5	0.0	20.5	85.0	0.0	117.3	0.0	0.0	180.2	84.3	0.0	0.0	8.4	1.5	0.8	80.5	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rubber and asbestos	45.2	33.9	-9.3	0.0	0.0	137.5	0.0	0.0	73.9	72.6	11.8	100.0	0.0	70.0	3.5	148.9	37.4	0.0	1.6	25.1	1.5	0.0	0.0	14.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Metallurgical engineering	37.3	15.9	12.1	6.8	75.9	71.4	0.5	23.2	79.5	0.5	111.5	0.0	136.9	36.4	106.3	0.6	0.0	0.0	0.0	16.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Mining engineering	22.5	54.9	0.0	39.5	19.5	0.0	0.0	-13.8	131.7	0.0	9.8	102.8	3.9	0.0	126.4	0.0	0.0	19.3	0.0	89.1	5.1	20.9	0.0	0.0	0.0	0.0	51.8	10.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Electrotechnical	14.2	55.2	30.1	0.0	58.6	12.4	2.4	21.8	45.4	86.4	28.7	22.6	66.7	87.1	63.9	28.4	37.4	43.5	11.1	5.9	8.5	11.7	-3.7	9.3	0.1	11.0	2.8	11.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Chemical and oil machinery	65.4	0.0	32.3	23.9	70.3	7.5	23.2	4.7	9.7	8.6	80.8	0.0	23.9	155.0	1.4	0.0	0.0	136.4	30.0	25.8	56.2	29.7	0.0	92.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Mechanics	33.5	31.2	3.7	5.3	46.2	25.4	135.2	0.0	11.4	10.4	12.3	18.1	32.9	46.0	120.0	12.1	64.1	0.0	31.4	24.8	23.4	0.0	0.0	73.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Tools	50.4	37.2	0.0	54.1	48.2	12.2	76.7	0.0	6.2	39.1	165.2	0.0	0.0	49.7	69.2	18.8	6.7	0.0	41.0	5.8	0.0	0.0	41.4	11.2	1.9	1.0	1.6	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Cars	0.0	161.6	67.1	6.0	46.9	0.0	92.3	48.2	0.0	107.1	0.0	20.8	0.0	0.0	30.0	0.0	209.5	0.0	23.7	0.0	0.0	0.0	12.5	4.6	4.0	2.5	2.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Tractors and agricultural machinery	66.6	29.3	37.9	14.4	10.0	40.0	28.7	23.5	0.1	28.9	33.4	26.4	90.4	6.1	41.6	165.2	12.9	14.9	1.5	1.7	-6.9	32.8	8.3	9.0	13.6	2.3	1.4	-6.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Road construction engineering	30.7	14.1	36.6	11.8	11.5	43.2	36.7	26.7	1.0	24.7	62.0	23.7	146.3	39.9	31.3	33.1	38.6	7.2	-1.0	9.4	7.2	16.0	6.3	6.1	2.2	3.3	1.3	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Timber	28.8	18.8	43.4	38.5	10.7	140.8	54.1	3.4	57.7	11.5	107.7	11.9	17.0	33.5	50.6	80.7	5.8	17.4	18.5	33.5	28.9	0.0	10.1	6.7	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Wood-processing	27.9	31.7	35.3	40.6	21.1	62.5	19.8	31.2	29.2	18.3	29.4	33.7	23.6	53.3	40.1	38.7	34.1	20.1	17.0	28.3	19.7	20.8	2.2	7.5	3.5	3.6	2.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Sawing production	39.7	32.1	37.3	45.1	13.2	154.2	19.7	5.4	11.5	14.9	21.1	24.2	11.8	25.2	38.5	79.5	21.1	2.8	19.7	72.2	44.0	8.1	0.0	1.1	3.8	0.9	0.6	-9.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Wooden construction details	36.5	20.9	65.2	72.8	22.3	57.5	7.2	24.5	11.4	26.7	17.7	21.5	35.1	18.0	31.9	89.1	60.3	45.1	30.3	1.7	28.7	19.0	0.0	8.1	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Production and repair of wooden pac	39.5	0.0	0.0	291.1	7.0	129.1	27.2	0.0	43.0	0.0	4.2	20.8	16.7	12.5	158.3	29.2	0.0	0.0	20.8	16.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.2	12.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Furniture	19.3	36.8	29.9	10.9	24.5	28.3	22.4	43.9	38.4	18.7	38.2	42.6	22.1	79.4	39.9	51.5	27.3	14.7	9.9	27.7	8.9	26.3	4.0	9.5	4.6	6.2	4.1	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Pulp, wood mass paper and parchment	148.2	-10.9	-11.7																																							

Table A5. Kazakhstan: Regional CPI Inflation Rates, January 1993 – June 1995

OVERALL CPI	1993												1994												1995					
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
National average	32.9	31.9	33.0	21.4	16.1	17.9	21.8	29.1	29.0	38.2	55.5	34.4	42.6	24.2	17.4	31.8	33.8	45.9	25.4	13.3	9.6	20.1	14.2	10.2	8.9	6.7	5.1	3.2	2.7	2.3
By region:																														
Almatinskaya	23.5	29.3	24.4	25.7	23.8	21.4	26.8	20.3	27.3	32.2	64.5	19.6	40.4	16.4	20.2	34.4	29.1	29.6	31.9	14.5	5.6	18.5	12.9	14.0	9.1	8.0	2.6	2.8	2.9	0.8
Aktobinskaya	44.4	25.3	29.3	22.4	12.3	19.8	20.8	34.4	31.9	31.8	57.5	34.4	47.5	23.1	19.1	29.3	30.4	57.4	29.4	16.7	6.1	13.2	10.3	8.8	6.6	4.1	3.9	3.7	2.7	3.6
Almatinskaya a	27.4	22.6	49.2	16.5	12.9	26.7	33.2	24.6	32.7	37.7	51.2	53.7	35.9	29.5	17.8	28.3	36.6	40.0	23.6	11.4	9.7	24.3	10.1	6.5	9.3	6.6	4.3	5.0	1.4	2.3
Astana	38.8	33.1	25.3	21.5	13.2	25.8	5.4	37.0	33.0	31.8	47.7	49.9	50.0	21.6	15.9	20.4	40.7	29.8	21.9	17.5	11.9	25.1	10.0	13.0	11.4	10.1	7.1	5.0	5.8	3.2
East - Kazakhstan	29.7	39.4	23.1	9.2	23.1	21.0	16.1	45.6	30.2	22.2	40.3	32.0	51.8	18.3	26.4	45.5	21.0	48.0	12.1	11.1	5.2	31.5	20.3	7.8	6.6	3.4	3.6	3.6	2.2	1.2
Zhambilkul'skaya	31.4	24.5	21.9	19.5	13.5	15.8	16.9	35.2	20.0	29.1	33.7	35.0	40.1	14.2	24.0	26.5	58.3	42.0	14.5	4.2	7.2	16.5	16.3	5.9	9.8	6.2	3.1	2.3	1.2	2.9
Zharkent'skaya	16.4	35.1	19.7	26.3	21.3	11.2	31.6	13.7	22.6	30.8	53.2	38.1	58.4	41.5	26.1	27.7	26.9	22.6	50.2	35.5	19.4	28.3	14.4	7.9	12.0	4.2	-0.9	0.9	0.4	2.7
West - Kazakhstan	22.4	40.5	28.5	17.0	18.0	27.7	12.1	14.2	38.1	49.5	64.5	29.8	53.2	27.8	19.5	30.9	47.0	44.7	23.3	11.8	14.8	19.4	10.0	12.2	11.5	6.5	3.3	0.3	1.9	3.5
Karagandinskaya	22.2	29.3	28.7	17.9	18.8	16.5	15.5	22.9	30.3	47.8	49.1	22.2	44.8	18.1	12.6	28.4	21.7	59.9	21.0	9.5	6.4	20.2	12.4	11.5	6.1	6.1	6.2	2.8	2.1	1.7
Kysyl - Ordinskaya	41.3	29.4	27.7	14.9	17.9	16.1	20.3	17.0	42.9	29.9	66.7	36.4	42.1	26.0	19.4	34.5	32.4	46.2	34.3	8.8	14.5	28.6	17.2	10.5	6.6	9.6	5.4	8.0	5.2	1.9
Kokchetavskaya	63.3	38.5	20.9	23.3	12.9	12.1	32.4	15.6	45.8	27.4	67.1	30.4	59.7	13.0	11.8	42.7	51.2	37.6	25.5	9.2	-10.3	24.1	13.1	12.7	8.4	7.1	3.6	1.6	1.7	1.4
Kostanayskaya	46.8	23.6	49.7	16.2	8.5	25.3	20.3	38.7	28.7	35.4	60.2	48.0	28.0	15.5	11.2	43.4	28.1	27.4	48.6	9.3	11.8	14.9	16.2	9.1	8.4	7.2	3.9	4.0	2.1	2.5
Mangistauskaya	29.6	60.5	39.2	23.6	19.5	19.3	20.2	47.3	26.8	40.4	29.8	32.2	32.5	65.8	10.6	24.2	54.1	41.6	27.1	11.0	-1.1	20.6	6.7	3.4	6.8	17.3	3.7	3.5	2.0	2.2
Pavlodar'skaya	41.1	36.1	27.5	23.0	8.8	13.7	17.9	18.2	27.6	52.5	47.5	34.9	38.1	21.3	16.7	17.1	31.2	74.9	18.3	8.6	9.9	15.1	17.4	7.4	7.3	7.0	4.2	2.6	3.1	1.8
North - Kazakhstan	13.6	54.3	34.0	6.3	14.6	14.3	27.9	20.8	20.4	45.0	75.1	41.5	45.3	14.7	16.8	46.3	28.5	47.0	27.8	16.6	7.7	13.1	11.8	10.3	8.8	4.1	4.8	2.7	2.8	1.9
Semipalatinskaya	43.2	23.0	27.4	46.0	18.0	10.4	34.5	30.5	32.9	69.0	37.7	38.6	46.6	22.6	20.5	23.1	39.2	62.2	18.7	11.5	7.2	13.8	10.8	19.2	6.3	7.5	4.9	3.9	8.3	-1.2
Taldykorganskaya	49.2	48.0	28.7	27.5	17.8	8.4	17.2	30.4	22.6	37.7	36.3	39.0	37.8	30.2	20.1	26.2	34.5	61.1	25.3	9.4	13.3	23.0	19.7	8.8	11.3	8.3	2.3	3.0	3.2	2.5
Turgay'skaya	46.0	9.0	24.1	39.0	9.4	22.5	22.6	23.0	51.6	42.9	58.3	65.5	49.6	15.2	17.3	27.9	41.5	45.0	35.8	31.9	14.8	17.4	11.5	10.9	12.1	1.7	3.0	2.1	1.6	0.4
South - Kazakhstan	34.8	21.3	71.4	26.1	5.1	22.4	35.6	44.9	26.2	20.1	55.3	30.0	34.3	20.3	11.7	37.7	49.4	47.4	24.0	13.8	15.2	15.6	13.3	9.0	17.8	8.2	3.3	6.1	0.4	0.6
Ustyrt - city	32.6	28.0	40.9	23.6	21.3	17.8	19.1	28.3	25.2	42.1	85.0	34.4	38.3	28.1	15.8	32.9	38.5	42.4	23.6	14.9	9.4	18.9	15.3	12.2	9.9	8.0	6.1	3.8	1.9	3.0
<b>FOOD</b>																														
National average	30.3	30.1	28.0	20.6	17.6	19.7	23.7	25.4	31.8	37.4	67.6	32.6	52.2	26.0	16.7	29.2	29.6	49.8	18.4	7.3	4.3	23.1	13.8	10.8	9.4	7.8	4.2	3.4	3.1	1.6
By region:																														
Almatinskaya	18.2	22.2	11.9	28.3	38.8	24.0	39.0	12.6	26.5	25.3	79.9	19.0	49.2	17.9	23.6	35.4	20.6	30.4	28.8	7.5	-1.7	24.0	16.0	18.4	9.6	9.7	2.2	2.4	3.2	0.8
Aktobinskaya	67.3	28.7	27.1	25.4	11.6	22.4	17.5	17.3	41.8	32.5	70.6	26.3	52.3	19.2	19.7	34.5	30.1	67.1	11.0	11.9	0.3	15.4	9.3	8.9	7.9	4.6	2.0	3.7	2.8	3.7
Almatinskaya	25.0	21.4	29.2	17.1	7.2	25.1	54.9	19.9	36.8	41.6	65.1	56.3	50.9	36.3	11.3	22.5	37.9	38.2	22.0	7.9	5.8	25.2	12.7	7.9	9.1	9.1	5.4	6.2	0.7	2.8
Astana	30.3	34.8	18.1	14.4	16.7	38.1	9.2	48.6	29.9	30.6	68.4	48.2	62.7	25.9	19.5	15.2	43.4	30.6	15.4	15.3	7.4	26.6	12.9	13.7	9.4	9.4	9.3	5.5	3.4	3.8
East - Kazakhstan	36.6	50.5	22.3	6.8	22.6	27.3	16.2	41.6	35.8	20.2	44.3	21.9	72.1	18.4	27.2	49.0	12.0	63.0	9.0	4.9	1.6	35.9	21.5	5.2	4.7	3.8	3.7	4.0	2.4	-0.5
Zhambilkul'skaya	34.7	19.2	30.4	14.2	13.4	17.7	14.3	32.6	21.3	25.4	34.7	44.0	55.2	13.7	30.3	22.2	65.0	37.6	7.8	-1.4	5.5	22.6	20.3	5.2	12.9	9.6	3.5	2.9	1.1	1.2
Zharkent'skaya	16.9	32.6	13.8	37.2	25.3	9.0	19.4	10.1	29.7	34.4	72.3	42.2	63.3	46.7	21.0	17.0	24.9	21.2	40.3	16.9	8.9	31.1	5.0	3.2	13.8	6.6	-1.4	0.9	1.4	3.3
West - Kazakhstan	22.3	41.6	21.9	24.1	17.8	37.9	12.4	7.3	38.3	52.2	66.2	32.9	59.7	19.4	17.6	32.1	51.8	42.7	19.8	2.9	12.5	21.4	9.4	15.5	9.5	6.3	1.8	-1.1	2.6	5.2
Karagandinskaya	24.7	31.5	32.2	16.4	21.8	14.4	15.3	21.5	33.4	31.2	67.9	19.4	63.6	18.5	12.8	24.5	19.4	62.8	15.2	5.9	3.5	21.5	13.2	12.9	6.0	6.8	6.5	3.2	2.6	1.2
Kysyl - Ordinskaya	27.7	36.4	24.8	7.3	12.6	13.4	25.0	10.1	32.9	33.5	108.5	30.0	40.1	27.8	21.0	29.6	33.8	48.2	17.4	6.2	9.8	30.4	14.4	4.3	7.8	13.4	6.1	9.8	7.2	2.0
Kokchetavskaya	71.5	38.0	8.1	35.5	10.2	16.5	46.0	10.4	99.2	25.2	79.1	30.1	71.3	11.6	11.6	49.7	26.9	38.7	25.0	3.0	6.2	33.7	12.1	14.4	10.0	6.5	3.0	0.3	1.8	-0.2
Kostanayskaya	24.3	25.5	35.2	3.3	6.8	35.5	18.2	30.1	32.0	42.6	76.1	40.7	23.5	19.5	12.2	51.2	23.5	26.4	43.9	0.4	7.2	9.8	14.4	16.9						

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