PRICE SETTING AND MARKET STRUCTURE: AN EMPIRICAL ANALYSIS OF MICRO DATA IN SLOVAKIA

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ABSTRACT

Most empirical studies on price setting that use micro data focus on advanced industrial countries. In this paper we analyze the experience of an emerging economy, Slovakia, using a large micro-level dataset that accounts for a substantial part of the consumer price index (about 5 million observations). We find that market structure is an important determinant of pricing behavior. The effect of market structure on persistence of inflation results from two conflicting forces. Increased competition may reduce persistence by increasing the frequency of price changes. In contrast, higher competition may increase persistence through inertial behaviour induced by the strategic complementarity among price setters. In our case study, we find that the latter effects dominate. Indeed, the dispersion of prices is higher while persistence is lower in the non-tradable sectors, suggesting that higher competition is not conducive to lower persistence. Furthermore, we find that the frequency of price changes depends negatively on the price dispersion and positively on the product-specific inflation. These results seem consistent with predictions of Calvo's staggered price model.

Keywords: price setting, market structure, emerging markets
JEL Classification: D40, E31

* We thank Ian Babetskii, Mihai Copaciu, Július Horváth, Attila Rátfai, Stanislav Vidovič†, Zoltán Wolf and the seminar participants at the European Economic Association Annual Congress, Hungarian National Bank 5th Macro Workshop, Czech Economic Association Annual Conference, the Deutsche Bundesbank, Inflation Persistence Network Follow-up Meeting, and Charles University (Prague) for valuable comments. We are especially grateful to Július Horváth for providing us with the data. This research was supported by a grant from the CERGE-EI Foundation under a programme of the Global Development Network. All opinions are those of authors and have not been endorsed by CERGE-EI or the GDN. All remaining errors are entirely our own. The views expressed in this paper are not necessarily those of the European Bank for Reconstruction and Development or of the Czech National Bank.

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1. Introduction

There is a large and growing body of empirical literature based on micro data on price setting in the euro area, with a view to uncover microeconomic sources of price inertia and possible asymmetries across countries (e.g. the "Inflation persistence network", see Dhyne *et al.*, 2006). By contrast, there is very little evidence based on comprehensive micro data on price setting in New European Union (EU) members (or other emerging economies). In this paper, we analyze actual prices for a wide range of products, which form a large proportion of the consumer basket in Slovakia. In addition to the richness of our dataset, the analysis of a country like Slovakia has two interesting implications.

First, in the sample period Slovakia experience an average rate of inflation near two-digit levels, in contrast to previous studies focusing on low inflation countries. In principle, pricing policies can be quite different from those in more stable macroeconomic environment (Calvo *et al.*, 2002). Second, there is a debate in Europe on the potentially large asymmetries between price rigidity in the new as opposed to old EU members. These asymmetries would imply asymmetric effects of monetary policies for new member states when they will eventually join the euro area (Elbourne and de Haan, 2006). The presence of strong asymmetries would call for delaying entry in the euro area. One of the main objectives of our analysis is indeed to verify the view according to which a country like Slovakia, undergoing a process of massive structural change and market liberalization, is characterized by a more rigid price system, inducing a higher degree of inertia (persistence) in price dynamics (Dhyne *et al.*, 2006). In fact, this view does not find empirical support in the case of Slovakia. By comparing price inertia for different sectors, characterized by different market structures, namely manufacturing vs. services, we find that a lower degree of market competition is associated with higher price dispersion and lower persistence. This should not come as a surprise, as in the well-known staggered price model of Calvo (1983) as market competition increases inertia tends to increase rather than decrease (see Calvo, 2000). This result has relevant implications as the process of integration of Slovakia in the EU, and the attendant higher degree of competition in goods markets, is likely to increase rather than decrease inflation inertia.

The paper is organized as follows. In section 2, we discuss a simple analytical framework, which will serve as basis for the empirical analysis. In section 3, we study price setting behaviour of 423 narrowly defined products. More specifically, we estimate the frequency and magnitude of price changes, price dispersion and inflation persistence at the level of price setter using a unique

dataset, covering a large component of the Slovak consumer price index (CPI) during the period 1997-2001. We identify the factors that affect price setting behaviour, namely, the determinants of frequency and size of price changes, the level of inflation persistence and price dispersion. Section 4 concludes and provides some policy implications. Appendix contains the formal definitions of price setting descriptive statistics.

2. Price Setting Behavior

Although there is disagreement on the relevant theoretical model for price setting, Calvo's staggered price model has become a benchmark in the literature. In its reduced form, Calvo's model gives a useful framework for empirical analysis.

Calvo price setting has several virtues: first, it can accommodate the case of perfect competition and price flexibility as a limiting case; second, it highlights factors affecting inertia that are likely to be relevant in most theories of price adjustment; third, it allows to distinguish factors related to market structure from those linked to aggregate macroeconomic variables, that in turn are affected by policy.

As an illustration of the framework, consider the well-known New Keynesian Phillips curve (NKPC) obtained from a discrete time version of Calvo's model. As in Calvo (1983), firms change their prices at random intervals, so that at each point in time there is a fraction *a* of firms that set new prices and a fraction *1-a* that keep their prices unchanged. New prices are set optimally by firms facing a downward-sloping demand function with price elasticity *-θ*. Denoting with π the rate of inflation, such a NKPC relates current inflation to expected inflation and to current output gap (Y_t-Y_t^n):

$$\pi_t = \beta E_t \pi_{t+1} + [(1-\alpha)(1-\beta\alpha)/\alpha]\varsigma(Y_t - Y_t^n)$$

where β is the discount factor and ς a coefficient that characterizes the link between marginal costs and output. It is easy to show that the parameter ς is a decreasing function of the parameter θ, that measures the degree of competition in goods markets (see Woodford (2003) and Calvo (2000)). As markets become more competitive, ς declines. Under perfect competition ($\theta \to \infty$) ς becomes zero. The model can be closed by deriving the dynamics of the output gap and assuming a policy rule determining the interest rate.

Focusing on two parameters of the model: a, the frequency of price adjustment and, θ, the elasticity of substitution among goods, Calvo's model has two main implications: first the higher is a , the faster is the adjustment (lower inertia); second, and much less noted in the literature (Calvo 2000 is the exception), the higher is θ, thus the more competitive are goods markets, the slower is the adjustment, and thus the higher is inertia. Note that in the simplest version of the model it is assumed that a is a constant. In Yun (1996) a is instead a function of the average inflation rate. In addition, a could be affected by market structure, and increase with market competition. Although more controversial, we assume in the empirical analysis that this channel could be at work, and thus, through higher α market competition reduces inertia. At the same time, market competition increases inertia through the parameter θ. The mechanism is related to the so-called strategic complementarity in price behavior and thus has to do with interaction among price setters (Woodford 2003). The intuition is that as competition increases firms will tend to "follow the pack", as deviations from the average price may push the firm out of the market (see Calvo, 2000).[1]

Summing up, increasing market competition may increase or decrease inertia (persistence) depending on the relative strength of two conflicting effects. One plausible assumption would be that the effect of varying a with average inflation is rather weak: it is necessary to have a substantial increase in average inflation to significantly modify price behavior in terms of frequency of adjustment (Golosov and Lucas, 2007).

3. Empirical analysis

3.1 Dataset

The dataset contains the price records of 604 products collected at monthly frequency by the Slovak Statistical Office (SSO) in 38 districts in 1997-2001. For each record in the dataset, there is information on the date (month and year), district, product category code and the price of item. The data allow tracking individual price dynamics. The price for each product is collected monthly at several stores in the district, but typically only from the capital town of the district.[2] On average, about five stores are monitored in a particular district. As a result, each product contains around 10,000 records. Considering all products, the dataset contains more than 5

[1] Note also that the deviation from the price of competitors has been found as one of the most important obstacles for price adjustment in surveys of euro area firms (see Fabiani *et al.*, 2006).
[2] See Horvath and Vidovic (2004) for more details on the methodology of data collection at the SSO.

millions observations. The dataset contains actual prices as opposed to quoted prices or price indices. The final dataset has been reduced, excluding those products that featured a relatively high share of missing records and regulated prices that account for up to 20 percent of the total CPI basket.[3]

Table 1 indicates 12 categories in which products are classified, and reports the original weight of a given product category in the CPI basket, sample weight and the number of products in the sample for each category in the dataset.

Table 1 – Coverage of the Dataset

	Original Weights	Sample Weights	Number of products in the sample
Food and Non-Alcoholic Beverages	23.60	36.17	121
Alcoholic Beverages and Tobacco	6.98	12.05	10
Clothing and Footwear	7.51	8.43	68
Housing, Water, Gas and Electricity	21.50	4.85	14
Furnishing & Maintenance of Housing	5.18	3.6	70
Health Care Expenses	1.45	0	0
Transport	9.25	9.75	20
Communications	2.73	0	0
Leisure and Culture	7.21	9.19	56
Education	0.58	0	0
Hotels, Cafés and Restaurants	7.22	9.42	30
Miscellaneous Goods and Services	6.79	6.54	34
Total	100	100	423

3.2 Evidence

This section contains evidence on price setting behavior in Slovakia. First, we characterize the dynamics of Slovak inflation and analyze its persistence at various levels of aggregation. Second, we estimate additional pricing statistics such as the frequency and size of price changes and examine correlations among them. Third, we study the determinants of price setting behavior.

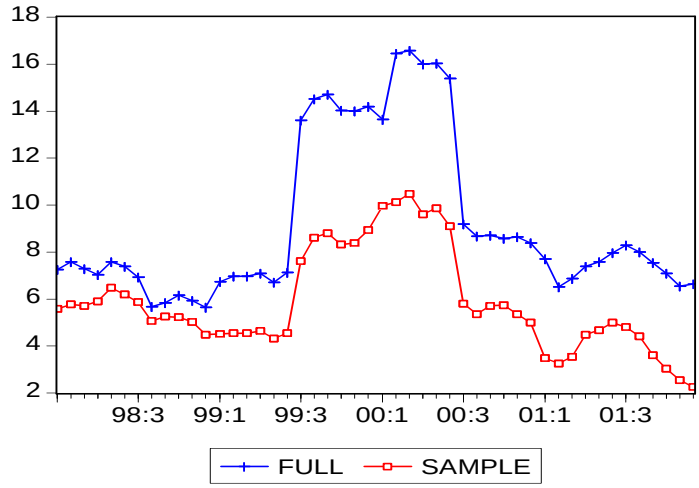
3.2.1 Inflation Dynamics and Persistence

The average annual CPI inflation rate in Slovakia has been about 9% in the period 1998-2001. There is a notable hike in the inflation rate starting in mid 1999, which has been caused mainly by price deregulations and regulated prices increases. This one-off shock has merely changed the

[3] In general, see Aucremanne and Dhyne (2004) for a comprehensive discussion of methodological issues related to the censored nature of dataset.

price level and thus largely vanished after one year. From the end of 2000, there is a gradual slowdown in the inflation rate to some 6% at the end of the sample period.

Figure 1 – Official CPI inflation and sample inflation, 1998-2001



Source: Slovak Statistical Office, own calculations, year-on-year inflation rate reported

Figure 1 reports the Slovak official CPI inflation and our sample inflation. The sample contains 57% of the full CPI basket. The sample inflation is lower than aggregate inflation by 3.3 percentage points on average. The difference between official and sample inflation is attributable largely to the rate of increase in regulated prices.[4]

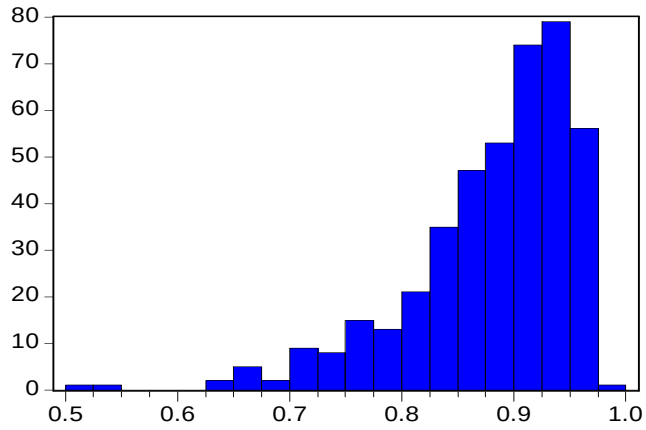
Next, we examine the degree of inflation inertia by applying a non-parametric measure by Marquez (2004) and Dias and Marquez (2005). This approach builds on the idea that a less persistent inflation is more likely to cross its long-run (possibly time-varying) mean of inflation rate. Specifically, a measure of persistence γ is calculated as follows: $\gamma = 1 - n/T$, where n is the number of times the series crosses its long-run mean and T is the number of observations. Given the length of our sample, we opt for a simple univariate filter (Hodrick-Prescott filter) to approximate the long-run time-varying mean.[5]

[4] For example, from January 1999 to January 2000 regulated prices increased by 33%. Given the weight in the CPI index of 17.8% (see Monetary Survey of National Bank of Slovakia, January 2000), this contributed 5.9 percentage points to the official inflation and as such, it almost fully explains the difference between official and our sample inflation.

[5] The standard smoothing parameter of 14400 has been used for all products. Different smoothing parameters, such as the one suggested by Ravn and Uhlig (2002), had very little impact on the resulting estimates.

According to Dias and Marquez (2005), the non-parametric approach has several attractive features over more common parametric measures, typically based on the sum of autoregressive parameters in the regression of inflation on its lagged values. Dias and Marquez (2005) derive finite sample and asymptotic properties of this non-parametric measure. When conducting Monte Carlo simulations, they find that the bias of the estimate of persistence based on non-parametric approach is smaller for any sample size, as compared to the parametric measure. Besides, they argue that non-parametric measure is more robust to structural breaks and additive outliers, which is appealing in case of analysis of emerging market economies. Marquez (2004) shows that the values of γ close to 0.5 indicate absence of persistence in the series. Values significantly above 0.5 signal a positive autocorrelation in the series, while values substantially below 0.5 signal negative autocorrelation.

Figure 2 - Inflation Persistence, 423 products



The results presented in Figure 2 indicate that out of 423 products, only 4 of them display no persistence (γ <0.66 in our case, as $2\sqrt{T}(\gamma - 0.5)$ approximately distributed as N(0,1)), while the remaining 419 products display positively persistent inflation, at the 5% significance level.

The results on the degree of inflation persistence are also reported in Table 2. Given asymmetries within the sectors, we average the product-level inflation persistence, instead of estimating persistence on sectoral data directly, to reduce the potential aggregation bias (see Granger, 1980 and Zaffaroni, 2004). Indeed, the estimate of persistence of aggregate inflation is somewhat greater than the average of estimates at the product-specific level (0.9 vs. 0.87). All sectors display

high persistence, with the persistence in services inflation being somewhat lower.[6] This is surprising, as the services production is relatively more labor intensive and as such, it is expected that the persistence should be greater than for the other sectors. It is noteworthy that Clark (2006) also does not find persistence in the services sectors in the U.S. to be greater than other components of consumer prices and, for some specifications, services exhibit the smallest persistence. Similarly, the results of Lunnemann and Matha (2004) for 15 EU countries indicate that services dummy is significantly negative in nearly all their fixed effects regressions of the determinants of persistence[7] (see also Altissimo *et al.*, 2007 for further evidence on services often exhibiting smaller persistence than other products in the consumer basket). However, these papers do not provide an explanation for what may be labelled as 'services inflation persistence puzzle'.

Even though we do not want to overestimate the robustness of this result, it is remarkable that services, a sector typically characterized by a lower degree of competition, does not display higher persistence in inflation. It is worth noting that Calvo's model of staggered prices predicts such result, as higher degree of competition in the market produces a process of "follow the pack", which is consistent with a high degree of price homogeneity across firms (Calvo, 2000). When markets are highly competitive individual prices cannot diverge much from the average, as firms would loose large shares of their market. In the limiting case of perfect competition, prices would be exactly the same across firms. This effect arises because the degree of strategic complementarity increases with higher competition, implying that the strategy of an individual price setting firm is an increasing function of the average strategy (price) in the market (see also Woodford, 2003). Therefore, although competition reduces costly dispersion in prices, from a dynamic perspective it may increase persistence.[8]

[6] The difference in the results between the expenditure-weighted and non-weighted persistence in services inflation is largely driven by a single item 'complete lunch in a factory canteen'. This item's inflation persistence stands at 0.71 and its sample weight is 6.9%.

[7] The same authors in a different study, Lunnemann and Matha (2005a) however report that if they exclude services from consumer prices then the estimated inflation persistence of the remaining basket declines in comparison to the full basket.

[8] Coricelli (2005) discusses the implications of this issue for the conduct of monetary policy. An overview on inflation persistence and the conduct of monetary policy is presented in Levin and Moessner (2005).

Table 2– Inflation Persistence

	No. of Products	Sample Weights	Inflation Persistence	Inflation Persistence – Weighed
Processed Goods	375	79.28	0.874	0.867
Raw Goods	48	20.72	0.846	0.875
Perishables	64	23.65	0.862	0.869
Durables	231	36.39	0.874	0.886
Non-durables	136	49.62	0.874	0.876
Services	56	13.99	0.851	0.796
Total	423	100	0.871	0.868

Notes: Raw goods category contains meats, fruits, vegetables, milk, cream, honey, eggs, salt, mineral water, gasoline, fuel oil, motor oil and coolants. The results in the last column are expenditure-weighted. Non-durables contain mainly food and beverages. Services include mainly the category 'Hotels, cafés and restaurants' and fees and repairs for various categories of products. Durables contain the remaining products. Perishables are a sub-category of food.

3.2.2 Frequency of Price Changes

Table 3 shows that the estimated expenditure-weighted frequency of price changes is 0.34 in our sample. This means that approximately one in every three consumer prices is changed in a given month. It implies that the expenditure-weighted average duration of a price spell is 3.75 months (and 4.2 months without CPI weights). As the distribution of the duration is asymmetric, the median duration reaches 3.9 months.[9] Thus, consumer prices in Slovakia change more often than the one year frequency often found for the advanced market economies (see Dhyne *et al.*, 2006). The greater frequency of price changes in Slovakia, as compared to advanced market economies, likely reflects more inflationary environment, as well as a smaller share of services in the consumer basket. Next, frequent price adjustments may also reflect structural changes in the economy. In such a context, demand tends to be more uncertain and, consequently, firms have to experiment to find their optimal price to be set.[10] The probability that the single price spell would last longer then 12 months is essentially zero in our sample. More specifically, there are only 3 out of 423 products having the average duration of price spells longer than one year.

There is a considerable degree of heterogeneity in terms of the frequency of price changes. Products such as fruits and vegetables or gasoline typically change their price less than bimonthly. On the other hand, several services keep the price fixed for almost 2 years. The duration of a sinlge price spell is more than 7 months for services. This is likely due to the fact that labor-intensive services are typically less exposed to international competition. Furthermore, as noted by Bils and Klenow (2004), the lower variability of demand for services can be behind their

[9] Additional results using median, weighted median and simple average to estimate the frequency are available on a request.

[10] Rothschild (1974) presents a model in which monopolistic price setter learns gradually about optimal price in a noisily observed demand.

prolonged inaction in price adjustment. On the other hand, prices change most frequently for the raw goods. Diversification of inputs for raw goods is typically limited, as compared to processed goods and thus price changes are triggered more often.

Table 3 - Frequency of Price Changes

	No. of products	Sample Weights	Average Frequency	Average Duration
Processed Goods	375	79.28	0.28	4.3
Raw Goods	48	20.72	0.6	1.83
Perishables	64	23.65	0.46	2.43
Durables	231	36.39	0.34	3.76
Non-durables	136	49.62	0.35	3.75
Services	56	13.99	0.15	7.25
Total	423	100	0.34	3.75

Notes: Frequency refers to the frequency of price changes, i.e. empirical probability that price of the product will change. Duration indicates the number of months between price changes. CPI weights are used for weighting. See Table 2 for the classification of products into categories.

The frequency of price changes between 0.1-0.4 is far more common than other frequencies (see Figure 3). There are only four products changing the price more often than in 80% of the cases. The distribution of the frequency price changes is skewed to the right, similarly to what has been found for other countries (see e.g. Diaz *et al.*, 2004, for comparable evidence on Portugal and Baharad and Eden, 2004, for Israel).

Figure 3 -Frequency of Price Changes, Histogram

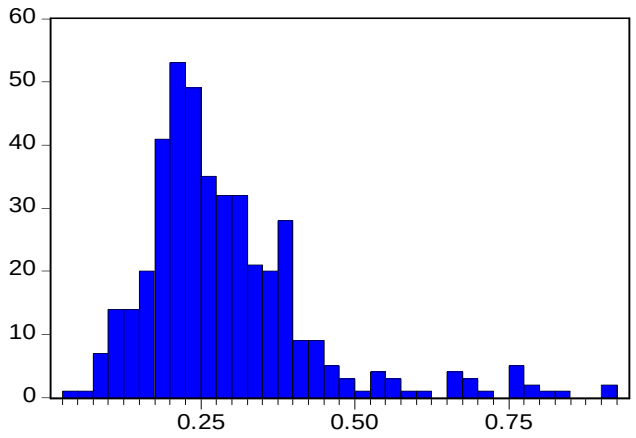


Table 4 puts our results in an international perspective. While the distribution of price stickiness seems to be relatively similar to more advanced countries, the frequency is somewhat higher

reflecting the higher rate of inflation in Slovakia. Note that, despite lower rates of inflation, the frequency for the U.S. data is similar to that for Slovakia. However, as emphasized recently by Nakamura and Steinsson (2008), the frequency of price changes for the U.S. is about half lower, when sales are excluded in the calculation of the frequency of price changes. In this case, the respective frequency falls to about 0.1, which is a value similar to the euro area. Sales thus seem to play more important role in the U.S. than in Europe, whereby the frequency is around 0.15 regardless whether sales are included or not.

Table 4 – Frequency of Price Changes, International Comparison

	Slovakia	Austria	Belgium	France	Italy	Luxembourg	Netherlands	Portugal	USA
Food and Non-Alcoholic Beverages	0.43	0.17	0.28	0.19	0.15	0.19	0.23	0.37	0.25
Alcoholic Beverages and Tobacco	0.31	0.15	0.11	0.22	0.08	0.14	0.19	0.14	NA
Clothing and Footwear	0.25	0.12	0.03	0.18	0.05	0.20	0.21	0.27	0.29
Housing, Water, Gas and Electricity	0.19	0.11	0.22	0.24	0.23	0.29	0.19	0.08	NA
Furnishing & Maintenance of Housing	0.24	0.07	0.04	0.16	0.04	0.18	0.08	0.11	0.26
Health Care Expenses	NA	0.06	0.11	0.08	NA	0.03	NA	0.05	0.09
Transport	0.59	0.36	0.21	0.36	0.28	0.21	0.88	0.26	0.39
Communications	NA	0.09	0.06	0.23	NA	0.04	NA	0.11	NA
Leisure and Culture	0.24	0.24	0.12	0.13	0.05	0.13	0.08	0.12	0.11
Education	NA	0.05	NA	0.06	NA	0.05	NA	0.08	NA
Hotels, Cafés and Restaurants	0.14	0.08	0.03	0.08	0.06	0.05	0.08	0.19	NA
Miscellaneous Goods and Services	0.25	0.07	0.06	0.12	0.04	0.11	0.10	0.11	0.11
% of CPI	57	100	68	65	20	100	8	100	---
Total	0.34	0.15	0.17	0.19	0.09	0.17	0.17	0.22	0.26
Average inflation rate, in %, yearly	9	2	2.2	1.5	2.5	2.5	2.9	2.6	2.4

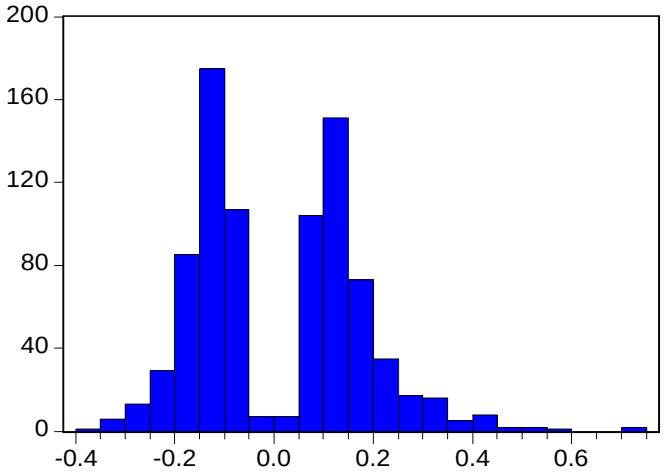
Notes: Own calculations for Slovakia, the authors of results in other countries are as follows: Austria –Baumgartner *et al.* (2005), Belgium - Aucremanne and Dhyne (2004), France - Baudry *et al.* (2007), Italy – Veronese *et al.* (2005), Luxembourg – Lunnemann and Matha (2005b), Netherlands – Jonker *et al.* (2005), Portugal – Dias *et al.* (2008), USA – Bils and Klenow (2005). All averaged frequencies are expenditure-weighted. International comparison of the frequency of price changes in the Euro area countries based on 50 representative products is available in Dhyne *et al.* (2006).

3.2.3 Magnitude of Price Changes

In this section, we estimate the average size of price increases and decreases. We find that the magnitude of price changes is sizeable in both directions. The average size of expenditure-weighted price increases and decreases is 12% and -11%, respectively. The corresponding size of changes rises to 16% and -14% without CPI weights.

The results are comparable to the findings for other Euro area countries (see Dhyne *et al.*, 2006), which indicate that the magnitude of price changes is typically nearly 10%, both for price increases and decreases. In general, the larger size of price changes in Slovakia may indicate lower degree of market competition, as compared to more developed markets in Western Europe.

Figure 4 - Size of Price Changes



Although most price increases and decreases range between 5-15% in absolute terms (274 and 303 products, respectively), there are very long tails toward one (see Figure 4).

Looking at the product groups, Table 5 shows that services exhibit the greatest magnitude of price changes, almost 15% in absolute terms. On the other hand, non-durables, raw goods and perishable products tend to display much smaller changes in prices. Durables and processed goods stand somewhere in between.

Table 5 - Size of Price Changes, Raw vs. Processed Goods, Perishables and Durables, Non-Durables and Services

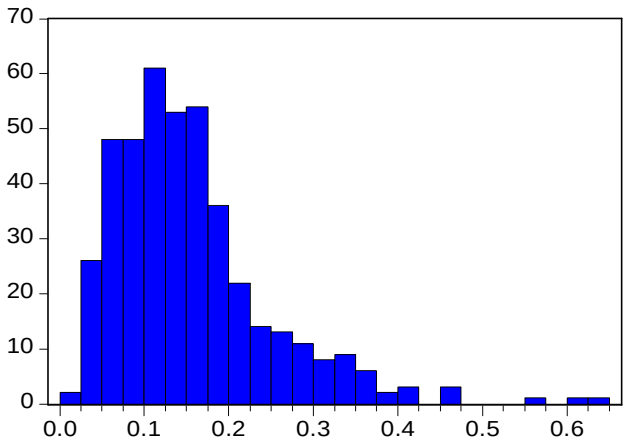
	No. of products	Sample Weights	Increase – Weighted	Decrease - Weighted
Processed Goods	375	0.79	0.12	-0.12
Raw Goods	48	0.21	0.10	-0.08
Perishables	64	0.24	0.11	-0.10
Durables	231	0.36	0.13	-0.11
Non-durables	136	0.50	0.10	-0.10
Services	56	0.14	0.17	-0.15
Total	423	1	0.12	-0.11

Notes: See Table 2.

3.2.4 Price Dispersion

Price dispersion is one of the main characteristics of the market structure. While there is a variety of theoretical models on price dispersion and market structure, recent empirical evidence suggest that price dispersion decreases with market competition. The results of Caglayan et al. (2008) show that price dispersion is lower in more competitive environment using micro level price data from Turkey. Baye et al. (2004) analyze internet prices and find that price dispersion is greater when smaller number of firms list their prices on internet price comparison site (this is also found by Leiter and Warin (2007), who use different online shopping/price comparison site). Similarly, Gerardi and Shapiro (2007) find a negative effect of competition on price dispersion in the U.S. airline industry, with the effect being the most significant on the routes with more heterogeneous customer base.

Figure 5 –Product-Specific Price Dispersion



We examine to what extent prices of identical products sold in the same month differ across different stores. Figure 5 shows large cross-sectional variation in price dispersion. Table 6 suggests that prices in services sector are by far the most dispersed, in comparison to non-durables, raw goods and perishables is twice as much. Interestingly, our results appear to be in line with Crucini *et al.* (2005), who find, using micro data from the EU-15 that the price dispersion decreases with tradability of the product.

Table 6 – Price Dispersion

	No. of products	Sample Weights	Dispersion –Weighted	Dispersion – No weights
Processed Goods	375	0.79	0.130	0.161
Raw Goods	48	0.21	0.085	0.112
Perishables	64	0.24	0.081	0.100
Durables	231	0.36	0.155	0.172
Non-durables	136	0.50	0.078	0.094
Services	56	0.14	0.181	0.233
Total	423	1	0.121	0.155

Notes: See Table 2.

3.2.5 Trade-off between Frequency and Size of Price Changes?

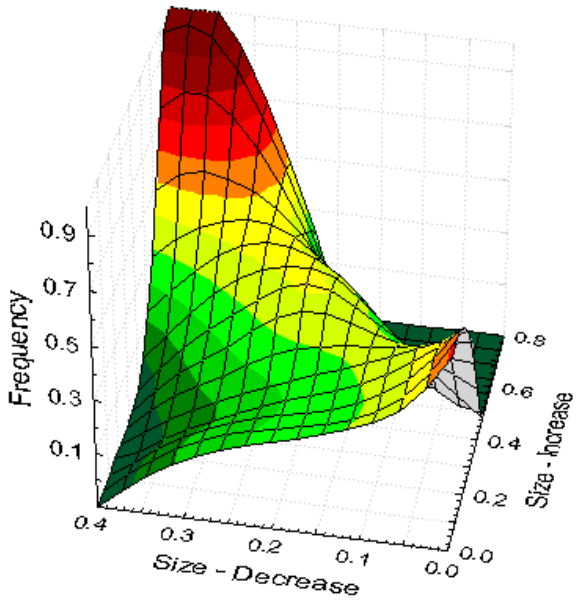
Menu costs models predict that when there are significant costs of price adjustment, price adjustment should occur less frequently and the change should be sizeable (Mankiw, 1985). In this regard, Carlton (1986) finds a negative correlation between the frequency of price changes and the average absolute price change. In principle, the correlation may differ according to whether the price increases or decreases. We find that the simple correlation between product-specific frequency and size of price increases is -0.03, but fails to be significant. On the other hand, frequency the size of price decreases are negatively correlated, with a coefficient oft -0.17, significant at 5% level. This would suggest some mild support for the notion of trade-off between the frequency and the magnitude of price changes.

To examine this issue further, we fit a spline function among the frequency, size of price increases and decreases. Interestingly, the results in Figure 6 point to a negative relationship between the frequency and size only for more rigid prices.[11] For some components of the basket, the relationship is even reversed. These are products changing prices often and by large amounts (such as fruits and vegetables). There also seem to be products with convex costs of price adjustment, in line with Rotemberg (1982) model. For instance, products such as gasoline change prices often, but only by a tiny magnitude.

We next try to identify the factors that affect the firm's price behavior, analyzing the determinants of inflation persistence, frequency of price changes and price dispersion.

[11] Indeed, when we use only products with below average frequency of price changes, the simple correlation coefficient rises to -0.31 and -0.29, for the price increases and price decreases in absolute terms, respectively.

Figure 6 – Frequency and Size of Price Changes



3.2.6 Determinants of Price Setting Behavior

Table 7 presents the results on the determinants of inflation persistence. Price dispersion, as a proxy for the level of market competition, tends to decrease persistence.[12] This is in line with our conjecture laid out in section 2; a more competitive environment is associated with greater persistence of shocks. Furthermore, a greater frequency of price changes is associated with smaller persistence. Galí (2004) emphasizes that this finding is likely to be a consequence of the backward looking behavior of some fraction of price setters. Assuming a hybrid NKPC as in Gali and Gertler (1999), he shows that inflation persistence is an increasing function of the fraction of backward looking price setters. In this regard, Cecchetti and Debelle (2006) claim that greater price rigidity generates more backward looking behavior and thus more persistence. It is worth mentioning that here our results differ from Bils and Klenow (2004), who report a positive correlation between the frequency of price changes and inflation persistence for their full sample (and statistically insignificant correlation for the restricted sample). In contrast, we find a statistically significant correlation of -0.14, which gives some support to Calvo pricing model.

[12] The list of our instrumental variables used in this section includes: raw goods, services, durables, perishables and expenditure weight. Note that the set of instruments differs across the tables and thus the degrees of freedom for Sargan-Hansen test varies correspondingly.

Table 7 – Determinants of Inflation Persistence

	(1)	*(2)*	*(3)*	*(4)*	*(5)*
Price dispersion	-0.18***		-0.41***		
	(0.07)		(0.12)		
Frequency		0.04	-0.17***		
		(0.04)	(0.06)		
Raw goods				-0.03**	-0.04**
				(0.01)	(0.02)
Services				-0.03**	-0.04***
				(0.01)	(0.01)
Durables					-0.01
					(0.01)
Perishables					-0.002
					(0.01)
No. of observations	423	423	423	423	423
Adj. R-squared	---	---	---	0.03	0.04
Sargan-Hansen test	7.97(0.09)	13.9(0.01)	1.17(0.56)	---	---
Estimation Method	GMM	GMM	GMM	OLS	OLS

Note: Heteroscedasticity corrected standard errors & covariance. ***, **, and * - denotes significance at 1 percent, 5 percent, and 10 percent, respectively.

Next, staggered price setting models in general predict that in the steady state the products with less frequent price changes exhibit greater price dispersion and smaller product-specific inflation rate. The price dispersion among the homogenous products may occur because of the inability of firms to adjust instantaneously their price to a given shock. The greater the inability, the greater is price dispersion. Higher inflation rates erode the real price more quickly and therefore price adjustment is triggered more often. Baharad and Eden (2004) try to discriminate between staggered price models and uncertain and sequential trade (UST) models by running a regression between the frequency of price changes and price dispersion and inflation rate.[13] In contrast to the UST model, the staggered price model implies a significant relationship between frequency of price changes, price dispersion and inflation rate. In addition, following Bils and Klenow (2004), we also examine the importance of product characteristics in determining the length of inaction in price adjustment.

Table 8 contains our results on the determinants of frequency of price changes. The results suggest that product characteristics matter for the frequency the price changes and according to column (5) explain about 60% of cross-sectional variation in the frequency of price changes.

[13] UST models assume that there is price dispersion in the equilibrium. There is a trade-off between high price and the probability of making a sale in the model. If seller quotes relatively low price, he increases the changes of selling his product. Seller may also charge high price, but at the expense that the probability of making a sale is then rather low. This implies that the seller does not have to change the price of a product, even if the inflation erodes his price, because it increases the probability of making a sale. Therefore, UST models claim that prices may be seemingly rigid, to a certain extent.

Individual inflation rate is statistically significant, albeit given the size of estimated coefficients the results indicate that its effect is rather small, which comply with Golosov and Lucas (2007). Price dispersion seems to be associated with less frequent price changes, but this result should be interpreted with caution, as the test for overidentifying restrictions is in this case rejected.[14] All in all, our results give support to the staggered price setting model.

Table 8 – Determinants of Frequency of Price Changes

	(1)	*(2)*	*(3)*	*(4)*	*(5)*
Price dispersion	-3.62***		-1.63***		
	(0.78)		(0.21)		
Individual inflation		0.06**	0.02**		
		(0.03)	(0.01)		
Raw goods				0.26***	0.17***
				(0.03)	(0.02)
Services				-0.10***	-0.17 ***
				(0.01)	(0.02)
Durables					-0.10***
					(0.01)
Perishables					0.05***
					(0.02)
No. of observations	423	423	423	423	423
Adj. R-squared	---	---	---	0.47	0.59
Sargan-Hansen test	6.00(0.01)	2.25(0.13)	11.87(0.01)	---	---
Estimation Method	GMM	GMM	GMM	OLS	OLS

Note: Heteroscedasticity corrected standard errors & covariance. ***, **, and * - denotes significance at 1 percent, 5 percent, and 10 percent, respectively.

To assess the determinants of price setting behaviour further, we focus on the price dispersion. Two prominent theories – menu cost and search models – link price dispersion to inflation and the frequency of price changes and predict that higher inflation increases price variability, while more frequent price changes should reduce it (Caglayan et al., 2008).

Table 9 contains our results on the determinants of price dispersion. We find that greater frequency of price changes decreases the dispersion, while individual inflation increases it. The latter finding is in line with large empirical literature represented by e.g. Lach and Tsidon (1992) and Konieczny and Szkrypacz (2005), who find that inflation adds to price variability, while the former comply with Caglayan et al. (2008). In addition, prices in services exhibit greater dispersion. On the other hand, prices of raw goods are typically less dispersed.

[14] The attendant OLS estimates, available upon request, show that a higher degree of competition is associated with less rigid prices, as found e.g. by Bils and Klenow (2004). We have also tested for the presence of any non-linear relationship between frequency and inflation, but we failed to find any significant non-linearity.

Table 9 – Determinants of Price Dispersion

	(1)	*(2)*	*(3)*	*(4)*	*(5)*
Frequency		-0.50***	-0.33***		
		(0.05)	(0.09)		
Individual inflation	0.02***		0.02***		
	(0.01)		(0.01)		
Raw goods				-0.04***	0.01
				(0.01)	(0.01)
Services				0.09***	0.15 ***
				(0.02)	(0.02)
Durables					0.08***
					(0.01)
Perishables					0.01
					(0.01)
No. of observations	423	423	423	423	423
Adj. R-squared	---	---	---	0.12	0.25
Sargan-Hansen test	25.6(0.00)	3.43(0.18)	1.20 (0.27)	---	---
Estimation Method	GMM	GMM	GMM	OLS	OLS

Note: Heteroscedasticity corrected standard errors & covariance. ***, **, and * - denotes significance at 1 percent, 5 percent, and 10 percent, respectively.

4. Conclusions

The analysis on price setting for a large micro dataset based on actual prices indicates that Slovakia shares many of the features found in micro studies for advanced market economies. All in all, not only average inflation, but also the frequency of price changes and the persistence in inflation appear to be higher in Slovakia as compared to advanced economies. The significantly higher persistence in emerging economies that are in the process of joining the European Monetary Union is a cause for concern for policy-makers in the euro area, as it would imply asymmetric effects of the common monetary policy, and persistent disequilibria in real exchange rates across members of the Eurozone.

Looking forward, higher market competition brought about by the integration in the European Union and in the European Monetary Union is unlikely to reduce such persistence, as our results indicate a positive correlation between market competition and inflation persistence. By contrast, an increase in the importance of the service sectors that are at present compressed in emerging countries like Slovakia may in fact reduce persistence. Therefore, it is not easy to predict the tendency in persistence as Slovakia becomes more and more integrated in the EU and its economic structure converges to that of EU countries.

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APPENDIX 1 – PRICING STATISTICS

In this Appendix we derive formally the pricing statistics used in the paper. This includes the frequency of price changes, duration of single price spell, the size of price increases/decreases, and price dispersion (inflation persistence is already defined formally in the main text).

To define the frequency of price changes and duration of single price spell formally, let p_{ist} denote the price of product i in store s at time t, where $t = 1,...,T$, $s = 1,...,S$ and $i = 1,...,I$. Let

$$x_{ist} = \begin{cases} 1 \text{ if } p_{ist} \neq p_{ist-1} \\ 0 \text{ if } p_{ist} = p_{ist-1} \end{cases}$$

As a result, the product-specific frequency of price changes, μ_i, is computed as:

$$\mu_i = \frac{1}{T}\sum_{t=1}^{T}\frac{1}{S}\sum_{s=1}^{S}x_{ist}$$

We compute average duration of single price spell, ϕ, as simple average over product-specific frequencies $\phi_1 = \frac{1}{I}\sum_{i=1}^{I}\mu_i^{-1}$ or weighted average of product-specific frequencies $\phi_2 = \frac{1}{I}\left(\sum_{i=1}^{I}\sum_{w=1}^{W}w_i\mu_i\right)^{-1}$, where w_i is the consumption weight of product i in the basket (note that $\sum_{w=1}^{W}w_i = 1$). Alternatively, the duration can be defined in terms of medians instead of averages.

The product-specific size of price increases, λ_i, is computed as $\lambda_i = \frac{1}{T}\sum_{t=1}^{T}\frac{1}{S}\sum_{s=1}^{S}\frac{p_{ist} - p_{ist-1}}{p_{ist-1}}$, conditional on that $p_{ist} > p_{ist-1}$. Similarly, the product-specific size of price decreases, τ_i, is computed as $\tau_i = \frac{1}{T}\sum_{t=1}^{T}\frac{1}{S}\sum_{s=1}^{S}\frac{p_{ist} - p_{ist-1}}{p_{ist-1}}$, conditional on that $p_{ist} < p_{ist-1}$. The average size of price change can be computed as the simple or weighted average (or median) of product-specific size of price changes.

Product-specific price dispersion is defined as follows. $\sigma_i = \frac{1}{T}\sum_{t=1}^{T} SD\left(\log p_{ijt}\right)$, where $\log p_{ijt}$ is a logarithm of average price of product i at region j.

THE RESULTS ON PRODUCT-SPECIFIC DESCRIPTIVE STATISTICS

(all 423 products)

	CPI Weights	Frequency	Duration (mean)	Price dispersion	Inflation rate – y-o-y change	Size - increase	Size - decrease	Inflation persistence
Rice	0.29	0.40	2.51	0.07	1.77	0.07	-0.07	0.88
Rice in boiling packets	0.03	0.38	2.66	0.08	-9.98	0.15	-0.16	0.93
Wheat Flour Half Fine	0.42	0.40	2.48	0.05	2.40	0.07	-0.08	0.95
Farina	0.03	0.31	3.19	0.04	6.02	0.06	-0.07	0.85
Rye bread	1.33	0.29	3.49	0.12	9.11	0.10	-0.10	0.88
Bread white	0.80	0.25	3.97	0.13	8.70	0.10	-0.13	0.85
White roll	1.02	0.22	4.63	0.09	5.03	0.13	-0.14	0.90
Christmas cake	0.61	0.29	3.43	0.13	8.82	0.10	-0.12	0.85
Biscuits without filling	0.17	0.35	2.88	0.10	9.38	0.09	-0.16	0.95
Biscuits with filling	0.33	0.36	2.79	0.07	7.30	0.05	-0.07	0.90
Waffles with filling	0.59	0.36	2.79	0.06	6.09	0.06	-0.07	0.90
Wafers without flavor	0.21	0.39	2.54	0.06	7.23	0.08	-0.10	0.90
Salted crackers	0.16	0.32	3.15	0.19	9.43	0.14	-0.14	0.90
Pasta (with eggs)	0.42	0.38	2.63	0.13	6.64	0.09	-0.09	0.90
Dumpling	0.31	0.30	3.33	0.11	7.24	0.08	-0.10	0.90
Puff pastry (listkove)	0.10	0.36	2.76	0.07	4.85	0.11	-0.12	0.88
Porridge (without flavor)	0.03	0.39	2.58	0.08	2.10	0.10	-0.10	0.80
Chuck roast with bone	0.23	0.37	2.69	0.08	2.66	0.09	-0.09	0.90
Boneless chuck roast	0.24	0.39	2.58	0.06	5.78	0.07	-0.08	0.85
Beef rear without bone	0.36	0.40	2.50	0.06	4.33	0.06	-0.07	0.80
Beef joint without bone, lower	0.09	0.32	3.13	0.06	4.80	0.07	-0.08	0.80
Pork meat with bone	0.93	0.57	1.75	0.04	4.83	0.06	-0.06	0.73
Pork neck with bone	0.43	0.54	1.84	0.04	5.04	0.07	-0.06	0.83
Flank of bacon	0.29	0.54	1.84	0.05	5.96	0.11	-0.10	0.93
Pork leg without bone	0.36	0.57	1.76	0.06	3.76	0.09	-0.08	0.83
Pork shoulder without bone	0.47	0.56	1.78	0.05	4.34	0.07	-0.06	0.88
Chicken without insides	1.16	0.53	1.90	0.03	6.15	0.05	-0.06	0.88
Chicken portioned fresh and frozen	1.19	0.49	2.02	0.04	2.99	0.08	-0.08	0.90
Pork diet salami	0.28	0.46	2.17	0.06	0.81	0.08	-0.08	0.90
Fine frankfurters	0.61	0.47	2.13	0.05	1.62	0.07	-0.07	0.93
Ham salami	0.52	0.47	2.12	0.04	0.90	0.06	-0.06	0.93
Durable salami	0.59	0.38	2.62	0.06	4.50	0.06	-0.08	0.80
Boneless smoked pork neck	0.16	0.58	1.73	0.06	7.39	0.13	-0.12	0.90
Pork stewed ham	0.59	0.44	2.30	0.04	2.44	0.06	-0.06	0.93
Smoked bacon with skin	0.26	0.37	2.69	0.13	10.20	0.16	-0.17	0.90
Luncheon meat pork	0.03	0.35	2.86	0.10	1.78	0.11	-0.11	0.88
Pork meat paste	0.55	0.40	2.48	0.12	3.40	0.11	-0.10	0.93
Pork liver	0.10	0.33	3.05	0.08	0.78	0.09	-0.09	0.93
File-fish not breaded	0.43	0.45	2.24	0.07	12.90	0.16	-0.17	0.93
Carp (live and frozen)	0.07	0.22	4.51	0.28	4.18	0.16	-0.13	0.93

Smoked fish (mackerel with head)	0.05	0.33	3.05	0.08	10.94	0.08	-0.09	0.93
Sardines in oil	0.24	0.38	2.60	0.07	6.82	0.07	-0.07	0.95
Fish salad with mayonnaise	0.26	0.35	2.89	0.12	8.64	0.10	-0.14	0.88
Fish in sour	0.09	0.36	2.78	0.08	10.11	0.13	-0.17	0.93
Pasteurized half-fat milk	0.90	0.30	3.29	0.07	6.99	0.05	-0.05	0.88
Thick milk Tatra without sugar	0.02	0.33	3.00	0.04	11.14	0.08	-0.13	0.83
Dried Milk for Babies	0.09	0.39	2.60	0.06	6.15	0.15	-0.13	0.93
Dried Milk Half-fat	0.02	0.41	2.45	0.06	3.87	0.10	-0.10	0.93
Fruit yoghurt	1.02	0.39	2.54	0.07	-0.10	0.06	-0.08	0.95
Sour milk (acidophilus)	0.16	0.27	3.74	0.24	79.07	0.40	-0.14	0.95
Sweet cream 33%	0.24	0.31	3.25	0.05	5.86	0.05	-0.05	0.90
Sour cream	0.29	0.32	3.16	0.07	6.48	0.08	-0.11	0.78
Cheese Eidam, block	0.74	0.39	2.53	0.05	5.87	0.05	-0.06	0.88
Spreadable cheese	0.68	0.39	2.60	0.07	-9.23	0.07	-0.11	0.95
Ostiepok rolled smoked cheese	0.03	0.39	2.59	0.10	7.94	0.07	-0.08	0.83
Mold cheese Niva	0.09	0.34	2.93	0.06	7.81	0.08	-0.11	0.98
Bryndza sheep cheese	0.14	0.50	2.01	0.05	7.22	0.06	-0.08	0.87
Eggs (chicken, fresh)	0.80	0.65	1.54	0.07	4.81	0.11	-0.10	0.90
Butter	0.68	0.45	2.20	0.05	-0.47	0.06	-0.06	0.93
Margarine	0.66	0.38	2.60	0.08	4.15	0.07	-0.08	0.95
Edible oil	0.85	0.39	2.56	0.05	4.60	0.06	-0.06	0.95
Pork lard	0.03	0.50	1.98	0.14	5.05	0.16	-0.14	0.93
Apples	0.59	0.77	1.30	0.11	6.45	0.17	-0.16	0.85
Oranges	0.28	0.81	1.23	0.08	6.57	0.16	-0.12	0.90
Mandarins	0.24	0.79	1.27	0.10	3.91	0.18	-0.14	0.85
Lemons	0.12	0.77	1.29	0.07	2.27	0.12	-0.10	0.78
Kiwi	0.07	0.77	1.30	0.17	6.11	0.33	-0.21	0.85
Bananas	0.55	0.83	1.21	0.06	7.87	0.16	-0.13	0.54
Dried grapes	0.05	0.42	2.39	0.07	6.41	0.11	-0.11	0.90
Peanuts peeled salted	0.29	0.41	2.45	0.09	-0.97	0.10	-0.10	0.93
Poppy seeds	0.05	0.39	2.54	0.11	6.04	0.17	-0.14	0.93
Celery	0.02	0.61	1.64	0.17	5.91	0.31	-0.22	0.68
Carrot	0.07	0.72	1.40	0.16	9.38	0.31	-0.22	0.78
Parsley	0.03	0.75	1.33	0.17	19.20	0.37	-0.23	0.88
Cauliflower	0.10	0.78	1.28	0.18	4.28	0.38	-0.23	0.51
Cabbage (white)	0.10	0.66	1.51	0.15	4.64	0.33	-0.22	0.76
Salad cucumbers	0.14	0.92	1.09	0.15	4.14	0.72	-0.33	0.71
Paprika	0.21	0.90	1.11	0.18	5.64	0.52	-0.29	0.78
Onion	0.10	0.68	1.47	0.12	4.59	0.24	-0.19	0.88
Tomatoes	0.28	0.67	1.50	0.41	5.37	0.44	-0.28	0.63
Beans white dried	0.03	0.36	2.75	0.10	3.70	0.09	-0.09	0.95
Lentils (big)	0.03	0.35	2.85	0.08	3.54	0.08	-0.09	0.90
Frozen vegetable mix	0.19	0.38	2.62	0.13	9.97	0.12	-0.13	0.85
Frozen spinach	0.03	0.38	2.62	0.08	2.83	0.10	-0.10	0.93
Sour cabbage (sterilized)	0.07	0.39	2.57	0.07	4.73	0.11	-0.10	0.90
Sterilized peas in salty water	0.07	0.33	3.00	0.12	4.22	0.15	-0.14	0.93
Paprika and tomatoes sterilized (without sausage)	0.02	0.48	2.10	0.07	-4.43	0.17	-0.19	0.88
Potatoes	0.40	0.67	1.49	0.14	7.66	0.40	-0.20	0.78
Potato chips	0.16	0.39	2.53	0.08	8.75	0.09	-0.09	0.93
Frozen French fries	0.10	0.45	2.24	0.11	0.04	0.11	-0.11	0.95
Crystal sugar	0.61	0.42	2.39	0.04	8.23	0.10	-0.08	0.88
Ground sugar	0.14	0.42	2.37	0.05	9.17	0.11	-0.10	0.93
Honey	0.12	0.46	2.15	0.10	1.92	0.11	-0.11	0.95
Strawberry jam	0.03	0.32	3.11	0.06	3.02	0.07	-0.08	0.93

Milk chocolate	0.45	0.39	2.54	0.08	4.32	0.06	-0.07	0.83
Cooking chocolate	0.12	0.37	2.68	0.05	3.96	0.08	-0.10	0.83
Chocolate bar with filling	0.26	0.34	2.97	0.09	6.77	0.09	-0.12	0.90
Dessert chocolates	0.29	0.40	2.48	0.10	8.31	0.07	-0.07	0.83
Fruit jelly	0.07	0.34	2.90	0.11	7.77	0.09	-0.10	0.88
Hard candies without filling	0.31	0.39	2.57	0.08	10.04	0.07	-0.07	0.90
Chewing gum - slices	0.42	0.23	4.37	0.18	-2.47	0.11	-0.12	0.93
Salt	0.07	0.25	3.94	0.04	5.28	0.05	-0.06	0.85
Ground sweet paprika	0.09	0.38	2.62	0.10	6.70	0.13	-0.11	0.88
Ground pepper	0.07	0.40	2.50	0.11	18.51	0.18	-0.13	0.85
Caraway not ground	0.02	0.34	2.90	0.15	4.34	0.20	-0.15	0.78
Vinegar 8%	0.10	0.34	2.94	0.06	1.82	0.10	-0.10	0.93
Mustard full-fat	0.17	0.32	3.08	0.06	3.77	0.07	-0.08	0.76
Ketchup	0.21	0.44	2.26	0.10	1.23	0.10	-0.10	0.83
Mayonnaise	0.10	0.39	2.57	0.10	39.82	0.19	-0.09	0.95
Baking powder	0.03	0.26	3.81	0.06	-2.52	0.16	-0.15	0.90
Fresh yeast	0.07	0.27	3.72	0.31	11.92	0.21	-0.14	0.95
Dehydrated soup (not instant)	0.19	0.39	2.56	0.17	2.49	0.10	-0.10	0.85
Vanilla pudding	0.07	0.31	3.18	0.07	9.00	0.10	-0.09	0.88
Dried vegetable flavoring	0.21	0.35	2.86	0.05	4.14	0.08	-0.07	0.85
Coffee beans	0.90	0.43	2.33	0.08	-0.98	0.09	-0.09	0.95
Instant coffee with caffeine	0.31	0.36	2.79	0.09	5.69	0.08	-0.09	0.85
Black tea without flavor	0.28	0.32	3.17	0.17	3.36	0.12	-0.13	0.80
Cocoa powder	0.05	0.34	2.90	0.05	0.38	0.09	-0.09	0.80
Cocoa granko	0.12	0.36	2.81	0.04	5.04	0.06	-0.06	0.83
Table mineral water	0.66	0.29	3.41	0.11	7.42	0.11	-0.12	0.93
Fruit syrup	0.33	0.31	3.20	0.07	-0.04	0.06	-0.06	0.95
Rum 38-40%	0.36	0.36	2.77	0.03	2.27	0.05	-0.06	0.95
Vodka 38-40%	1.56	0.33	3.01	0.09	-4.92	0.07	-0.09	0.95
Brandy 38-40%	1.26	0.37	2.71	0.08	-7.99	0.06	-0.11	0.95
Bottled red wine	0.38	0.36	2.79	0.04	4.30	0.05	-0.05	0.90
Bottled white wine	0.88	0.36	2.80	0.05	3.20	0.05	-0.05	0.85
Bottled sparkling wine	0.68	0.31	3.18	0.03	3.49	0.05	-0.05	0.88
Beer 10% bottled	1.11	0.28	3.57	0.09	7.01	0.08	-0.08	0.85
Beer 12% bottled	0.78	0.29	3.45	0.09	6.20	0.07	-0.07	0.85
Cigarettes "Mars" 20 pieces	4.41	0.30	3.31	0.03	10.94	0.07	-0.06	0.85
Cigarettes "Dalila" 20 pieces	0.62	0.22	4.61	0.04	12.88	0.12	-0.24	0.88
Cotton dress for women	0.16	0.26	3.78	0.17	16.00	0.26	-0.20	0.90
Synthetic dress material	0.05	0.29	3.42	0.17	14.42	0.26	-0.19	0.95
Wool dress for women	0.02	0.18	5.52	0.12	-0.20	0.12	-0.10	0.76
Short underwear for men	0.07	0.35	2.85	0.20	8.55	0.13	-0.10	0.83
Long knitted underwear for men	0.02	0.39	2.55	0.13	1.47	0.12	-0.11	0.76
Undershirt for men	0.03	0.32	3.15	0.13	2.62	0.13	-0.11	0.80
Pajamas for men (from fabric)	0.09	0.32	3.13	0.15	5.14	0.14	-0.12	0.76
Shorts for men	0.03	0.25	3.96	0.14	3.74	0.14	-0.12	0.90
Bathrobe for men	0.02	0.18	5.53	0.21	5.75	0.23	-0.19	0.66
Panties for women	0.16	0.33	3.00	0.18	10.29	0.13	-0.12	0.88
Women night-gown	0.03	0.37	2.72	0.16	4.18	0.13	-0.11	0.88
Women slip	0.00	0.29	3.40	0.14	8.06	0.13	-0.11	0.95
Pajamas for women (from fabric)	0.09	0.30	3.30	0.14	5.59	0.16	-0.14	0.88
Ladies bra	0.23	0.34	2.95	0.18	9.72	0.12	-0.11	0.85
Home dress for women	0.02	0.27	3.74	0.26	4.69	0.18	-0.14	0.73
Shirt for babies (from fabric)	0.00	0.24	4.11	0.10	6.51	0.12	-0.11	0.66
Cotton napkins for babies tetra	0.00	0.29	3.47	0.05	5.04	0.09	-0.10	0.93

Short sleeved shirt for babies	0.14	0.27	3.70	0.32	13.12	0.19	-0.16	0.83
Panties for girls	0.02	0.30	3.31	0.12	4.31	0.12	-0.12	0.76
Underwear for boys	0.02	0.31	3.23	0.16	2.57	0.13	-0.12	0.78
Children pajamas	0.07	0.35	2.87	0.14	5.47	0.13	-0.12	0.85
Shirt for babies without sleeves	0.02	0.27	3.69	0.13	4.77	0.12	-0.11	0.90
Shorts for boys	0.00	0.18	5.60	0.18	8.72	0.29	-0.20	0.93
Long winter coat for men	0.07	0.19	5.34	0.10	4.97	0.14	-0.13	0.93
Winter jacket for men	0.31	0.24	4.16	0.18	4.72	0.17	-0.14	0.88
Longer leather jacket for men	0.12	0.24	4.16	0.15	1.23	0.16	-0.13	0.83
Spring jacket for men	0.09	0.18	5.56	0.15	4.72	0.21	-0.17	0.83
Short sleeved shirt for men	0.42	0.24	4.12	0.22	1.30	0.14	-0.12	0.83
Long winter coat for women	0.42	0.22	4.65	0.12	4.75	0.13	-0.12	0.93
Winter jacket for women	0.24	0.20	5.03	0.21	4.88	0.17	-0.14	0.88
Rabbit fur coat for women	0.09	0.18	5.46	0.13	3.00	0.13	-0.14	0.78
Long spring coat for women	0.12	0.22	4.50	0.11	4.10	0.15	-0.12	0.95
Thin costume for women	0.57	0.31	3.22	0.13	5.19	0.16	-0.14	0.88
Summer dress for women	0.24	0.16	6.30	0.15	1.19	0.22	-0.18	0.93
Tailoring of a dress for women	0.05	0.11	8.94	0.34	6.67	0.20	-0.24	0.90
Spring children jacket	0.07	0.21	4.73	0.31	0.55	0.28	-0.21	0.88
Winter jacket for boys	0.35	0.21	4.78	0.21	-4.23	0.21	-0.15	0.88
Jeans for boys	0.40	0.19	5.40	0.36	12.59	0.18	-0.14	0.86
Small baby coat	0.02	0.31	3.28	0.19	4.94	0.15	-0.13	0.88
Baby stockings	0.02	0.31	3.23	0.20	3.69	0.14	-0.12	0.83
Stockings for women	0.24	0.23	4.43	0.26	2.89	0.10	-0.09	0.93
Stocking for children	0.07	0.28	3.61	0.12	0.11	0.14	-0.14	0.90
Handkerchief for women	0.00	0.25	4.02	0.12	4.02	0.13	-0.12	0.88
Shawl for adults	0.03	0.16	6.43	0.13	6.55	0.20	-0.17	0.93
Felt hat for men	0.00	0.21	4.87	0.21	1.13	0.18	-0.17	0.93
Fur cap for women	0.00	0.20	5.09	0.17	7.98	0.22	-0.17	0.90
Knit cap for children	0.05	0.18	5.41	0.25	2.68	0.16	-0.14	0.83
Knit gloves for children	0.02	0.21	4.78	0.17	6.33	0.21	-0.20	0.88
Tie for men	0.05	0.23	4.30	0.22	4.93	0.13	-0.12	0.88
Thread for sewing, Tebex	0.02	0.23	4.33	0.19	5.48	0.09	-0.09	0.80
Imitation of sewing silk (Nora)	0.00	0.13	7.89	0.12	-3.43	0.12	-0.11	0.90
Knit tread	0.05	0.21	4.76	0.14	-19.86	0.12	-0.13	0.95
Elastic waistband	0.00	0.19	5.26	0.10	5.41	0.21	-0.18	0.95
Metal zipper	0.02	0.18	5.41	0.15	6.43	0.12	-0.11	0.90
Cleaning of trousers in 3 days	0.02	0.10	9.92	0.08	4.98	0.21	-0.16	0.90
Cleaning of coats	0.03	0.12	8.42	0.37	11.94	0.15	-0.15	0.93
Leather walking shoes for men	0.38	0.35	2.85	0.25	4.43	0.10	-0.10	0.88
Leather walking shoes for men, sandals	0.07	0.22	4.63	0.11	8.87	0.24	-0.18	0.90
Leather winter shoes	0.23	0.19	5.19	0.18	11.47	0.15	-0.13	0.93
Leather sport shoes	0.38	0.29	3.51	0.11	7.92	0.21	-0.16	0.83
Leather walking shoes for women	0.55	0.28	3.60	0.20	5.14	0.14	-0.12	0.71
Leather shoes for women, sandals	0.36	0.23	4.27	0.16	11.12	0.19	-0.16	0.93
Leather winter shoes for women	0.52	0.21	4.66	0.17	8.80	0.16	-0.13	0.85
Textile indoor shoes for women, slippers	0.09	0.31	3.24	0.14	7.02	0.14	-0.12	0.88
Baby leather shoes	0.00	0.24	4.11	0.11	4.85	0.19	-0.16	0.95
Plastic winter shoes for children - boots	0.24	0.23	4.27	0.13	5.67	0.08	-0.09	0.73
Leather summer shoes for children, sandals	0.10	0.23	4.36	0.08	5.68	0.21	-0.16	0.93
Women's shoes heels repair	0.05	0.28	3.60	0.15	3.47	0.19	-0.19	0.90
Paint (Primalex, Farmal, Permal etc.)	0.19	0.25	4.06	0.21	9.00	0.17	-0.14	0.90
Basic synthetic paint	0.10	0.23	4.36	0.08	9.05	0.11	-0.11	0.93
Synthetic and oil paint thinner	0.03	0.22	4.47	0.15	4.51	0.12	-0.15	0.85

Cement	0.57	0.22	4.52	0.07	10.10	0.09	-0.18	0.93
Lime	0.05	0.18	5.66	0.06	9.91	0.09	-0.12	0.88
Ceramic tiles, smooth, natural	0.64	0.22	4.59	0.09	7.94	0.14	-0.14	0.95
Porous white and colored wall tiles	0.36	0.20	5.12	0.16	12.31	0.14	-0.13	0.78
Wood (imitation of wood) board	0.23	0.10	9.88	0.16	6.94	0.12	-0.13	0.76
Lever faucet	0.31	0.22	4.51	0.37	4.96	0.11	-0.10	0.90
WC bowl with flusher	0.14	0.24	4.17	0.16	1.42	0.09	-0.08	0.85
Installation services	0.21	0.13	7.97	0.09	5.44	0.15	-0.17	0.90
Painting services	0.47	0.12	8.13	0.29	2.26	0.18	-0.18	0.95
Varnishing of doors and windows	0.14	0.14	7.36	0.41	15.09	0.15	-0.16	0.90
Glass services	0.12	0.16	6.31	0.26	11.36	0.15	-0.23	0.78
Upholstered chair	0.14	0.23	4.36	0.19	5.78	0.12	-0.11	0.93
Kitchen table	0.05	0.21	4.71	0.25	6.07	0.22	-0.21	0.71
Two door closet for clothes	0.16	0.16	6.30	0.13	0.77	0.09	-0.09	0.88
Kitchen cupboard	0.50	0.21	4.72	0.18	2.46	0.11	-0.11	0.73
Bed with storage	0.12	0.15	6.62	0.11	-1.47	0.09	-0.09	0.93
Bed for children with mattress	0.00	0.22	4.46	0.11	3.90	0.08	-0.08	0.90
Furniture set for living room	0.33	0.21	4.87	0.18	-0.23	0.18	-0.15	0.93
Upholstered set	0.54	0.24	4.17	0.10	1.44	0.11	-0.11	0.85
Set of plastic garden furniture	0.03	0.20	5.02	0.22	-2.37	0.10	-0.10	0.95
Synthetic carpet sewn-in	0.14	0.25	3.95	0.19	2.38	0.12	-0.10	0.83
Plastic floor covering (pvc)	0.10	0.27	3.76	0.15	-1.96	0.16	-0.20	0.93
Repair of upholstered sitting set	0.05	0.10	9.75	0.34	-2.76	0.34	-0.24	0.95
Curtains	0.16	0.21	4.78	0.28	-9.76	0.12	-0.11	0.93
Bed sheet	0.03	0.16	6.07	0.17	4.68	0.10	-0.09	0.76
Bed linen for children - 1 bed	0.00	0.23	4.37	0.08	1.60	0.13	-0.12	0.90
Bed linen for adults - 1 bed damask	0.02	0.27	3.66	0.12	3.08	0.15	-0.13	0.73
Bed linen for adults - 1 bed	0.09	0.32	3.16	0.16	3.10	0.09	-0.09	0.80
Turkish towel	0.05	0.31	3.27	0.10	2.82	0.15	-0.16	0.90
Table cloth	0.07	0.28	3.54	0.15	5.87	0.13	-0.10	0.78
Dish cloth	0.02	0.21	4.65	0.09	2.41	0.11	-0.10	0.66
Big synthetic blanket (Larisa)	0.03	0.23	4.42	0.09	4.21	0.10	-0.10	0.93
Comforter filled with synthetic material	0.07	0.19	5.17	0.12	2.73	0.11	-0.12	0.93
Down comforter; quilt feather filling	0.00	0.18	5.62	0.09	-5.22	0.09	-0.13	0.93
Refrigerator with freezer 260 liter	0.23	0.32	3.11	0.08	0.68	0.09	-0.09	0.88
Freezer 130 liter	0.02	0.19	5.23	0.04	1.13	0.07	-0.07	0.88
Air damper	0.02	0.23	4.27	0.33	-15.92	0.30	-0.29	0.93
Electric suitcase sewing machine	0.05	0.35	2.84	0.14	1.19	0.19	-0.17	0.93
Electric kitchen robot	0.03	0.22	4.50	0.20	1.40	0.13	-0.12	0.93
Electric hand whipping tool	0.03	0.23	4.44	0.09	3.62	0.10	-0.09	0.93
Electric juicer	0.02	0.19	5.26	0.18	-0.32	0.12	-0.11	0.78
Electric fryer	0.02	0.21	4.70	0.13	0.01	0.15	-0.13	0.88
Electric coffee maker with filter	0.02	0.25	4.04	0.15	2.10	0.09	-0.09	0.90
Repair of electric refrigerator	0.03	0.23	4.33	0.21	5.09	0.12	-0.11	0.83
Repair of automatic washing machine	0.05	0.17	5.99	0.20	5.20	0.12	-0.15	0.66
Repair of electric vacuum cleaner	0.02	0.15	6.58	0.30	18.88	0.25	-0.26	0.90
Repair of combined stove	0.00	0.09	11.69	0.35	6.08	0.13	-0.14	0.80
Glass without holder 100ml	0.09	0.30	3.34	0.22	2.60	0.13	-0.14	0.90
Lead crystal cup with holder	0.05	0.28	3.59	0.16	2.91	0.13	-0.12	0.63
Plate set for 6 persons	0.12	0.25	3.99	0.15	7.24	0.12	-0.12	0.95
Porcelain cup with decorations	0.05	0.25	4.02	0.11	5.59	0.10	-0.09	0.93
Storage cans Omnia 720ml	0.02	0.21	4.71	0.08	5.42	0.15	-0.13	0.80
Glass bowl from silex with cover	0.02	0.29	3.48	0.10	8.38	0.12	-0.13	0.93
Kitchen pot 4 liters	0.07	0.30	3.35	0.26	12.21	0.14	-0.11	0.95

Enameled tea kettle	0.02	0.27	3.68	0.10	5.25	0.14	-0.13	0.85
Cutlery for 6 persons - rustles	0.02	0.30	3.34	0.22	-0.52	0.17	-0.14	0.93
Kitchen knife with plastic handle	0.03	0.27	3.77	0.20	2.95	0.11	-0.11	0.83
Soup ladle - rustles	0.00	0.21	4.66	0.11	4.42	0.12	-0.11	0.95
Pan without cover - tefal	0.09	0.30	3.39	0.16	4.26	0.14	-0.13	0.95
Plastic bottle for babies	0.02	0.29	3.43	0.17	3.56	0.19	-0.15	0.90
Kitchen scales - 1 bowl	0.03	0.22	4.54	0.07	7.69	0.13	-0.16	0.95
Wooden ladle	0.03	0.23	4.42	0.13	4.39	0.14	-0.12	0.83
Vacuum bottle without pump, 1 liter	0.09	0.28	3.61	0.08	5.08	0.10	-0.09	0.95
Electric drilling machine - two speeds	0.10	0.24	4.13	0.14	2.98	0.13	-0.12	0.76
Flat light switch	0.03	0.25	4.05	0.11	6.42	0.13	-0.16	0.93
Electric adapter	0.02	0.20	5.03	0.07	2.94	0.12	-0.12	0.83
Thin battery 1,5 v (alkaline)	0.17	0.25	3.99	0.13	5.02	0.12	-0.12	0.90
Regular light bulb 60w	0.19	0.22	4.65	0.07	0.04	0.10	-0.09	0.93
Tape measure, 2 meters	0.00	0.26	3.89	0.28	-5.32	0.24	-0.18	0.90
Combination pliers (PVC handle)	0.00	0.23	4.30	0.26	5.20	0.28	-0.22	0.90
Screw driver (PVC handle)	0.02	0.24	4.13	0.17	16.47	0.14	-0.12	0.95
Metal rake without handle	0.00	0.19	5.27	0.09	2.75	0.14	-0.11	0.83
Aluminum double ladder to 180cm	0.03	0.28	3.60	0.16	4.02	0.11	-0.10	0.85
Household scissors	0.00	0.23	4.34	0.28	-0.85	0.34	-0.23	0.83
Clothes drying rack	0.03	0.21	4.79	0.14	-1.92	0.09	-0.09	0.76
Ironing board, holder and Teflon cover	0.02	0.24	4.23	0.19	1.18	0.22	-0.18	0.85
Liquid detergent for dish-washing	0.19	0.28	3.54	0.08	5.14	0.10	-0.10	0.88
Spray insecticide	0.02	0.24	4.18	0.07	7.18	0.08	-0.08	0.95
Construction nails 70 mm	0.02	0.17	5.82	0.30	-5.29	0.10	-0.12	0.95
Long screws 3x20mm	0.02	0.14	7.38	0.07	3.71	0.43	-0.23	0.95
Mechanical carpet cleaning	0.03	0.15	6.66	0.34	6.48	0.17	-0.20	0.93
Škoda Fabia 1,4 Classic (44 kW)	0.47	0.43	2.30	0.08	1.87	0.12	-0.10	0.90
Škoda Felicia, 1999	0.17	0.45	2.23	0.16	3.28	0.20	-0.16	0.93
Children bicycle	0.10	0.21	4.72	0.13	9.05	0.08	-0.08	0.90
Radial car tire	0.57	0.28	3.59	0.10	2.29	0.31	-0.22	0.90
Accumulator	0.17	0.44	2.27	0.26	7.53	0.28	-0.19	0.88
Left front fender	0.05	0.30	3.32	0.22	5.32	0.17	-0.15	0.90
Oil filter	0.03	0.31	3.20	0.38	4.07	0.45	-0.31	0.83
Gasoline 91 octane	1.68	0.69	1.44	0.37	6.56	0.04	-0.03	0.90
Gasoline 95 octane	5.02	0.69	1.45	0.01	10.35	0.04	-0.03	0.95
Oil fuel	0.54	0.77	1.30	0.01	11.24	0.03	-0.03	0.95
Motor oil	0.05	0.23	4.43	0.25	12.28	0.12	-0.19	0.90
Gear box oil	0.00	0.22	4.52	0.22	12.77	0.10	-0.20	0.93
Non freezing liquid for cooler	0.02	0.22	4.51	0.18	8.55	0.15	-0.13	0.88
Complete repair of motor	0.38	0.14	6.95	0.47	6.54	0.57	-0.30	0.95
Complete repair of brakes	0.09	0.24	4.17	0.61	12.85	0.40	-0.29	0.80
Basic balancing of car wheels	0.02	0.20	4.98	0.46	5.68	0.34	-0.26	0.88
Complete lacquer	0.24	0.11	8.96	0.32	11.13	0.16	-0.20	0.90
Replacement of door frame	0.05	0.22	4.63	0.56	16.42	0.53	-0.31	0.80
Car washing	0.05	0.12	8.65	0.24	7.17	0.21	-0.17	0.93
Taxi - personal fare + fare for 5 km	0.03	0.15	6.89	0.19	9.37	0.16	-0.15	0.93
Portable radio with tape, stereo	0.07	0.27	3.65	0.16	-4.89	0.22	-0.20	0.93
Walkman	0.03	0.25	4.04	0.23	-4.07	0.26	-0.24	0.95
Stereo set	0.36	0.25	4.03	0.14	10.84	0.16	-0.15	0.88
TV set	0.54	0.23	4.30	0.10	-3.77	0.17	-0.12	0.93
VCR - 6 heads	0.23	0.26	3.89	0.14	1.45	0.16	-0.11	0.90
Camera with auto focus	0.05	0.22	4.49	0.20	1.43	0.19	-0.14	0.90
Video camera	0.09	0.23	4.32	0.16	-3.05	0.17	-0.12	0.85

PC, Pentium - without accessories	0.52	0.44	2.29	0.19	5.64	0.30	-0.18	0.88
Electronic pocket calculator	0.03	0.21	4.66	0.31	-4.22	0.26	-0.18	0.90
Compact disc	0.21	0.22	4.46	0.18	7.36	0.14	-0.13	0.93
Videotape - clean	0.10	0.20	5.02	0.16	-6.61	0.12	-0.10	0.83
Tape for sound recording - clean	0.03	0.21	4.70	0.28	-3.22	0.14	-0.15	0.83
Color film into the camera	0.16	0.19	5.19	0.15	3.80	0.16	-0.14	0.90
Teddy bear 50 cm	0.07	0.33	3.06	0.23	4.62	0.14	-0.12	0.90
Dressed doll with hair, PVC, from 40-50cm	0.10	0.29	3.43	0.33	10.04	0.21	-0.16	0.85
Small bicycle for children	0.10	0.20	5.06	0.24	12.46	0.38	-0.25	0.93
Children game "Clovece, nehnevaj sa"	0.05	0.26	3.89	0.19	7.68	0.17	-0.16	0.85
Paper puzzle	0.03	0.22	4.53	0.17	7.39	0.24	-0.16	0.76
Construction set Duplo	0.14	0.30	3.37	0.46	6.05	0.30	-0.18	0.85
Downhill skis, 140 - 160 cm	0.14	0.20	4.91	0.30	11.37	0.30	-0.21	0.90
Binding for downhill skiing	0.03	0.18	5.64	0.15	-1.84	0.15	-0.13	0.93
Plastic bob sled with brakes	0.02	0.15	6.74	0.12	3.45	0.10	-0.10	0.90
Ice-skating shoes	0.12	0.20	4.92	0.09	2.69	0.11	-0.11	0.95
Ball for volleyball	0.02	0.22	4.56	0.19	1.87	0.14	-0.13	0.83
Sleeping pack with a pack	0.09	0.18	5.56	0.25	5.68	0.20	-0.16	0.88
Rose bush	0.19	0.15	6.54	0.20	6.73	0.14	-0.12	0.90
Apple tree 1st class	0.28	0.12	8.07	0.15	9.89	0.14	-0.12	0.93
Fertilizer	0.03	0.26	3.89	0.17	7.65	0.15	-0.15	0.93
Karafiat (a flower)	0.17	0.39	2.60	0.12	4.98	0.15	-0.13	0.71
Rose	0.42	0.54	1.84	0.12	8.89	0.14	-0.11	0.76
Dog food	0.35	0.33	3.04	0.15	-0.41	0.13	-0.17	0.90
Covered swimming pool ticket	0.05	0.26	3.85	0.27	16.53	0.34	-0.27	0.85
Fee for exercises (in fitness center)	0.07	0.12	8.66	0.31	12.06	0.26	-0.30	0.90
Dancing course fee	0.12	0.05	22.00	0.33	11.11	0.25	-0.19	0.90
Cinema ticket	0.09	0.26	3.87	0.12	14.41	0.11	-0.10	0.76
Videotape - 1 day borrowing	0.03	0.08	12.05	0.15	7.55	0.23	-0.25	0.95
ID picture	0.03	0.09	11.16	0.26	3.29	0.21	-0.18	0.93
Color film developing	0.12	0.10	10.44	0.26	8.31	0.31	-0.23	0.93
Colored photo enlargement 9x13 cm	0.14	0.09	11.28	0.11	-3.73	0.14	-0.12	0.85
Books for children, age: from 6 to 9	0.09	0.20	5.10	0.15	8.07	0.12	-0.11	0.71
Pocket Dictionary Slovak-English	0.02	0.17	5.93	0.27	4.86	0.17	-0.21	0.83
Book - prose - foreign author	0.29	0.21	4.68	0.10	9.20	0.10	-0.09	0.71
Book - prose - Slovak author	0.09	0.27	3.65	0.15	11.72	0.14	-0.15	0.85
Colored postcard, in envelope	0.07	0.24	4.24	0.24	7.42	0.13	-0.12	0.90
Spiral calendar, size 30x20cm	0.03	0.18	5.71	0.14	3.51	0.14	-0.13	0.93
Notebook - half thick 40 sheets	0.23	0.19	5.24	0.07	4.54	0.08	-0.08	0.85
Note book A4 format	0.02	0.28	3.58	0.15	2.61	0.14	-0.12	0.88
Black pencil	0.02	0.22	4.47	0.15	5.18	0.13	-0.15	0.90
Ball pen - medium content	0.07	0.19	5.16	0.16	-1.18	0.12	-0.11	0.85
Celluloid ruler, 30 cm	0.02	0.14	6.99	0.13	-1.16	0.17	-0.18	0.95
DESIGN - A4	0.02	0.16	6.16	0.12	2.76	0.21	-0.19	0.80
Color pencils	0.05	0.23	4.32	0.12	3.71	0.11	-0.10	0.95
Recreation in Slovakia for 7 days - hotel B*	0.71	0.27	3.76	0.19	7.44	0.26	-0.18	0.78
Spain 14 days, airplane	1.63	0.15	6.89	0.17	11.92	0.15	-0.11	0.93
Italy 7 nights, by bus	0.36	0.18	5.45	0.11	9.73	0.17	-0.17	0.93
Trip to the neighboring country, within 500km, by coach	0.05	0.16	6.43	0.38	5.05	0.17	-0.20	0.90
Beef bouillon with meat and noodles	0.05	0.23	4.40	0.20	7.95	0.23	-0.18	0.85
Beef goulash	0.02	0.29	3.39	0.15	8.29	0.15	-0.17	0.83
Joint with ham and egg	0.03	0.26	3.83	0.18	4.06	0.24	-0.19	0.73
Roasted pork meat	0.10	0.21	4.66	0.15	6.97	0.09	-0.14	0.95

Fried pork meat (breadcrumbs)	0.19	0.26	3.82	0.14	5.45	0.16	-0.13	0.90
Grilled or baked chicken	0.23	0.25	4.06	0.14	5.66	0.10	-0.15	0.88
Pancakes with jam	0.03	0.34	2.97	0.20	9.90	0.19	-0.19	0.85
Sheep cheese dumplings	0.03	0.21	4.83	0.14	7.42	0.11	-0.09	0.73
Fried cheese	0.10	0.30	3.31	0.16	7.17	0.09	-0.12	0.80
French fries	0.00	0.09	11.35	0.16	3.50	0.11	-0.10	0.88
Dumplings, big	0.02	0.14	7.20	0.20	9.69	0.43	-0.26	0.73
Stewed rice	0.02	0.16	6.10	0.25	15.80	0.21	-0.16	0.93
Stewed cabbage	0.00	0.23	4.40	0.19	8.26	0.43	-0.28	0.80
Cucumber salad	0.03	0.13	7.70	0.31	5.23	0.42	-0.30	0.88
Caramel dessert "Veternik"	0.03	0.17	6.01	0.16	9.46	0.09	-0.11	0.85
Ice cream	0.03	0.14	6.98	0.28	12.82	0.45	-0.34	0.83
"Vlassky" salad	0.57	0.20	5.00	0.12	2.81	0.04	-0.04	0.95
Sandwich with ham and vegetables	0.23	0.20	5.07	0.16	3.12	0.17	-0.13	0.88
Coffee - 7 grams, 5 grams of sugar	0.10	0.19	5.27	0.16	8.57	0.31	-0.20	0.83
Mineral water	0.02	0.18	5.43	0.34	12.94	0.46	-0.35	0.80
Fruit soft drink	0.10	0.14	7.02	0.33	33.05	0.45	-0.30	0.95
Cola soft drink	0.10	0.11	8.94	0.16	5.63	0.25	-0.19	0.68
Beer 12%, light from barrel	0.09	0.16	6.28	0.16	7.33	0.16	-0.17	0.71
Beer 12%, light bottled	0.24	0.12	8.68	0.20	6.80	0.25	-0.18	0.88
White wine, bottled, domestic	0.03	0.13	7.76	0.14	4.67	0.26	-0.21	0.85
Red wine, bottled, domestic	0.03	0.06	15.53	0.12	4.41	0.19	-0.18	0.85
Dessert white wine, bottled, domestic	0.00	0.11	9.22	0.28	0.89	0.28	-0.18	0.76
Slovak juniper brandy 40%	0.05	0.17	5.81	0.19	4.67	0.32	-0.27	0.85
Brandy 40%, domestic production	0.02	0.15	6.52	0.25	4.86	0.34	-0.26	0.88
Complete lunch in factory canteen	6.89	0.12	8.07	0.15	6.84	0.14	-0.14	0.71
Electric hair dryer	0.02	0.21	4.81	0.20	4.03	0.28	-0.20	0.93
Electric hair iron with accessories	0.02	0.20	4.93	0.32	2.98	0.27	-0.20	0.83
Electric razor	0.05	0.24	4.23	0.21	0.80	0.22	-0.18	0.76
Manual 2-blade metal shaving razor	0.03	0.22	4.65	0.23	13.33	0.19	-0.16	0.93
Razor blade - 5 pieces n a pack	0.24	0.30	3.32	0.21	19.28	0.13	-0.10	0.95
Shaving foam	0.09	0.27	3.67	0.12	9.35	0.11	-0.10	0.88
Tooth brush	0.09	0.25	3.93	0.34	13.46	0.20	-0.18	0.80
Tooth paste	0.54	0.27	3.67	0.17	5.19	0.12	-0.11	0.90
Suntan milk with protective factor	0.07	0.19	5.32	0.23	81.34	0.74	-0.22	0.95
Cosmetic alcohol Alpa	0.02	0.16	6.10	0.16	4.52	0.11	-0.12	0.85
Body deodorant	0.35	0.29	3.51	0.40	7.53	0.15	-0.13	0.90
Powder for children	0.00	0.24	4.24	0.05	7.36	0.08	-0.09	0.95
Bath soap, higher quality	0.38	0.22	4.48	0.21	9.23	0.12	-0.10	0.95
Folded bandage absorbent quality	0.05	0.31	3.18	0.09	4.52	0.09	-0.09	0.93
Paper handkerchiefs (10 pieces)	0.16	0.22	4.60	0.11	-0.21	0.14	-0.12	0.85
Disposable napkins for children	0.50	0.30	3.38	0.11	7.12	0.13	-0.11	0.95
Sanitary napkins, 10 pcs in package	0.71	0.28	3.59	0.22	10.80	0.15	-0.13	0.95
Toilet paper - 400 slips	0.62	0.20	5.07	0.05	-1.41	0.08	-0.08	0.66
Hair shampoo	0.73	0.25	3.98	0.10	5.63	0.13	-0.11	0.95
Golden wedding ring	0.54	0.19	5.16	0.11	0.95	0.11	-0.09	0.71
Wrist watch for men	0.23	0.23	4.40	0.36	7.44	0.27	-0.18	0.83
Alarm clock on battery	0.02	0.22	4.64	0.12	1.25	0.14	-0.13	0.85
Wall clock of Quartz type	0.03	0.19	5.27	0.10	2.69	0.14	-0.15	0.93
Golden chain - mechanically wrought	0.16	0.24	4.17	0.11	0.64	0.08	-0.08	0.83
Complete repair of wrist watch for men	0.09	0.18	5.58	0.25	6.46	0.11	-0.10	0.80
Leather bag for women	0.10	0.32	3.17	0.16	10.29	0.16	-0.12	0.80
Plastic bag for women	0.19	0.34	2.97	0.15	5.17	0.11	-0.09	0.85
Leather purse for women	0.07	0.28	3.58	0.20	11.98	0.14	-0.13	0.90

Plastic suitcase 40x60cm	0.03	0.27	3.75	0.24	6.05	0.19	-0.17	0.93
School bag	0.10	0.27	3.73	0.10	5.72	0.10	-0.10	0.90
Children stroller combined	0.09	0.25	4.07	0.13	5.75	0.10	-0.11	0.90
Matches	0.02	0.10	10.23	0.11	4.03	0.19	-0.15	0.88
Sun glasses with ultraviolet filter	0.12	0.20	5.09	0.63	11.10	0.19	-0.14	0.85
Umbrella for women	0.10	0.27	3.75	0.16	4.60	0.15	-0.18	0.80