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Preface

Everyone who regularly goes shopping knows that the prices of many consumer products change only once or twice a year. With some products the change is even less frequent. Such product prices can well be said to be sticky or slowly adjusting, because they change relatively rarely, considering that the supply and demand equilibrium for these products, along with the general economic environment, changes almost constantly. Economists have long been puzzled by the reasons for price stickiness, which is why they have endeavoured to find an explanation to this phenomenon on the basis of rational

economic behaviour. Alternative explanations, which have recently become very common, have emphasised that the reasons for price stickiness are based on psychological motives. The generally held view is that the actual price points used by companies support psychological explanations for price rigidities. It is important to have an understanding of the underlying factors of price stickiness, merely because most dynamic macroeconomic models designed for monetary policy analysis assume key macroeconomic prices to change slowly.

Jouko Vilmunen

Editor

Jouko Vilmunen

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PO Box 160,
FI-00101 Helsinki

Email: research@bof.fi

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Psychological considerations for price dynamics: attractive prices

Short-term price adjustment in the economy is incomplete. Due to implied nominal short-term effects on economy arising from monetary policy measures, economic disturbances are primarily reflected in changes in the volume of economic goods. Despite a great deal of economic research the reasons for nominal rigidities are, at best, only partially known. What has proven to be particularly challenging is finding explanations based on rational economic behaviour as to why it is beneficial for firms to anchor nominal prices, even though they know that the supply and demand equilibrium changes almost constantly. To find alternative explanations economists have turned to behavioural models that are not directly based on economic rationality and where psychological motives in particular are

considered to play an important role in pricing.

A study by Ville Aalto-Setälä and Robert Schindler titled 'The importance of attractive prices in pricing dynamics', soon to be published in the Bank of Finland's Discussion Paper Series, investigates the extent to which the basic microdata for the Finnish consumer price index supports retail outlets' attractive pricing. In pricing their products, retail outlets use what are known as attractive price points. Before the euro was introduced, Finnish retail outlets typically used prices ending with 90 or 99, such as FIM 9.90 or FIM 9.99. In contrast, since the introduction of the euro, prices ending with 9, such as EUR 2.59 or EUR 2.99, have become increasingly common. A popular slogan used by advertisers: 'Now under 10' may indicate that the outlet uses attractive pricing. It is important to note, however, that the perceived nominal price stickiness can be the result of

firms' inclination to attractive pricing. The idea is interesting and has a simple logic. It is likely that because of psychological factors, attractive price points have positive demand implications for firms. In fact, they not only use price points whenever possible in the pricing of their products, but they are reluctant to change the prices of products priced on the basis of price points. The primary aim of the empirical testing methodology used by Aalto-Setälä and Schindler was to find out exactly whether changes in individual consumer prices support key empirical background assumptions of pricing.

The researchers used basic data from the Finnish consumer price index for 2000–2005, which is made up of more than 50,000 monthly price series for the retail sector. Of these, the focus was on normal or regular food prices, ie discount and sale prices were excluded. Thus the data consisted of around 16,000 observations for food prices for each month in the period 2000–2005. The study by Aalto-Setälä and Schindler presents the data on food prices in an interesting way. First, in the last 'markka year' of 2001, approximately 70% of all food prices ended with 90–99 penni. As a comparison, only 15% of food prices ended with the figure 5 in the same period. The use of price points decreased decisively after the changeover to the euro in January 2002. The use of different cent figures appears to have been fairly even in the first few years of the euro. This is probably due to the fact that retail outlets changed their markka prices into euro prices using the official conversion rate of 5.94573, as noted in the study. The situation had changed significantly by the end of 2005: The use of cent figures 90–99 had increased to more than 40% of all retail prices for foods.

Aalto-Setälä and Schindler further illustrate the use of attractive prices by calculating the sizes and directions of average price changes of foods by using the cent figure which the price reaches after the implementation of the change. The size of the

price change shows how much the retail prices of foods, at a given cent cost, have changed on average. The direction of the price change in turn illustrates the direction to which the prices of foods with a given cent figure have changed on average. The results show that prices ending with 90–99 cents tend to decrease rather than increase, on average. Yet on average, price increases occur as often as price decreases. In contrast, food prices ending with other cent figures tend to increase rather than decrease, and they also increase more often than decrease.

However, the results do not, in all respects, support the assumption of the use of attractive prices. They indicate that retail outlets often tend to raise rather than reduce food prices in line with pricing points ending with the figure 9. In particular, when food prices ending with figures close to 9 start to increase, they typically end up also with a figure 9. As far as price decreases are concerned, almost the reverse can be observed, because an initial price ending with 9 often also falls to a price that ends with 9. Thus the analysis by Aalto-Setälä and Schindler does not fully support the hypothesis that Finnish retail outlets base their pricing on the use of attractive price points. In particular, it is impossible to claim, without further study, that the use of attractive prices by retail outlets would create certain attraction points where food prices would tend to accumulate, and that these attraction points would explain the infrequently changing and slowly adjusting consumer prices. From this perspective, controversy still remains as to the psychological reasons for nominal price stickiness. From a methodological point of view, the study conducted by Aalto-Setälä and Schindler is nevertheless interesting and makes an important contribution to the research tradition concerning firms' pricing principles. This type of innovative research must be continued.

Panic runs are rational behaviour after all?

Ample empirical research findings indicate that bank runs are information-based, ie they are the result of noisy and adverse information about banks. The persistent view held by many policy makers and economists seems to be that bank runs are caused by depositor panic. This view seems to be partially grounded on the notion that actual bank runs are characterised by features that are difficult to explain with models that are based on adverse bank-specific information. For example, in large-scale bank runs depositors do not generally differentiate between good and bad banks, but rush to withdraw their deposits from all banks. In these situations, depositors' behaviour seems to be dictated by panic rather than rational economic thinking.

However, a study titled 'Why do bank runs look like panic?' A new explanation' (DP 19/2006) by Yehning Chen and Iftekhar Hasan shows that bank runs characterised by panic are indeed in line with depositors' rational behaviour. The authors define depositors' panic-like rush to banks as a bank run, which materialises even though depositors' expectations about banks' profitability do not change. They construct a model where depositors perceive a change in an individual bank's information process, which then triggers a bank run. In other words, depositors begin to withdraw their deposits from banks when they anticipate that information about banks contains more noise than before or when they anticipate that banks only give very superficial information about themselves. Against this background, Chen and Hasan show that panic-inflicted deposit flights are possible even in such cases where depositors behave in a completely rational way and end up choosing the best possible alternative for themselves from a range of several balanced possibilities.

The logic in the Chen and Hasan model is interesting and rather intuitive. Let us look at a bank, which collects deposits and invests

them in risky securities. Let us then assume that depositors need liquidity, which the bank offers by allowing the depositors who take out their deposits at an early stage to consume more than the liquidation value of their deposit would allow. The depositors may also get interim information about the return on the bank's investments. Under these assumptions, the quality or accuracy of the signal indicating the return on the investments made by the depositors' bank determines whether a bank run based on the information provided by the bank is in the economic interests of the depositors. If the signal is accurate, an information-based bank run is in the interest of the depositors, because it facilitates effective liquidation of the bank instead of the bank's value decreasing below its liquidation value, were its operations to continue. If the signal is informative but mixed with noise, an information-based bank run is not in the interest of the depositors. In their previous studies, the authors have shown that a deposit agreement that secures liquidity gives too much encouragement to depositors to empty their bank accounts, which is why they may react too harshly to adverse news about banks. A bank run may thus materialise in this situation, even if depositors would be better off without it.

According to Chen and Hasan, panic runs arise from the fact that after depositing their money at the bank, depositors can decide whether they want to empty their accounts immediately or whether they want to wait. A bank run materialises, when depositors' benefit from waiting is smaller than their benefit from successfully emptying their accounts. In addition, when depositors are told that they are being given an informative signal about banks' condition – a signal which is going to get mixed with noise – they realise that a bank run that is against their interest is possible, which in turn results in smaller gains from waiting. On the other hand gains from waiting become smaller, when depositors realise that they are being given only superficial information about

banks' condition and they cannot use this signal to launch a bank run that is in their interest. In both cases, a panic-induced bank run may materialise, caused by a decline in expected gains to depositors from waiting.

The Chen and Hasan model offers interesting implications. First, bank runs are more likely when banks' future prospects are weak. In such circumstances, more bankruptcies than normal are expected in the banking sector, which is why depositors' benefits from waiting and from the future use of the account are smaller than normal. On the other hand, if the banking sector is in depression, deposit flights may occur from banks whose financial standing does not appear poor. When there is increased noise in the market, an informative signal about the healthy status of such a bank can become blurred. The analysis made by Chen and Hasan is extremely interesting and emphasises the impact of information on incentives concerning economic agents. Their analysis forces the reader to think about the factors that undermine the stability of the financial market from a whole new perspective. It should also encourage researchers to consider broadening the model in such a way that it could be used for investigating how banks' regulatory actions arising from capital adequacy regulations or deposit guarantees would affect the possibility of a bank run.

Economic growth requirements in China

Chinese political and economic institutions have undergone a major change over the last two decades. Rapid economic growth has turned China into an important player in the global economy, and the country's importance is only going to increase in future years. It is therefore important to examine what factors have contributed to economic growth in different parts of China. Experiments conducted in some areas as well as institutional factors can, at least in principle,

facilitate growth in less developed areas.

Due to economic and institutional changes, there are big differences in economic development between different areas of China. In their research titled 'Institutional Development, Financial Deepening and Economic Growth: Evidence from China', published in BOFIT Discussion Paper 12/06, Iftekhar Hasan, Paul Wachtel and Mingming Zhou use panel data on Chinese provinces to find out how legal institutions, the level of development of the financial market and political plurality are reflected in regional growth rates. The most important changes in transition economies are development of market economy, consolidation of the legal basis of ownership, growth of the private sector, emergence and development of the financial market as well as liberalisation of political institutions. This study aims to measure these changes, and the regression models employed use different measures to explain GDP growth rates in different provinces of China. The results of the study show that development of the financial market and legal institutions, ownership rights and political plurality all correlate positively with economic growth. Several international studies show that better protection of ownership rights boosts investment. Improved functioning of the financial market increases the likelihood of effective targeting of investment, which would be of particular importance for the continuation of economic growth in China.

Speeding up of economic growth in poorer areas may thus demand major changes in the functioning of Chinese institutions. For example, a more effective and equal legal system – which in itself is a desirable goal – could also assist poorer areas in accelerating economic growth.

In another research project, Tuuli Koivu and Alicia Garcia Herrero (Bank for International Settlements) examine the impact of the real exchange rate on Chinese foreign trade. The results of their study show that the

real strengthening of China's currency clearly reduces exports over the long term. This applies to ordinary export products and Chinese products assembled from components imported to China. In imports, the impact of the real exchange rate is not as clear. In imports, the special position of China as part of the manufacturing chain becomes pronounced. If exports subside, the need for imported parts and raw material will also decline.

The results of this study indicate that the exchange rate could be used to trim down China's large surplus on goods. It must, of course, be noted that even if the entire surplus were to subside, the imbalance could continue in individual countries. The study will be published in the BOFIT Discussion Papers series in early 2007.

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