NEW-KEYNESIANS VERSUS POST-KEYNESIANS
ON THE THEORY OF PRICES.

Jordan MELMIES\textsuperscript{1}
CLERSE, University of Lille

Abstract

The aim of this paper is to compare New-Keynesian and Post-Keynesian economics on the theory of prices. In the last two decades, there has been a revival in the explanations of price rigidity with the coming out of the so-called “New-Keynesian” economists. These economists try to explain with various theoretical tools the price stickiness that all empirical studies on the topic underline. The paper asks again the question whether these results are compatible with the Post-Keynesian theory of prices, and whether Post-Keynesian “glasses” can lead to different theoretical explanations. Deeper, it is the compatibility between New-Keynesian and Post-Keynesian theory of prices that is explored.

\textsuperscript{1} University of Lille 1, Clerse research department. E-mail: jordan.melmies@ed.univ-lille1.fr. I am grateful to Laurent Cordonnier, Franck Van De Velde and Thomas Dallery for their comments. All errors remain mine.
Introduction.

“That the price of linen and woollen cloth is liable neither to such frequent nor to such great variations as the price of corn, every man’s experience will inform him”. This quote from Adam Smith, taken up by Robert Gordon (1981) illustrates the fact that the price adjustment problem is one of the most ancient issues of political economy. There has recently been a revival of interest in price rigidity both in the academic field and in the “practitioners” field. In the academic field, this renewed interest came from the coming out of the so-called “New-Keynesian economists”. New-Keynesian economics developed at the beginning of the 80s as a reply to New-Classical Macroeconomists who were blaming Keynesian models for not getting any microeconomic justification for price rigidity. The aim of New-Keynesian economics is thus to ground the rigidity of prices in microeconomic terms, so as to explain the non-neutrality of money in the short-run and thus the existence of real effects (output fluctuations) following nominal shocks (changes in money supply). In the field of practitioners, this revival of interest occurred through the carrying out of empirical studies by several central banks in the world. The first (recent) empirical work conducted by Alan Blinder, an academic researcher, in the 90s gave surprising results. Some central banks (concerned by inflation and thus by price rigidity) decided to conduct this kind of study again for their own country. The results are unanimous: prices are sticky. New-Keynesian economists developed several theories to explain this stickiness. One of the best known is the theory of menu-costs, but one can also find the theory of implicit contracts, the theory of nominal contracts, the theory of coordination failures and a lot of other ones. However, looking carefully at this so-called New-Keynesian story, one will discover that these economists have in fact gone far away from Keynes. That is what they have often been blamed for by Post-Keynesian authors, who try to remain faithful to Keynes’ original precepts. However, Lee and Downward (2001), reviewing the seminal work of Blinder and al. (1998) concluded that empirical results could be interpreted within a Post-Keynesian closure. They argued this work was close to Post-Keynesian economics, even if some incompatibilities persisted. This paper extends the analysis to all empirical studies conducted since 1998, and shows that if Post-Keynesian theory of prices is further reconfirmed the incompatibility between New-Keynesian and Post-Keynesian economics still prevails.
I. **New-Keynesian Economics: sticky prices.**

1.1. *The revival of Keynesian economics.*

During the 1990s there has been a renewed outbreak of economists labelling themselves Keynesians: the New-Keynesians. To understand this revival, it is necessary to go back where everything started, that is to say in 1936 when Keynes published the *General Theory of Employment, Interest and Money*. Romer (1993) apprehends the Keynesian revolution through two fundamental issues: the existence of involuntary unemployment and the role of demand in the short run economic fluctuations. After the War, the dominant neoclassical synthesis was based upon a fixed nominal wage and a fixed-price assumption to explain the effect of stimulating demand policies. This short run price fixity was fundamental in the neoclassical synthesis. But it collapsed in the 1970s in face of New-Classical economists who thought there was no rational and theoretical foundation to such an assumption. Considering that prices do not adjust to demand and supply disequilibria is the same, for these economists, as assuming that agents don’t achieve trade gains or, as Robert Lucas often repeated, that they leave $500 bills on the sidewalk. This critique was thus really devastating for Keynesian models, because it was underlying their incompatibility with microeconomics (Ball and Mankiw, 1994). The following years were thus devoted to market clearing modelling: for New-Classical Macroeconomists the economy is always and everywhere at equilibrium. However, they buried Keynes\(^2\) too fast and forgot one detail: the empirical evidence on price rigidity. At that moment there existed some studies, even if they were quite ancient, which underlined the rigidity of prices. One of the best known was the one by Hall and Hitch (1939), but there was also the studies conducted by Lanzillotti (1958), Haynes (1964) or Skinner (1969-70). Some authors, still believing in the rigidity of prices, considered the New-Classical critique as a challenge more than as a funeral. Instead of rejecting the theory on the basis of the weakness of its microeconomic foundations, they tried to derive price rigidity from agents’ rational behaviour: New-Keynesian economics were born. The revival of “Keynesian” economics is thus linked to the answer these authors gave to New-Classical macroeconomists: prices stickiness can be derived from rational behaviour. As often stated by Mankiw, New-Keynesian economics is an answer to Lucas. In other words,

\(^2\) Robert Lucas, interviewed by Snowdon and al. (1994) denied the interest of reading Keynes for students.
New-Keynesian economics is the art of finding Keynesian results in a New-Classical framework.

I.2. The New-Keynesian theories of prices.

The starting point of New-Keynesian theories of prices is imperfect competition. These economists have indeed a clear idea of the market structure: perfect competition would force firms to accept the market price as given, and firms would thus be price takers. As soon as one gets off of one of the hypothesis of perfect competition, firms get some market power, and are thus able to become more or less price makers. Now, if we can observe price stickiness and price fixing behaviours, i.e. firms are “price setters”, it is that markets are imperfectly competitive. For New Keynesians, firms are often oligopolists, monopolists or competitive monopolists. The “benchmark” model is the one by Blanchard and Kyotaki (1987), which analyses the impact of imperfect competition on aggregate demand. We are thus in an imperfectly competitive closure where firms set prices at a higher level than marginal cost. But New-Keynesian economists knew it was just a framework: introducing imperfect competition is not enough to make price rigidity appear. That’s why they developed several theoretical explanations to explain price rigidity. Grounding price rigidity at the micro level then gave them the ability to explain the non-neutrality of money in the short run: for New-Keynesians money has short run effects because prices are sticky. In the quantity equation $MV = PY$, $M$ has an effect on $Y$ because $P$ doesn’t react in the short run. There is not any indexation mechanism between prices and nominal variables, especially the level of nominal aggregate demand.

To explain this lack of adjustment, the first and probably the best-known\(^3\) theory is doubtlessly the so-called “menu costs” theory, initiated by Sheshinski and Weiss (1977) and popularised by Mankiw (1985). The purpose of this theory is to consider that firms face costs of changing prices. When demand increases, firms don’t push up their price because the induced cost would be larger than the benefit. In order to sell their products, firms have to write prices on menus, catalogues and tags. They thus have to print these menus and catalogues, and distribute and implement them. Changing prices whenever demand changes would be very costly. However, as noted by Gordon (1990), this theory was soon criticized on the basis that these kinds of menu costs are small. New-Keynesian economists have thus had\(^3\)

\(^3\)Mankiw explains on his personal blog that his 1985 paper on menu costs is one of his three or four most cited papers.
to show how small costs of changing prices can have large macroeconomic effects (Mankiw, 1985).

A second explanation proposed by New-Keynesian economists is the theory of coordination failure. In this theory (Stiglitz 1984, Cooper and John 1988, Ball and Romer 1991) firms don’t change their prices in face of a change in demand because they just don’t want to be the first to do it. Firms do not want to start price wars, and don’t want to be the only one firm to push up prices. The individual firm thus waits for the others to go first. Doing so, no firm changes its price, even if it would be socially optimal that every firm had changed its price. Price stickiness is due to the inability of firms to coordinate. Central to this theory is the notion of strategic complementarity, as developed by Cooper and John (1988). Strategic complementarity refers to the situations where one agent’s incentive depends positively on the actions of other agents in the economy. In Ball and Romer (1991), an individual firm’s price flexibility will increase the incentive to price flexibility for others. In other words, facing a raise in demand, an individual firm may not raise its price if it expects other firms not to do so. Coordination failure thus leads to price rigidity.

The third explanation we will overview is the “implicit contracts” theory. Again, as noted by Blinder and al. (1998), this theory was first developed to explain wage rigidity, by Gordon (1974) and Azariadis (1975). This theory states that firms try to establish long-term relationships with their workers, thus stabilizing wages and letting employment fluctuate. Workers accept this agreement because they are more risk-averse than firms. The first to bring this theory to prices was Arthur Okun in 1981. Producers seek to build long-term relationships with customers, and don’t change the price because it would make customers begin to compare this producer with other ones. Firms and customers make implicit agreements in order to stabilize prices, or they make “invisible handshakes” in Okun’s words. This leads Okun to distinguish between two causes of rising prices: a rise in demand and a rise in costs. The first is considered as unfair, whereas customers consider the second as fair. That’s why the theory of implicit contracts has close links with the notion of “fair pricing” (for example Rotemberg 2004).

Another theory New-Keynesians explored is the “nominal contracts” theory. Initiated by Fischer (1977) and Taylor (1979), this theory states that price stickiness emerges from the fact that many firms do business on the basis of written fixed-term nominal contracts. As soon as an individual firm is using this kind of contract, the price cannot be adjusted to demand and supply disequilibria as long as the contract is running. Price stickiness is here caused by a
legal-economic constraint. This explanation may seem to be very weak, because firms can rewrite new contracts when the current ones fall due. But Blanchard (1983) pointed out that if firms are all engaged in reviewing their prices but not at the same time, some inertia in the price level will be observed as well. One can see that this theory has a link with the coordination failure theory, because synchronization is at the heart of the problem.

Another theory that was developed is the theory of cost-based pricing. This theory in its basic form (prices respond to costs) is not new, but New-Keynesians gave it a more fashionable flavour under the work of Robert Gordon (1981) who tried to show that lags between costs changes and prices changes due to the existence of multiple stages in the production process could lead to price inertia at the aggregate level.

One more way to explain price stickiness is constant marginal cost. The basic idea is that if marginal costs are constant with the level of output, prices are too. As noticed by Blinder and al.(1998), it is furthermore required that demand curves are isoelastic (so that movements along the demand curve don’t change the elasticity of demand) and that shifts in demand curves don’t change the elasticity of demand (all demand curves have the same elasticity). If all these assumptions are met, one can easily deduce that prices are sticky over the business cycle.

There are a lot of other theoretical explanations that were put ahead by New-Keynesians, even if they had less success in the academic profession. Without being exhaustive, one can find the temporary shock theory (firms fear that a demand shock might be temporary and might reverse in the following period), the procyclical elasticity of demand (firms lose their less loyal customers during recessions, so that a cut in prices wouldn’t stimulate sales), the link between quality and price (customers would associate a fall in price with a fall in quality), the psychological pricing points (prices are set at particular points that are psychological, so that it is difficult to change them).

1.3. Empirical surveys.

New-Keynesian research has been very successful in the 1980s and after, as shown by Akerlof, Stiglitz and Spence being awarded the Nobel Prize in 2001. But these researches did not only concern the theoretical field. They gave birth to a lot of empirical studies on the topic. Allan Blinder was the first who tried to investigate whether entrepreneurs could validate all these theories. He started an empirical study for the US, based on questionnaires.
The purpose was very simple: ask managers how they behave concerning price-setting, but ask them in “plain English”. The results were really surprising, even striking (as we will soon see) and several Central Banks in the world decided to conduct quite the same study for their own country. The first to follow Blinder was the Bank of England, in 1997, and then the Bank of Canada. More importantly, the ECB recently decided to conduct this kind of questionnaires (and econometric investigation too) for all Euro zone countries, under the name “Inflation Persistence Network” (IPN). The methodology was everywhere similar: meeting managers in charge of price decisions and asking them questions about price reviewing (that is to say reconsidering the price of products) and price changing (when the decision to change the price is actually taken), and about the reasons for not changing prices in the case of a change in demand. The managers had to rank the theories of price stickiness, depending whether or not it was considered as an important reason for keeping prices unchanged. One methodological problem here is that the theories that were tested were not the same in all countries. For example, Blinder and al.’s original study (1998) tested the “constant marginal cost” theory, but it was not the case in Spain or Canada. Another difficulty that one can meet with these studies concerns the method of rescaling for excluding “no answers”. However, the results seem, as will be shown in next tables, quite homogenous. Table 1 presents a general set of data on price reviewing and price changing for 14 countries. Tables 2 and 3 come from the ECB. Somme small differences can sometimes be observed for the same country, due to the rescaling method.
One of the most evident results of these tables is the confirmed existence of price stickiness: whatever the country, these studies confirm the ancient ones, such as Lanzillotti (1958). Prices are rarely reviewed, and even more rarely changed. In most countries, firms review their prices at most 4 times a year, and change them once a year. A big part of firms (excepted Italy) engage in what is called “time dependent price reviewing”: they decide to reconsider the price of their products at regular intervals (from 20% in Luxembourg to 79% in...
United Kingdom). In the Euro zone (Table 3), Luxembourg is the only country in which the median firm changes its price more than once a year.

When we turn out to the reasons why firms don’t change their prices when there is a change in demand, tables 4 and 5 clearly show that the best-ranked theory is the implicit contracts one. This theory was ranked first in seven countries (not proposed in two countries). Among well-ranked theories, one can find explicit contracts, cost-based pricing, coordination failure, constant marginal cost and even judging quality by price. The other ones (menu costs, non-price competition, costly information…) are generally bad ranked.

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>IMPORTANCE OF THEORIES (RANKS)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Implicit contracts</td>
</tr>
<tr>
<td>AUSTRIA (2007)</td>
<td>1</td>
</tr>
<tr>
<td>CANADA (2006)</td>
<td>7</td>
</tr>
<tr>
<td>UNITED KINGDOM (1997)</td>
<td>3</td>
</tr>
<tr>
<td>BELGIUM (2005)</td>
<td>1</td>
</tr>
<tr>
<td>GERMANY (2006)</td>
<td>-</td>
</tr>
<tr>
<td>ITALY (2004)</td>
<td>-</td>
</tr>
<tr>
<td>SWEDEN (2005)</td>
<td>1</td>
</tr>
<tr>
<td>PORTUGAL (2005)</td>
<td>1</td>
</tr>
<tr>
<td>NETHERLANDS (2006)</td>
<td>1</td>
</tr>
<tr>
<td>SPAIN (2006)</td>
<td>1</td>
</tr>
<tr>
<td>UNITED STATES (1991)</td>
<td>4</td>
</tr>
<tr>
<td>LUXEMBOURG (2006)</td>
<td>1</td>
</tr>
<tr>
<td>FRANCE (2004)</td>
<td>4</td>
</tr>
<tr>
<td>JAPAN (2000)</td>
<td>2</td>
</tr>
<tr>
<td><strong>MEAN RANK</strong></td>
<td><strong>2.3</strong></td>
</tr>
</tbody>
</table>

Table 4. (Author’s compilation).

For the tables underlying these theories, we chose to draw our own table, because the ECB’s method seemed to us sometimes too “global”. For examples, the ECB decided to group cost based pricing with constant marginal cost, which are, in our view clearly not the same problem (cost-based can be used with non-constant marginal cost). However, as one can see, the results are not affected by the methods used because the classification between “winners” and “losers” remain the same in both tables 4 and 5 (the mean score of cost-based pricing is good but cost-based pricing was not tested in enough countries). The big winner is
the implicit contract theory. At the opposite, the great looser seems to be the menu costs (in comparison of its popularity).

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Implicit contracts</td>
<td>2.5</td>
<td>-</td>
<td>2.6</td>
<td>2.2</td>
<td>-</td>
<td>2.7</td>
<td>2.7</td>
<td>3</td>
<td>3.1</td>
<td>2.7</td>
</tr>
<tr>
<td>Explicit contracts</td>
<td>2.4</td>
<td>2.4</td>
<td>2.3</td>
<td>2.7</td>
<td>2.6</td>
<td>2.8</td>
<td>2.5</td>
<td>3</td>
<td>2.6</td>
<td>2.6</td>
</tr>
<tr>
<td>Cost based</td>
<td>2.4</td>
<td>-</td>
<td>2.5</td>
<td>-</td>
<td>2.7</td>
<td>-</td>
<td>2.6</td>
<td>2.7</td>
<td>2.6</td>
<td>2.6</td>
</tr>
<tr>
<td>Coordination failure</td>
<td>2.2</td>
<td>2.2</td>
<td>2.4</td>
<td>3</td>
<td>2.6</td>
<td>2.1</td>
<td>2.2</td>
<td>2.3</td>
<td>2.8</td>
<td>2.4</td>
</tr>
<tr>
<td>Judging quality by price</td>
<td>1.9</td>
<td>-</td>
<td>1.8</td>
<td>-</td>
<td>-</td>
<td>2.2</td>
<td>2.4</td>
<td>1.9</td>
<td>2.3</td>
<td>2.1</td>
</tr>
<tr>
<td>Temporary shocks</td>
<td>1.8</td>
<td>1.9</td>
<td>1.8</td>
<td>2.1</td>
<td>2</td>
<td>1.7</td>
<td>2.4</td>
<td>1.5</td>
<td>2.5</td>
<td>2</td>
</tr>
<tr>
<td>Non price competition</td>
<td>1.7</td>
<td>-</td>
<td>1.3</td>
<td>-</td>
<td>-</td>
<td>1.9</td>
<td>1.9</td>
<td>1.7</td>
<td>-</td>
<td>1.7</td>
</tr>
<tr>
<td>Menu costs</td>
<td>1.5</td>
<td>1.4</td>
<td>1.4</td>
<td>1.4</td>
<td>1.6</td>
<td>1.8</td>
<td>1.7</td>
<td>1.5</td>
<td>1.9</td>
<td>1.6</td>
</tr>
<tr>
<td>Costly information</td>
<td>1.6</td>
<td>-</td>
<td>1.3</td>
<td>-</td>
<td>-</td>
<td>1.8</td>
<td>-</td>
<td>1.6</td>
<td>1.7</td>
<td>1.6</td>
</tr>
<tr>
<td>Pricing thresholds</td>
<td>1.7</td>
<td>-</td>
<td>1.5</td>
<td>1.6</td>
<td>1.4</td>
<td>1.8</td>
<td>1.8</td>
<td>1.3</td>
<td>1.8</td>
<td>1.6</td>
</tr>
</tbody>
</table>

Table 5. Importance of theories for the euro area (mean score, from 1 to 4). Source: ECB.

II. A Post-Keynesian view of pricing behaviour.

We are now going to have a look at these pricing surveys with Post-Keynesian glasses. One important point has to be made here: the work of New-Keynesians is not fit for the dustbin, and they did achieve important researches. However, two questions can be stressed on: is the New-Keynesian framework compatible with Post-Keynesian economics, and are the results a reconfirmation of the Post-Keynesian theory of prices?

II.1. Price stickiness and the Keynesian project.

The first critique often addressed to these New-Keynesian theories of prices concerns the use of the label “Keynesian” these authors make. At the beginning of this paper we stressed the theoretical battles that occurred during the 1970s and the 1980s about the fixed-price hypothesis. It seems striking, in a Post-Keynesian perspective, that authors labelling themselves Keynesians ground economic fluctuations on price rigidity. If one follows Ball and Mankiw (1994), the empirical evidence of price stickiness is the best proof one for the non-neutrality of money in the short run. If prices were perfectly flexible, money would not
affect output. But Keynes’ goal was precisely to demonstrate that money is non-neutral, neither in the short nor in the long run and whether prices being flexible or not. Davidson showed that Keynes aimed at breaking Say’s law, and at showing that supply does not create its own demand even if prices are perfectly flexible and competition is perfect (see for example Davidson, 1992). Money and demand do not affect output because prices are rigid, it’s just because they do affect output that prices can be unaffected. Getting back at the original starting point of these two theories, New-Keynesians and Post-Keynesians just have two different conceptions of money. New-Keynesians just believe that neutrality is some kind of money’s inherent propriety. Neutrality would be fully and immediately achieved if firms were not constrained to keep prices unchanged by a lot of things such as contracts and costs. But in the long run this neutrality still prevails. Post-Keynesians, for their part, don’t believe in the long-run neutrality of money. They rely on a monetary production economy, where entrepreneurs have to settle production projects that they judge profitable. To achieve these projects, they often have to borrow money from banks in order to fund in advance the required capital goods. It seems we are getting away from our purpose, but price theory is actually closely linked to the way economists conceive money: in a monetary production economy, with endogenous money, the price is already pre-planned when money is borrowed. Entrepreneurs have a price in mind when they decide to achieve a productive project, because the demand for funding in advance credit will take place on the basis of this pre-planned price which is important in the expected profitability of the project. Since supply occurs on the basis of a pre-planned price, there is no reason to change this price every time nominal demand changes.

II.2. Interest of price theory.

We have just explained that for Keynes, price rigidity is not at the source of economic fluctuations: economies could enter into depressions even with perfectly flexible prices and perfect competition. The question is then, if prices are at that point such unimportant, why should Post-Keynesian economists waste time for studying pricing behaviours of firms?

The first answer to be given in our view is based on Lawson’s well-known notion of critical realism (Lawson 1997). Post-Keynesians insist on the fact that economic theories require abstractions based on realist assumptions. The models have to be built upon real
observed behaviours of economic agents, not upon some kind of theoretically conceived assumptions. In that, the distinction is the one made by Lavoie on the epistemology of heterodox schools compared to mainstream schools (Lavoie 2006). Whereas mainstream schools rely on instrumentalism (an assumption aims at being able to make predictions), Post-Keynesians insist on realism. One could add that realist assumptions are not the converse of predictions, because one may think that the more realists your assumptions, the more able to make predictions you are. Studying prices may thus be a matter of empirical realism: in Keynes’ theory, prices can be flexible or rigid. Their rigidity plays no role in effective demand effects but for a purpose of realism, we choose to analyze prices which slowly respond to demand, because it is what is observed.

The second answer that can be given relies on the concept of extensive paradigm. To establish itself as a credible alternative to the mainstream, Post-Keynesians have to deal with larger and larger economic issues. Post-Keynesians must not stay on their core analysis. Even if the heart of the Keynesian revolution did not rely upon sticky prices, Joan Robinson stated that “despite what Keynes said himself, the Keynesian revolution in theory of prices is far more important than in the theory of employment” (Robinson and Wilkinson, 1985). The purpose is thus to put forward this Keynesian revolution in the theory of prices. Studying prices is thus a strategic issue for Post-Keynesians. Although macro-theory is far more emphasised, micro issues have to be taken into account if Post-Keynesian economics is to be established as an extensive research program.

Deeper, the interest of price theory for Post-Keynesian authors is that it leads to a theory of the profit margin. This point will be underlined below, but it is clear that Post-Keynesian theory of prices has to say something about the profit margins. There are several theories of the determination of the profit margin in the Post-Keynesian literature: the first relies on the need for funds for investment, the second stresses the competition pressures and the degree of monopoly and the third analyses the impact of the conflict between workers and firms on the profit margins. The theory of the margin is linked to the theory of distribution, which is a key feature of Post-Keynesian economics.
II.3. Analysing pricing behaviours.

We are going to show that pricing behaviours underlined in the surveys are fully compatible with Post-Keynesian theory.

The starting point that we have to consider is the environment in which firms have to act. Post-Keynesians have long-standing insisted on Keynes’ view on that topic: firms act in a world of fundamental uncertainty. Taking up Knight’s work, Keynes distinguished between risk and uncertainty. We will not detail once again this distinction, assuming it is now well known among Post-Keynesians. Radical uncertainty is relevant for the economic world around us. Davidson (1996) uses the term “non-ergodic” to speak of most economic processes: past probability distributions do not say anything on present and future probability distributions. We furthermore live in a “historical time” world: firms have to take irreversible decisions. These decisions, like investment, employment and production, are taken with a blurred vision by firms.

In such a perspective, there is one question that has to be addressed to New-Keynesian economics: why should price stickiness be only an undesired feature for firms? New-Keynesian actually conceive the empirical results of surveys as the consequence of a constraint which prevents firms from changing their prices. When there is an increase in demand, the firm would like to change its price but doesn’t because of costs and constraints. In fact some New-Keynesian economists still do as if all markets were organized in a walrasian way. But in a Post-Keynesian view, markets are not all of that type. Most markets are not organized in a centralised manner, and there is no auctioneer. The market thus exists only through the existence of firms engaging into sequential transactions (see for example Lee, 1998). In a non-ergodic world with non-walrasian markets, it has to be considered that firms do want “stable” prices. Stable here means that firms post prices that they keep unchanged for a certain period of time, and for several transactions. Saying it does not mean that prices do not change, but that they change with a delay. Furthermore, stability is different from rigidity. Rigidity means that prices respond slowly to demand. However, if firms post prices that remain unchanged for one year as seems to be the case, we can deduce that these prices are rigid (unless one supposes demand changes only once a year)\(^4\). Whereas rigidity does not imply stability, stability implies some kind of rigidity. The Post-Keynesian point

\(^4\) Blinder and al. (1998) briefly discuss this question.
here is that firms desire stable prices and those firms don’t react to demand just because they
don’t want to. In a non-ergodic world with non-walrasian markets, firms have to define
policies, such as investment policies, employment policies and pricing policies. Policies are
the answer to uncertainty. We are thus endorsing Heiner’s view that fundamental uncertainty
leads people to rely on stabilizing behaviours and stabilizing conventions and institutions
(Heiner, 1983). Firms have to post a price (administer a price as used to say Gardiner Means).
To post a price they add a profit margin to a measure of costs.

One could answer that New-Keynesians conceive a profit margin added to costs. However, they only conceive it in the imperfect competition framework. Actually, when
New-Keynesians speak of price making firms, they only do so on the basis of monopolists or
oligopolists. For them, if perfect competition assumptions were achieved, firms would then be
unable to set prices, they could only accept the “market price”. If observation suggests that
firms set prices and don’t change them for a period of time, it is that competition is imperfect.
But imperfect competition does not mean that firms are “price makers” strictly speaking. In
the case of monopoly, the firm has the power to sell its output at a price which is larger than
marginal cost. But, in this case, the firm is more a “margin taker” than a price maker. The
market structure enables the firm to achieve a unit profit, but the firm has no decision to take
about the value of the margin, which depends on the elasticity of demand. *Firms don’t make
prices, they take margins*. The price does not come from adding a profit margin to a measure
of costs, but the margin is the difference between the price and unit costs. In New-Keynesian
economics, firms don’t have pricing policies at all.

The reason is that in New-Keynesian economics, the market as an “interface” between
buyers and sellers still exists, even if it doesn’t clear and is not perfect, whereas in Post-
Keynesian economics this kind of interface simply does not exist for a lot of goods and
services. Walrasian markets (i.e. centralised markets with an auctioneer and no transactions
without equilibrium) exist where they have been settled and implemented. In that way, they
are not a natural way of organizing transactions. In “Post-Keynesian markets”, price rigidity
comes from price stability which is desired by firms on decentralised markets. In these
markets, sequential transactions make the market rather than markets make transactions.
Several studies had already pointed out that firms desire to stabilize prices, like Lanzillotti
(1958) or more recently Downward (1999) who conducted a Post-Keynesian survey in the UK
(even if Shipley (1981) reported poor results for the “stability goal”, meaning that keeping a
price stable is certainly not the prime and unique objective of firms). Talking of firms’ objectives, this is the great lack of all these studies, as was noticed by Lee and Downward (2001) concerning Blinder et al.’s work. In the mainstream’s view, firms’ objectives are not a key issue, because they are supposed to optimize. But the results strongly suggest that firms just don’t do it that way (Lee and Downward, 2001). If one adopts the Post-Keynesian view of the firm, considering firms who seek to achieve a certain amount of profit, and who have thus to engage into sequential transactions to make profit, one becomes able to explain some other results that are in the studies. Actually, if costs, contracts, coordination failure and other things prevent firms from changing their prices when demand changes, it never does such a thing when costs increase. We are thus backing to the demand rigidity versus cost rigidity of prices controversy, noticed long ago by Kalecki and often validated by empirical studies. A lot of empirical studies have actually asked firms the driving factors leading to price increases and decreases. We compiled the answers from the ECB studies and from some other countries. Once again, the methodology was not everywhere the same, but we tried to group answers (especially concerning the financial costs) so as to get a representative table. The purpose was to rank different causes of changing prices, from 1st rank to 5th rank. We give a mean in order to have a global overview even if the number in itself is meaningless. The results are in Tables 6 and 7.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Labour costs</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>-</td>
<td>4</td>
<td>5</td>
<td>2.1</td>
</tr>
<tr>
<td>Material costs</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>-</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1.5</td>
</tr>
<tr>
<td>Financial costs</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>-</td>
<td>5</td>
<td>2</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>4.5</td>
</tr>
<tr>
<td>Demand</td>
<td>5</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3.8</td>
</tr>
<tr>
<td>Competitors’ price</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2.7</td>
</tr>
</tbody>
</table>

Table 6. Factors driving price increases (mean scores, from 1 to 4). (Author’s compilation).

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Labour costs</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>5</td>
<td>2</td>
<td>-</td>
<td>4</td>
<td>5</td>
<td>3.8</td>
</tr>
<tr>
<td>Material costs</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>-</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2.0</td>
</tr>
<tr>
<td>Financial costs</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>-</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>4.6</td>
</tr>
<tr>
<td>Demand</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>2.8</td>
</tr>
<tr>
<td>Competitors’ price</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1.4</td>
</tr>
</tbody>
</table>

Table 7. Factors driving price decrease (mean scores from 1 to 4). (Author’s compilation).
As can easily be seen, demand is never the first factor driving a price change, be it a higher or lower demand. A rise in demand is ranked 4\textsuperscript{th} for a price increase, and a fall in demand is ranked 3\textsuperscript{rd} for price decreases. There is thus an asymmetry, but demand is never the best reason to change prices. Costs are always good ranked. Labour costs and material costs are the two best causes of raising prices. Competitor’s pressure seems to be the best reason to cut prices, and demand is ranked third on that point. These results strongly suggest that a rise in demand is not a threat to the achievement of the targeted rate of profit or the targeted volume of sales, whereas a raise in costs clearly is. At the opposite, a fall in demand threatens the firms’ ability to achieve the targeted rate of profit, but the way to answer it can be but need not be a cut in prices, as suggested by Downward and Lee (2001). As well, a fall in material costs can lead to a fall in prices because it can be achieved while maintaining the same rate of profit. As one can see, in a simple Post-Keynesian view of the behaviour of the firm, price rigidity to demand can be naturally derived without using any costs or contracts which prevents firms from changing prices. If we assume, in a Post-Keynesian view, that firms use some kind of cost-plus pricing and that the main reason of increasing prices is an increase in costs, this means that rigidity comes from profit margins more than from prices. For the reasons detailed before, firms set prices they keep unchanged for a certain period. If costs increase during this period, profit margins will decrease (first time of the margin). After a couple of months or maybe one year, that is to say in the medium run, firms will push up prices in order to restore unit profit margins (second time of the margin). And in the long run, unit margins can fluctuate under the influence of changes in the conflicting claims of workers and unions, or structural changes in the competition pressure (third time of the margin). The dynamics of profit margins is thus to see in three distinct times.

In such a framework, what can be said about all the theories we underlined before? First, firms don’t always support the theories as much as we could think. If we go back to Blinder and al. (1998), we will discover that the questionnaires were conducted in two steps: first, the theory was explained in plain English and then the question “Does it concern your company?” was asked. If the answer was yes, the question “How important is it in slowing down price adjustment?” was then asked. The results for these two questions are in the following table.
12th conference of the Research Networks Macroeconomic Policies
“Macroeconomics on shaky Foundations”.

<table>
<thead>
<tr>
<th></th>
<th>Acceptance ratio</th>
<th>Very important</th>
<th>Moderate importance</th>
<th>Minor importance</th>
<th>Totally unimportant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Contracts</td>
<td>-</td>
<td>23.6%</td>
<td>13.6%</td>
<td>13.3%</td>
<td>49.5%</td>
</tr>
<tr>
<td>Implicit contracts</td>
<td>64%</td>
<td>28.3%</td>
<td>22.7%</td>
<td>9.7%</td>
<td>39.3%</td>
</tr>
<tr>
<td>Judging quality by price</td>
<td>22.5%</td>
<td>4.3%</td>
<td>6.3%</td>
<td>8.0%</td>
<td>81.5%</td>
</tr>
<tr>
<td>Procyclical elasticity</td>
<td>60%</td>
<td>9.7%</td>
<td>21.5%</td>
<td>12.8%</td>
<td>55.9%</td>
</tr>
<tr>
<td>Cost based</td>
<td>-</td>
<td>38.8%</td>
<td>18%</td>
<td>13.3%</td>
<td>30%</td>
</tr>
<tr>
<td>Constant marginal cost</td>
<td>40.5%</td>
<td>22.2%</td>
<td>18.9%</td>
<td>15%</td>
<td>43.9%</td>
</tr>
<tr>
<td>Menu costs</td>
<td>43%</td>
<td>16.8%</td>
<td>14.3%</td>
<td>9.8%</td>
<td>59.3%</td>
</tr>
<tr>
<td>Coordination failure</td>
<td>-</td>
<td>42.4%</td>
<td>19.4%</td>
<td>10.6%</td>
<td>27.5%</td>
</tr>
<tr>
<td>Non price competition</td>
<td>77%</td>
<td>31%</td>
<td>25.9%</td>
<td>12.9%</td>
<td>30.2%</td>
</tr>
</tbody>
</table>

Table 8. Acceptance ratios and importance of theories. Source: Blinder and al. (1999).

As can easily be seen, all these theories are not, far from it, universally accepted. Only 43% of firms are concerned by menu costs, 22.5% by the link between quality and price. For implicit contracts and procyclical elasticity and others, the figure goes from 60% to 77%. And if one goes further to see the importance of the theories, one will be surprised by the percentage of firms saying that the theory (whatever theory) is totally unimportant in slowing down price adjustments: from 27.5% for coordination failure to 81.5% for judging quality by price.

From a Post-Keynesian point of view, the first thing to say would certainly be, as Post-Keynesians like it, that inversed causalities can be put ahead. Concerning for example menu costs, which were one of the first New-Keynesian explanations of price stickiness, it seems to us that there can be several objections. First, as noted by Gordon (1981) himself, some prices posted on tags can change everyday, and menu costs never prevented inflation to occur (Sargent 1980). Furthermore, the growing use of electronical tags and the development of online sales, where prices can be changed without a cost in one second did not change things: firms still keep prices unchanged for a certain period of time. The final question is thus: why the hell do firms post prices on tags and menus if doing so is such a constraint for their optimal plans? The Post-Keynesian answer would be that causality has to be inversed: it is not because prices are printed on menus that they don’t change, it is because firms want to keep prices stable that they can sell products on catalogues and menus.

Even if a French supermarket chain decided in 2008 to write prices on yoghurts so that people can be sure their prices won’t raise!
Something similar could be said about nominal contracts. As we can see, 49.5% of firms found it totally unimportant in slowing down price adjustment in Blinder et al.’s work. However, this theory seems to be well ranked in all countries. But, as conceded by Blinder et al. (2001), “some economists would argue that this idea is not a theory at all, for it fails to explain why parties enter into such contracts in the first place”. Post-Keynesians do have an answer to this question: nominal contracts are an answer to radical uncertainty. People and firms want to prevent from going bankruptcy (see for example Davidson, 1994), and so try to stabilize monetary flows. Stable prices and nominal contracts are thus two ways of coping with uncertainty.

Discussing now about coordination failure, the point that has to be made is that in a non-ergodic world, coordination does not prevail at the beginning. Firms’ pricing policies can thus be seen as a mean of coordination, or as a mean of re-coordination. Using a pricing policy in a world where people are not coordinated ex-ante is what allows for coordination with competitors and customers. Concerning coordination failure, there is one question that still prevails: firms don’t want to change prices because they fear competitors might not do the same, but will all firms stay in that state? Won’t they change their prices one day or another? (Davidson 1995). What will make one firm begin to raise its price? At this stage there is one country in which evidence suggests that firms rely on some conventions to cope with uncertainty and problems of coordination: the study concerning Portugal (which is the only study where the question of the distribution of price changes is asked) reports the monthly distribution of price changes. In figure 1, it appears that about 45% of firms change their prices in January. This could suggest that firms use some conventions, namely time conventions such as the year to settle their pricing behaviour.

![Figure 1. Monthly distribution of price changes in Portugal. Source: ECB.](image-url)
Concerning implicit contracts, it is one of the theories that Post-Keynesians could best agree on with New-Keynesians. Arthur Okun is indeed an often cited author in Post-Keynesian articles, for his distinction between auctioneer markets and customer markets is quite the same as the one between walrasian and non-walrasian markets we used below. This theory is interpreted as a preference of consumers for stable prices. But, as sometimes noted by New-Keynesians themselves, this theory does not explain why firms don’t perceive that while adjusting their prices, they would lose in face of a rise in demand what they would gain during a fall in demand. In a Post-Keynesian view, the preference for stable prices is to be enlarged to firms, who want stable prices so as to cope with uncertainty.

The theory of cost-based pricing is also something that has been stressed long ago by Post-Keynesian authors. Even if this theory is well ranked, Post-Keynesian economists wouldn’t see it as a barrier to price adjustment. To the converse, it strongly suggests that firms don’t react to demand but to costs: they change their prices only when costs change. Aiming at achieving a certain amount of profit, firms use pricing policies and react only when costs are affected. Cost-based is not a barrier to price adjustment but a suggestion that in non-walrasian markets the reaction of firms to demand is contingent.

**Conclusion.**

To conclude this paper, let’s ask again the question Lee and Downward (2001) were asking about the seminal work of Blinder et al.: do these studies reconfirm Post-Keynesian theory of prices? As was shown, the answer can be positive, but one has to get off of the New-Keynesian paradigm of optimizing agents in ergodic worlds with walrasian markets. The rigidity/stability of prices is a phenomenon that can be naturally derived from Post-Keynesian assumptions, whereas New-Keynesians (or mainstream Keynesians) have to imagine complex mechanisms to derive this price rigidity. But when one turns out to the question whether New-Keynesian price theory is compatible with Post-Keynesian theory, we could settle that although both could agree on some theories like cost-based or implicit contracts, it is however impossible to make both compatible: Post-Keynesians don’t believe that prices are responsible for effective demand effects. These two paradigms refer to incompatible frameworks: whereas in the New-Keynesian conception the optimization of the firm and its rationality still prevails, Post-Keynesians refers to limited rationality where agents rely on some targeted rate of profit instead of profit maximization.
REFERENCES


