# Doves, Hawks and Pigeons: Behavioral Monetary Policy Making

By Donato Masciandaro[1]

## 1.    Introduction

"Too little, too late" or "wait and see": these are frequently the comments that the media use in observing central banks' tendency in post-poning and/or delaying interest rate decisions. The recent behavior of the Federal Reserve System (FED) is paradigmatic.

In the aftermath of the severest recession since the Second World War, the FED  faces extra-ordinary challenges in designing and imple-menting monetary policy. The overall result has been massive monetary accommodation with interest rates close to zero, coupled with an exceptional expansion of the Fed's balance sheet. The so called Great Recession ended in June 2009, but seven years afterwards, the Fed is still delaying the process of going back to normal. Expansionary monetary policy has been imple-mented long after the recession ended,  raising questions  on the drivers and consequences of monetary inertia, i.e. in this case reluctance in leaving the ultra-expansionary monetary status quo to start a policy of interest rate normalization.

But the discussion over the (delayed) lift-off in US monetary policy is just the latest episode in a long -lasting debate: how inertia in monetary policy can be explained? In the last two decades in,

several cases central banks have shown reluctance in leaving the monetary status quo, raising questions on the rationale that can justify such a stance. As it has been insightfully pointed out (Orphanides 2015) at least in the case of the US monetary policy, a period of monetary inertia after the end of a recession is not uncommon. At the same time, cases of monetary inertia have been registered for some time after the end of an expansion; this inertial feature of central bank behavior has been especially noted in the case of the Fed, but it characterized many other central banks (Goodhart 1996 and 1998, Woodford 1999 and 2003).

So far the economic literature offered two different explanations: information inertia and governance inertia. In a forthcoming article (Favaretto and Masciandaro 2016) a new driver of inertia has been introduced, independent from frictions and central bank governance settings: loss aversion.

## 2. Related Literature

Originally, monetary inertia was motivated by observing that central bank decisions depend on information on the state of the economy, as well as on the recognition of the long and variable lags in the transmission of monetary policy. Therefore monetary inertia can be considered a rational strategy in order to avoid tough stop-and-go policies and their consequences in terms of negative macroeconomic spillovers. The tendency of central banks to adjust interest rates only gradually in response to changes in economic conditions can thus be considered optimal (Woodford 1999, Driffil and Rotondi 2007, Consolo and Favero 2009). More recently optimal monetary policy has been derived by departing from the rational expectations hypothesis, i.e. by assuming that individual agents follow adaptive learning (Mohnar and Santoro 2014).

Under a different perspective, monetary policy inertia has been analyzed by exploring the role of central bank governance. In this respect two studies focusing on Monetary Policy Committees (MPCs) seem particularly interesting: Dal Bo (2006), and Riboni and Ruge-Murcia (2010).

Dal Bo (2006) shows that the voting procedure requiring a supermajority - i.e. a so called consensus setting - leads the MPC to behave as a conservative central banker à la Rogoff (1985). The supermajority rule mitigates issues of time-inconsistency and introduces a status-quo bias in monetary policy decisions.

Riboni and Ruge-Murcia (2010) analyze four different frameworks in central banking governance, comparing the simple majority (median voter) model, the consensus model, the agenda setting model (where the chairman controls the board agenda), and the dictator model (case of influential chairman).

While the simple majority model and the dictator model are observationally equivalent to a one-man central bank, the consensus model and the agenda setting model are different, creating something like a persistent status-quo monetary policy. In the first two models, the MPC adjusts the interest rate taking into account the value preferred by the key members - respectively the median voter and the chairman - regardless of the initial status-quo. In the other two models the MPC can keep the interest rate unchanged in the so called inaction region, i.e. monetary inertia can occur. Further, the agenda setting model predicts larger interest rate increases than the consensus model, when the chairman is more hawkish than the median member. In other words, inertia in the interest rate decisions can be associated with features of central bank governance (governance inertia).

## 3. Behavioral Monetary Policy Making

But what happens if we assume that psychological drivers can influence the decisions of the central bankers? Recently Favaretto and Masciandaro 2016 simulated a monetary policy setting with three different kind of central bankers.

By using a standard macroeconomic model is it possible to introduce a novel perspective to analyze monetary inertia, discussing issues that are becoming increasingly relevant in the real world: how important are behavioral drivers in explaining the monetary policy decisions? What are the conse-

quences – if any – for monetary policy strategy and the design of central bank governance rules?

Consider an economy with nominal price rigidities and rational expectations, where a Monetary Policy Committee (MPC) makes decisions on interest rates using a majority rule. The central bankers are assumed to be top bureaucrats that care about their careers and can be divided into three groups, depending on their monetary conservativeness: doves, pigeons and hawks.

In the monetary policy literature a specific jargon has been coined: a "dove" is a policymaker who likes to implement active monetary policies, including inflationary ones, while a "hawk" is a policymaker who dislikes them (Chappell et al. 1993, Jung 2013, Jung and Kiss 2012, Jung and Latsos 2014, Eijjfinger et al. 2013a and 2013b, Neuenkirch and Neumeier 2013, Wilson 2014, Eijffinger et al. 2015). Pigeons fall in the middle. Throughout time, the attitude distinction has become popular in analyses of monetary policy board decisions.

It is worth noting that while the degree of conservatism per se does not necessarily produce monetary inertia, the model shows that introducing loss aversion in individual behavior influences the stance of monetary policy.

In the analysis of monetary policymaking, the principal agent perspective has been adopted in a more general and simple way, i.e. the individual central banker is supposed to incorporate social gains and costs in implementing via monetary action successful stabilization policies, taking into account her personal conservativeness. But then the less central bankers are rational individuals in the traditional meaning, the more the design of governance procedures must take into account the possibility of behavioral bias. In other words, the simple assumption that central bankers are career-motivated players, who care about their prestige, is not sufficient, when behavioral biases – such as loss aversion – can systematically emerge.

In calculating benefits and costs of different monetary policies, behavioral central bankers make choices that are quite different compared with standard central bankers.

Therefore, given the degree of conservativeness of each central banker, it is possible to show that the introduction of loss aversion in individual behavior influences the monetary policy stance under three different but convergent perspectives.

First of all a *moderation effect* can emerge, i.e. the number of pigeons increases. More loss aversion among MPC members reduces the distance between their monetary policy positions. On the one side, the doves overestimate the losses due to an inflationary choice, so they limit their dovishness. On the other side, the hawks overestimate the losses due to a conservative choice, and therefore their hawkishness is dampened. As the central bankers become more loss averse, pigeons increase in number and inertia in setting the interest rate is likely to increase.

At the same time also a *hysteresis effect* can become relevant: both doves and hawks smooth their attitudes. Given the existing monetary policy stance, if loss aversion characterizes the central banker behavior, the status quo is more likely to remain; any central banker – either a dove or a hawk – will overestimate any losses due to a change in strategy.

Finally a *smoothing effect* tends to stabilize the number of pigeons: in case of a shock to the level of conservativeness among central bankers, only large shocks can trigger a change in the monetary policy stance.

The three effects consistently trigger higher monetary policy inertia. Therefore loss aversion can explain delays and lags in changing the monetary policy stance, including the so called fear of lift offs after recessions.

## 2. Conclusion

Central bankers are individuals that can be subjected to the same source of behavioral bias that all individuals face. In the presence of behavioral bias, the outcome of different information sets and/or governance rules can be quite different compared to the standard case.

Usually, monetary inertia can emerge in a standard

setting, where the central banker aims to design and implement the best monetary policy considering the possible macroeconomic trade-offs. At the same time, governance rules are defined assuming the existence of a principal agent framework between citizens and central bankers as bureaucrats, where the bureaucrats are rational players. The governance problem is to design rules of the game that can produce optimal interest alignment between society and central bankers.

However one more perspective needs to be explored, namely to assume that central bankers can act consistently with behavioral biases. It is possible to show that loss aversion can explain delays and lags in changing the monetary policy stance.

In other words, central bankers can justify their lack of active choices using informational reasons – "we adopted a data dependent strategy" – or governance drivers – "we need to reach a larger consensus" – but being both bureaucrats – i.e. career concerned players – and humans, other perspectives need to be explored, namely to assume that central bankers can act consistently with behavioral biases. Such a perspective deserves attention also in designing and implementing central bank governance rules.

It is worth noting that loss aversion is just one source of behavioral bias. As has been correctly pointed out (Orphanides 2015), in general the cognitive psychology perspective can be usefully employed in understanding the intertemporal challenges embedded in monetary policy analysis.

Therefore the analysis of central bank governance must take into account the potential relevance of behavioral biases. Future research shall devote additional effort to uncover the relationship between behavioral bias and alternative governance settings.

All in all behavioral economics deserves increasing attention. Monetary policy analysis should account for the fact that central bankers are individuals and prone to biases and temptations that can sensibly influence their ultimate choices in a setting of macroeconomic and/or interest rate targets.

Theoretically, institutional and empirical studies are needed, also to address in a systematic way the intrinsic difficulty in disentangling case by case when a monetary stance represents a case of information, governance or behavioral inertia, respectively.

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## About the author

Donato Masciandaro, born in Italy in 1961, has been a Full Professor of Economics since 2001. He holds the Chair in Economics of Financial Regulation at Bocconi University in Milan, and is Head of the Department of Economics, President, Baffi Carefin Center. Since 2008, he has been Director of the BAFFI Center on International Markets, Money and Regulation. He is a member of the Council of Management and Honorary Treasurer of SUERF. He has served as a visiting scholar at the IMF Institute (International Monetary Fund), and has been a consultant at the Inter-American Development Bank and the United Nations. He is Associated Editor of the Journal of Financial Stability. Donato Masciandaro's work has covered three main topics: central banking, financial regulation and supervision, illegal financial markets. His three most recent books are: The Handbook of Central Banking, Financial Regulation and Supervision after the Crisis (ed.), 2011, Edward Elgar, Cheltenham (with S. Eijffinger), Designing Financial Supervision Institutions: Independence, Accountability and Governance, (ed.), 2007, Edward Elgar, Cheltenham (with M. Quintyn) and Black Finance. The Economics of Money Laundering, Edward Elgar, Cheltenham, 2007 (with E. Takats and B. Unger).

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