Comment

Oscar Landerretche: One of my favorite ways to think about the Central Bank is probably one of the most insulting to the profound solemnity of central bankers: namely, as a communications and propaganda agency. I once knew a central banker who frequently repeated the following joke about monetary reincarnation: "When a central banker is good in life, he is reincarnated as a physicist; when he is bad, he is reincarnated as a sociologist." Modern central banking, especially in inflation-targeting regimes, relies enormously on communications policy to stabilize the demand. So, unfortunately for my friend, good modern central bankers are very talented at social perceptions and outright propaganda. If they are good in life, maybe they will be reincarnated as marketing majors.

One of the nicest things about how this works is that it happens in different ways around the world, and the way it functions depends greatly on market and institutional traditions that are specific to each particular country and money market. This contributes an enormous amount of color and heterogeneity to the central banking world, which is crucial to know for practitioners and interesting for macroeconomic connoisseurs.

Pablo Pincheira and Mauricio Calani explore how this mechanism works in Chile considering a specific aspect of the communications policy of the Central Bank: the minutes. Their study advances toward one of the most fundamental facts about contemporary Chilean monetary policy: that the actual movement of interest rates is, at times, much less interesting than the signaling game that precedes it. If what Pincheira and Calani say is true, a big part of the monetary policy communications game is run long before interest rates are raised or lowered by any amount of basis points. This is thus one of the first papers that actually attempts to study the Central Bank of Chile as a communications agency.

There are very good reasons for expecting the communications policy of central banks to have become much more active in recent years. Consider a classical rationale for a central banker who wishes to signal certain policy commitments to a Bayesian audience. The audience will update its priors on the central banker based on the signals it receives. Given the nature of contemporary communications and online chatter, however, small pieces of information that in the past only affected parts of the market or took a substantial amount of time to spread may have a greater (or quicker) effect than before. In a Bayesian sense, this could mean that monetary signals have become more noisy. If so, central banks will probably be increasingly active in communications and policy signals, trying to reduce to noise in order to preserve their credibility and communications influence. Figure 2 in the paper is very suggestive of an increase in communications activity by the Central Bank of Chile through increased variability of its bias.

This paper does not attempt to demonstrate that this phenomenon is happening; it does not try to prove that the minutes are an optimal or particularly efficient communications mechanism or that this particular mechanism is preferable to others. More crucially, it does not argue that the market actually uses the communication bias in the minutes, just that it should. What it does argue is that the minutes contain information that the market cannot replicate with a simple measure of the Central Bank's reaction function and standard market models.

The crucial thing about the paper is that the information content of the communication bias is measured through a perceptions survey of Central Bank board members and executives. This is thus, at the very least, a measure of the communication intentions of the Central Bank. The paper argues that these intentions, as expressed in the bias of the minutes, contain information that should be valuable to the market. If one takes the results presented by the authors as a whole, it seems that market forecasters still improve on the communications bias in their short-term second-guessing of the Central Bank, but not in their forecasting of medium-term monetary policies and stance, so some information is not being used. If the argument is taken in this way, this is a very useful paper for both the market and the Central Bank.

On the other hand, the results of the paper, taken at face value, do not necessarily mean that market forecasters for Chilean monetary policy are getting it wrong. Another way of reading the paper's results is that because the interpretation of the bias used in the paper comes from the policymakers and not from the market, the discrepancy in the forecasts may indicate that the Central Bank is not actually communicating what it wants to the market. It is very difficult to believe that market forecasters do not read the minutes, so, what is missing? The answer is very simple: exegesis—that is, official annotated

Central Bank minutes. Maybe what Pincheira and Calani have proved is that the Central Bank is drafting its minutes wrong.

Some of the authors' choices might usefully be clarified for anyone seeking to do further work in this subject. First, the authors decide to study only biased minutes, that is, minutes in which the Central Bank is not communicating a neutral stance. They explicitly say that "when neutral, the c-bias cannot be interpreted as a forecast of some future policy decision." I beg to disagree. When the Central Bank has been drafting, say, hawkish minutes for months, a switch to a neutral stance could be very important information for the market, and be critical in predicting a change in the monetary policy yield curve. The authors seem to implicitly assume (or maybe they know, since they work there) that the Central Bank only communicates through biased minutes. This needs to be tested in future research.

Second, this leads to another choice that the researchers make: they opt to study the impact of individual biases rather than the value of the stance in a dynamic setting, where changes in the stance could have a greater communications value than the level. This could provide a setting for incorporating neutral stances into the research object as part of different minute dynamics.

Third, the authors decide to measure the communications signal by surveying Central Bank officials, rather than addressing the question of how the analysts interpret the communications bias to see if the market is actually getting the signal. One way to do this would be to compare surveys of the officials with surveys of the analysts (Santiago is a small enough market that this could be done quite easily). The results of the comparison would indicate whether the problem is the analysts' reading or the Central Bank's drafting.

Fourth, the authors decide to center their analysis on a regular and predictable object: the minutes. The problem with this strategy is that Central Bank officers use other mechanisms for their communications policy, including interviews, conferences, and presentations by board members and senior staff. The fact that the Central Bank features these events and materials prominently on its website shows that they are a big part of the Bank's communications policy, and it is well-known that these events are carefully scheduled and designed. These other components of the Central Bank's communications strategy could be assessed using the same approach as for the minutes: survey the officials on their meaning and test their predictive properties.

Fifth, the researchers test the predictive powers of the c-bias against a couple of canonical models that are supposedly used by the market, as well as the consensus bias of market forecasters. However, the models used in this paper are quite simple. This is natural, since the authors center their technical

effort on the estimation of the information properties of the bias, rather than on the forecasting models. One possibility is to test the c-bias against the Central Bank's official "politburo" stochastic dynamic general equilibrium (SDGE) model. If this more sophisticated model cannot be improved with the c-bias, it would mean that the market is actually not being sufficiently competent in technical terms with the available information in public statistical time series; if it can be, then it provides another piece of evidence for the informal null hypothesis on the information content of the c-bias.

This is a very enjoyable paper that raises a lot of questions about the Central Bank's communications policy. It contributes to a new way of thinking and measuring contemporary monetary policy in Chile.

References

- Agénor, Pierre-Richard. 2002. "Monetary Policy under Flexible Exchange Rates: An Introduction to Inflation Targeting." In *Inflation Targeting: Design, Performance, Challenges*, edited by Norman Loayza and Raimundo Soto, pp. 79–170. Santiago: Central Bank of Chile.
- Andersson, Malin, Hans Dillén, and Peter Sellin. 2006. "Monetary Policy Signaling and Movements in the Term Structure of Interest Rates." *Journal of Monetary Economics* 53(8): 1815–55.
- Ball, Laurence, and Niamh Sheridan. 2005. "Does Inflation Targeting Matter?" In The Inflation-Targeting Debate, edited by Ben S. Bernanke and Michael Woodford, pp. 249–76. University of Chicago Press for the National Bureau of Economic Research.
- Batini, Nicoletta, and Douglas Laxton. 2007. "Under What Conditions Can Inflation Targeting Be Adopted? The Experience of Emerging Markets." In *Monetary Policy under Inflation Targeting*, edited by Frederic S. Mishkin and Klaus Schmidt-Hebbel, pp. 467–506. Santiago: Central Bank of Chile.
- Blattner, Tobias, and others. 2008. "The Predictability of Monetary Policy." Occasional Paper 83. Frankfurt: European Central Bank.
- Blinder, Alan S., and others. 2008. "Central Bank Communication and Monetary Policy: A Survey of Theory and Evidence." Working Paper 13932. Cambridge, Mass.: National Bureau of Economic Research.
- Brock, William A., and Steven N. Durlauf. 2001. "Growth Empirics and Reality." World Bank Economic Review 15(2): 229–72.
- Cecchetti, Stephen G., Alfonso Flores-Lagunes, and Stefan Krause. 2006. "Has Monetary Policy Become More Efficient? A Cross-Country Analysis." *Economic Journal* 116(511): 408–33.
- Central Bank of Chile. 2007. "Monetary Policy in an Inflation Targeting Framework." Santiago.
- ——. 2001–09. Press Releases. Various issues. Santiago. (Available online at www.bcentral.cl/eng/press/communications/index.htmwww.bcentral.cl.)
- Corbo, Vittorio, Oscar Landerretche, and Klaus Schmidt-Hebbel. 2002. "Does Inflation Targeting Make a Difference?" In *Inflation Targeting: Design, Performance, Challenges*, edited by Norman Loayza and Raimundo Soto, pp. 221–69. Santiago: Central Bank of Chile.
- Cukierman, Alex, and Allan H. Meltzer. 1986. "A Theory of Ambiguity, Credibility, and Inflation under Discretion and Asymmetric Information." *Econometrica* 54(4): 1099–128.
- Diebold, Francis X., and Roberto S. Mariano. 1995. "Comparing Predictive Accuracy." *Journal of Business and Economic Statistics* 13(3): 253–63.
- Draghi, Mario. 2008. "Monetary Policy, Expectations, and Financial Markets." Address delivered at the Central Bank Whitaker Lecture. Dublin, 18 July.

- Fuentes, Rodrigo, and others. 2003. "Monetary Policy Nominalization in Chile: An Evaluation." *Economía Chilena* 6(2): 5–35.
- Galí, Jordi. 2008. Monetary Policy, Inflation and the Business Cycle: An Introduction to the New Keynesian Framework. Princeton University Press.
- Giacomini, Raffaella, and Halbert White. 2006. "Tests of Conditional Predictive Ability." *Econometrica* 74(6): 1545–78.
- Gürkaynak, Refet S., Brian Sack, and Eric Swanson. 2005. "Do Actions Speak Louder than Words? The Response of Asset Prices to Monetary Policy Actions and Statements." *International Journal of Central Banking* 1(1): 55–93.
- Hoeting Jennifer A., and others. 1999. "Bayesian Model Averaging: A Tutorial." *Statistical Science* 14(4): 382–401.
- Jansen, David-Jan, and Jakob de Haan. 2006. "Does ECB Communication help in Predicting its Interest Rate Decisions?" Working Paper 184. Munich: CESifo.
- Judd, John P., and Glenn D. Rudebusch. 1998. "Taylor's Rule and the Fed: 1970–1997." Federal Reserve Bank of San Francisco Economic Review 3: 3–16.
- Lapp, John S., and Douglas K. Pearce. 2000. "Does a Bias in FOMC Policy Directives Help Predict Intermeeting Policy Changes?" *Journal of Money, Credit, and Banking* 32(3): 435–41.
- Larraín, Mauricio. 2007. "Sorpresas de política monetaria y la curva de rendimiento en Chile." *Economía Chilena* 10(1): 37–50.
- Leamer, Edward E. 1978. Specification Searches. New York: John Wiley.
- Mishkin, Frederic S., and Klaus Schmidt-Hebbel. 2007. "Does Inflation Targeting Make a Difference?" In *Monetary Policy under Inflation Targeting*, edited by Frederic S. Mishkin and Klaus Schmidt-Hebbel, pp. 291–372. Santiago: Central Bank of Chile.
- Newey, Whitney K., and Kenneth D. West. 1987. "A Simple, Positive, Semi-Definite, Heteroskedasticity and Autocorrelation Consistent Covariance Matrix." *Econometrica* 55(3): 703–8.
- ——. 1994. "Automatic Lag Selection in Covariance Matrix Estimation." *Review of Economic Studies* 61(4) 631–53.
- Orphanides, Athanasios, and John C. Williams. 2005. "Imperfect Knowledge, Inflation Expectations, and Monetary Policy." in *The Inflation-Targeting Debate*, edited by Ben S. Bernanke and Michael Woodford. University of Chicago Press.
- Rigobón, Roberto, and Brian Sack. 2004. "The Impact of Monetary Policy on Asset Prices." *Journal of Monetary Economics* 51(8): 1553–75.
- Rosa, Carlo, and Giovanni Verga. 2007. "On the Consistency and Effectiveness of Central Bank Communication: Evidence from the ECB." *European Journal of Political Economy* 23(1): 146–75.
- Siklos, Pierre L., and Martin T. Bohl. 2007. "Do Actions Speak Louder Than Words? Evaluating Monetary Policy at the Bundesbank." *Journal of Macroeconomics* 29(2): 368–86.

- Svensson, Lars E. O. 2003. "What Is Wrong with Taylor Rules? Using Judgment in Monetary Policy through Targeting Rules." *Journal of Economic Literature* 41(2): 426–77.
- Taylor, John B. 1993. "Discretion versus Policy Rules in Practice." *Carnegie-Rochester Conference Series on Public Policy* 39(1): 195–214.
- Volinsky, Chris T., and others. 1997. "Bayesian Model Averaging in Proportional Hazard Models: Assessing the Risk of a Stroke." *Applied Statistics* 46(4): 443–48.
- Walsh, Carl E. 2007. "Transparency, Flexibility, and Inflation Targeting." In *Monetary Policy under Inflation Targeting*, edited by Frederic S. Mishkin and Klaus Schmidt-Hebbel, pp. 227–64. Santiago: Central Bank of Chile.
- West, Kenneth D. 1996. "Asymptotic Inference About Predictive Ability." *Econometrica* 64(5): 1067–84.
- White, Halbert. 2001. *Asymptotic Theory for Econometricians*. New York: Academic Press.
- Woodford, Michael. 2003. Interest and Prices. Princeton University Press.
- ——. 2005. "Central-Bank Communication and Policy Effectiveness." Working Paper 11898. Cambridge, Mass.: National Bureau of Economic Research.