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Citation

Martin Eichenbaum has made enormous contributions to the economics profession's understanding of the business cycle, financial markets, exchange rates, the international monetary system, and the impacts of economic policy. His work on the effects of monetary policy on the economy is cited by thousands of scholars and has influenced subsequent research in hundreds of papers written by academics and central bank researchers.

Detailed appraisal

Martin S. Eichenbaum is one of the world's most influential economists. Over his forty-year career, he has made an enormous contribution to the profession's understanding of the business cycle, financial markets, exchange rates, the international monetary system, and the impacts of economic policy. His work on the effects of monetary policy on the economy has influenced subsequent research in hundreds of papers written by academics and central bank researchers.

Eichenbaum was born in Montreal, and completed his BComm at McGill University in 1976. He did a PhD at the University of Minnesota, and took his first job at Carnegie Mellon University, before moving to a Full Professor position at Northwestern University, where he has been since (he holds both Canadian and American citizenship). He is an Associate of the National Bureau of Economic Research (NBER). He has edited a number of scholarly journals, including the *American Economic Review*, the premier journal in the profession. He is an international Fellow of the C.D. Howe Institute, as well as being a director of the Bank of Montreal. In 1997, he was elected as a Fellow of the Econometric Society – one of the principal awards of the economics profession. In 2013, he was named as a Fellow of the American Academy of Arts and Sciences.

His expertise on monetary and macroeconomics is evident from the dozens of invited lectures and keynote addresses he has given all over the world in the past three decades. His papers have consistently been published in the very top journals in the economics profession. Perhaps the most influential of Eichenbaum's contributions is the work on the economic impact of monetary policy. For economists who study macroeconomics, one of the most critical

questions is how central banks' policies affect the behavior of economic variables such as GDP, investment, and unemployment. We cannot know this simply by looking at data, because the economy is an interconnected system in which 'everything depends on everything else'.

Changes in interest rates or other economic policy variables are partly a response to economic events. The problem can only be resolved by identifying causality in policy, which amounts to isolating a change in policy which is *exogenous* or, in other words, does not itself respond to other economic events. Eichenbaum's work showed how to restrict economic data so as to identify exogenous monetary policy shocks. The key task was to discover how central banks normally adjust monetary policy to developments in the economy, and then to isolate deviations from this normal rule. He showed quite definitively that monetary policy shocks, such as a sharp unexpected rise in interest rates, caused prolonged negative effects on GDP and a rise in unemployment. While this may seem obvious to non-economists based on their reading of newspapers, for economists the burden of proof is higher. Eichenbaum's work met the burden of proof with flying colours. This was a contribution not just to academic knowledge. It has had a huge influence on monetary policy authorities – central banks regularly assess the impacts of policies using exactly the methodology set out by Eichenbaum. His 1999 paper 'Monetary Policy Shocks: What Have We Learned and to What End?' currently has 3826 citations in Google Scholar.

Building on that work, he published a seminal paper in the *Journal of Political Economy*, 2005, entitled 'Nominal Rigidities and the Dynamic Effects of a Shock to Monetary Policy'. As explained above, to understand monetary policy we have to isolate causal effects from changes in policy to other economic variables. But in order to conduct a full evaluation of the impact of policy, and to design policies that will ensure desirable economic conditions, one needs a full model of the economy, describing the interaction and interdependence of all major economic variables. The 2005 paper offered exactly such a model. It drew together elements from Eichenbaum's own research and others to produce a groundbreaking contribution. It used evidence from labour markets that wages were slow to adjust in response to economic shocks, in addition to other careful measurements of how investment and consumer spending behaved in the economy, and how firms adjust their utilization of capital equipment. It then built a theoretical framework that showed how all variables in the economy, GDP, unemployment, investment etc. responded to monetary policy shocks. A key element of the paper was to use a statistical technique to ensure that the responses of the model were consistent with the empirical findings on the responses of the economy to a monetary shock, using his earlier work. This paper has had a profound effect on the discipline's understanding of the way monetary policy affects the real economy. Moreover, it presented a methodology that has been incorporated in the econometric policy evaluation models of virtually every central bank in the world. The paper currently has 7139 Google scholar citations.

Eichenbaum has made many contributions to international economics. In 1995 he published a paper showing how monetary shocks impacted on the exchange rate. Theoretical models suggested that a rise in interest rates could either lead to a higher or lower exchange rate (appreciation or depreciation). This paper presented strong statistical evidence that a

contractionary monetary policy led to an appreciation of the currency. This paper has become a standard reference in the literature and currently garners 1308 Google Scholar citations.

After the Asian financial crisis of 1997-1999, economists struggled to understand how seemingly successful fast-growing economies such as Thailand, Malaysia and others could suddenly experience collapses in their currency values and large recessions. This was particularly puzzling because governments in these countries were running budget surpluses. In a paper in 2001 (Prospective Deficits and the Asian Crisis), Eichenbaum showed that a critical determinant of the Asian currency crisis was what he called 'prospective deficits', linked to the implicit promise to bail out private corporations that had been borrowing heavily in US dollars. Since this paper was published, the basic framework linking private and public-sector liabilities in emerging market economies has been shown to be a critical determinant of their financial stability.

Following the global financial crisis of 2008-2009, many countries responded by increasing government spending to aid economic recovery. Among economists, there was a dispute about the efficacy of such fiscal responses in dealing with economic downturns. Eichenbaum's paper 'When is the government multiplier large?' showed that such fiscal policies would be very effective precisely in severe downturns, when central bank policy interest rates are already too low to effectively assist in the recovery. This paper already has 2114 Google citations.

Eichenbaum continues to be an active researcher. This year, he has written a series of highly cited papers exploring the link between pandemics and economic activity. Eichenbaum has also been a mentor to many generations of PhD students who went on to successful careers. Dozens of his former students are working at top universities in Canada, the US, Europe and Asia.

In summary, Martin Eichenbaum is a world-renowned Canadian economist who has made outstanding contributions to knowledge. He has achieved the highest ranks of the economics profession. His fundamental contributions have been recognized by his peers around the world. He is richly deserving of the Fellowship of the Royal Society of Canada.