INTRODUCTION: IRVING FISHER AND THE PURCHASING POWER OF MONEY: A CENTENARY SYMPOSIUM

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To the general public, Irving Fisher is remembered for having declared in October 1929 that stock had reached a permanently high plateau. To economists, Fisher is the outstanding American economic scientist before World War II, founding president of the Econometric Society (see Loef and Monissen 1999; Dimand and Geanakoplos 2005). Fisher is renowned for the Fisher diagram (optimal smoothing of consumption over two periods [Fisher 1907]), the Fisher relation between interest rates in any two standards and the Fisher effect of expected inflation on nominal interest (Fisher 1896; Dimand and Gomez Betancourt 2012), the Fisher ideal index number (the geometric mean of the Paasche and Laspeyres indices [Fisher 1922]), the Fisher equation (the equation of exchange of the quantity theory of money [Fisher with Brown 1911]), and his hydraulic mechanism simulating general equilibrium of prices and quantities (Fisher 1892; Ben-El-Mechaiekh and Dimand 2012). Nobel laureate Paul Samuelson modestly described Fisher's 1891 thesis and 1892 monograph, including that hydraulic mechanism, as "the greatest doctoral dissertation in economics ever written" (quoted by William Barber in Fisher 1997, Vol. 1, p. 4).

In January 2011, the History of Economics Society and the American Economic Association held a joint session at the Allied Social Science Associations annual meetings in Denver to mark the centenary of Irving Fisher's monumental restatement and attempted statistical verification of the quantity theory of money, *The Purchasing Power of Money*, written with the assistance of his junior colleague and former student Harry Gunnison Brown (on whom, see Ryan 1987). The revised papers from this session appear in this symposium.

In "American Quantity Theorists prior to Irving Fisher's *Purchasing Power of Money*," Jérôme de Boyer des Roches, of the University of Paris, and Rebeca Gomez Betancourt, of the University of Lyon, place Fisher and Brown's great work in the context of American monetary debates from the controversy over bimetallism culminating in the 1896 presidential campaign and the Gold Standard Act of 1900 through the crisis of 1907 and the creation of the Federal Reserve System. They draw a generational shift among American quantity theorists, from the generation of Simon Newcomb, Francis Amasa Walker, William Graham Sumner, and James Laurence Laughlin, who were

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influenced by British classical monetary discussion from David Ricardo to John Stuart Mill, to the generation of Fisher, David Kinley, and Edwin Walter Kemmerer, who also drew on the neoclassical theorizing of Jevons, Marshall, and Walras.

In "The Influence of Irving Fisher on Milton Friedman's Monetary Economics," monetary historians Michael D. Bordo and Hugh Rockoff of Rutgers University examine the influence of Irving Fisher, the outstanding quantity theorist of the first half of the twentieth century, on the outstanding quantity theorist of the second half of the twentieth century, Nobel Prize-winner Milton Friedman. "Irving Fisher was a pioneer Friedmanian," argue Bordo and Rockoff, "and Milton Friedman was a latter day Fisherian." Not only was there an indirect influence through Friedman's training in the Chicago monetary economics of the 1930s (which built upon on the work of Marshall and Pigou as well as Fisher), but "in the 1960s Friedman adopted the Fisher effect and Fisher's empirical approach to inflationary expectations into his analysis."

In Chapter IV of *The Purchasing Power of Money*, Fisher propounded a monetary theory of financial crises and economic fluctuations, arguing that monetary shocks, although neutral in the long run, affected real economic activity during "transition periods" lasting perhaps ten years. As Robert J. Shiller, eminent financial economist at Fisher's *alma mater* Yale, remarks in "Irving Fisher, Debt Deflation, and Crises," in 1911 Fisher "described a theory of financial crises that tied them to over-borrowing during the expansion phase that preceded the crisis, and to the changes in the purchasing power of money that this expansion causes, then to the collapse in credit and the drop in the price level." In the concluding chapter, and in a journal article reprinted as an appendix to the 1913 second edition, Fisher advocated a "compensated dollar" plan to stabilize an index of prices as a means of stabilizing the economy. Shiller relates Fisher's analysis of financial crises (including Fisher [1933] on the debt-deflation theory of Great Depressions) and Fisher's stabilization proposals to the current financial crisis that began in August 2007.

In "Irving Fisher's Progeny and the 2008 Financial Crisis," Alice Orcutt Nakamura of the University of Alberta, former president of the Canadian Economics Association, also examines the relevance of Fisher's methodology to understanding and taming financial instability in light of the current financial crisis. In particular, she emphasizes Fisher's belief in evidence-based decision making and his efforts to use index number theory to improve economic data to help understand and control crises and fluctuations, as well as his behavioral approach to analyzing the causes of crises.

Whether to educate the public against what he later termed "money illusion," to neutralize price fluctuations through indexing bonds and other contracts, to statistically verify the quantity theoretic position that monetary shocks determine price level movements and, in the short run, real economic fluctuations, or to redesign the monetary system to stabilize the purchasing power of money (rather than the dollar price of a single commodity, gold), Fisher's monetary economics depended on an appropriate index for the price level. In *The Purchasing Power of Money* (1911), Fisher considered the merits of a large variety of formulae for measuring the purchasing power of money, including the one that he declared in *The Making of Index Numbers* (1922) to be the ideal index for all purposes. In "Irving Fisher and Index Number Theory," W. Erwin Diewert of the University of British Columbia, notable both as an index number theorist and as an historian of index number theory, reviews Fisher's contribution to bilateral and multilateral index number theory, demonstrating that the early history of index

number theory (in which Fisher figured so prominently) is "a history that conveys a wealth of information and insight into the making and use of index numbers today."

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