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INTRODUCTION TO THE *MACROECONOMIC DYNAMICS* SPECIAL ISSUE ON INEQUALITY, PUBLIC INSURANCE, AND MONETARY POLICY

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We present a set of research and briefly describe the individual contributions to the *Macroeconomic Dynamics* special issue on inequality, public insurance, and monetary policy.

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This special issue of *Macroeconomic Dynamics* contains a subset of papers presented at a Workshop on Macroeconomic Dynamics held in Sydney, Australia, 2010. The Workshop hosted a set of papers with varying focus but centered on three main themes: Inequality, public insurance, and monetary policy. It is widely acknowledged and evidenced that inequality is a pervasive feature of the world's economies. Some of the primary causes contributing to the creation and persistence of inequality include fiscal policy, government programs, saving rates, credit constraints, monetary policy, inflation, and even international trade.

For this issue, we have assembled two sets of papers. The first set tackles directly the link between inequality and different factors such as public insurance, including health, means-tested pensions financed by fiscal instruments, and potential cross-country inequality exacerbated by openness to international trade. These papers are built on a dynamic overlapping-generations framework, and some generate quantitative results in addition, with the exception of one paper on international trade that builds a dynamic Heckscher–Ohlin model. The second set of papers tackles monetary policy issues and the relation of monetary policy to unemployment and the welfare cost of inflation directly. Although the presence of

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market frictions is common in these papers, they focus on different consequences of monetary policy, such as deviations from the Taylor Rule in a dynamic stochastic general equilibrium (DSGE) new Keynesian framework with unemployment, and within a monetary search framework, consider the effect of interactions between monetary and fiscal policy on unemployment and on the welfare cost of inflation when the quality of goods traded is flexible. We now provide a brief summary of individual contributions.

"Income Inequality, Mobility, and the Welfare State: A Political Economy Model," by Luca Bossi and Gulcin Gumus, looks at the implications of income inequality, mobility for demand redistribution, and social insurance in a political economy overlapping-generations framework. Old age pensions and transfer payments to the working-aged are at the core of the welfare state. Various policy instruments in the welfare state can be distinguished by the extent to which they provide redistribution and social insurance. Although some programs target inequalities, others focus on income variations over the life cycle. In their paper, Bossi and Gumus analyze two simultaneous programs, transfer payments for the working-aged and old age social security, using a multidimensional-voting political economy model. Simultaneity of the programs allows them to capture the dynamics of how political support for redistribution and social insurance depends on the groups to which benefits are targeted. In their model, income is endogenous via labor supply, allowing for distortionary effects of taxation. Finally, they study the effects of income mobility (via income shocks) on the level of redistributive taxation. They show that the welfare state plays a significant role in equalizing incomes across groups and over lifetimes, but income inequality and mobility also have crucial implications for redistributive policy.

"Means-tested Age Pension and Homeownership: Is There a Link?," by Sang-Wook (Stanley) Cho and Renuka Sane, investigates inequality and welfare programs by studying the relationship between the Australian age pension scheme and homeownership. The scheme currently has an uncapped exemption in relation to housing wealth, measured by an assets test. Cho and Sane formulate a general equilibrium overlapping-generations model with tenure choice, life-cycle attributes, housing choice, and borrowing constraints. The model is calibrated to match the key aspect of the data for the Australian economy and matches the profiles of wealth and homeownership, along with wealth inequality. They investigate the implications of abolishing or changing the exemption of owner-occupied housing in the assets test. Removing the exemption is shown to increase aggregate output, capital accumulation, and welfare, but reduces housing investment and homeownership. These distortions, however, implies that a policy such as lowering taxes while maintaining a fiscal balance leads to a large welfare loss for wealthy households and benefits others.

"The Provision of Public Universal Health Insurance: Impacts on Private Insurance, Asset Holdings, and Welfare," by Minchung Hsu and Junsang Lee, continues on the themes of inequality, redistribution policies, and programs to study the impacts of public health insurance provision. Government-sponsored

mandatory universal health insurance is in effect in many OECD and middle-income countries, and is widely considered by countries moving in this direction. They build an overlapping-generations framework, adding stochastic components and public health insurance, with financial market incompleteness and endogenous demand for private health insurance. Their quantitative analysis demonstrates clear crowding-out effects on asset holding and private health insurance purchases. The asset holdings reduction occurs through reduced precautionary savings, whereas the private health insurance decreases as it becomes complementary. If universal health insurance (UHI) is financed by a distortionary payroll tax, the model generates a redistribution effect on wealth and welfare. The effect on wealth is not clear, and it may worsen inequality, as the UHI introduction crowds out a greater proportion of assets among low-wealth than among high-wealth households. The effect on welfare is clear, with old gaining more than the young generations, and low-wealth gaining more than high-wealth households. The payroll tax effects are compared with a nondistortionary lump-sum tax, allowing for identification of the distortions brought about by the payroll tax. Hsu and Lee also study the welfare implication of UHI policies with various expenditure coverage rates. Their findings suggest that the actual rates in most OECD countries might be too high, with distortions outweighing welfare gains. Finally, they incorporate a medicare program, private health insurance for the elderly, and calibrate the model to the U.S. economy. Their findings are of particular interest because of the U.S. consideration of a UHI program.

"Poverty Trap and Inferior Goods in a Dynamic Heckscher–Ohlin Model," by Eric W. Bond, Kazumichi Iwasa, and Kazuo Nishimura, looks at the link between the poverty trap and inferior goods in a dynamic Eckscher–Ohlin model. They show that if a labor-intensive good is inferior, multiple steady states can exist in autarky, and a poverty trap can emerge. The results are driven by conditions on technologies and labor endowment, assuming that for low incomes, the labor-intensive good is a necessity, but that it is inferior for high incomes. This poverty trap is novel, given that it arises in a model with complete markets, convex preferences and technology, and constant discount factor. They subsequently allow for trade between low- and high-capital-stock countries. For a given range of capital endowments, the poorer country can be pulled out of the autarkic poverty trap by the richer country. The richer country also ends up with higher steady state capital stock and utility levels with free trade than under autarky. For other ranges of endowments, both countries can end up in a steady state with lower capital stock under free trade than under autarky. The country not initially in a poverty trap before trade can be pulled down into a poverty trap if trade occurs with a poorer country. These possibilities are in contrast to the results of a dynamic Heckscher–Ohlin model with normal goods, in which the country with higher (lower) capital stock reaches a steady state with higher (lower) welfare level. The results suggest that if the presence of inferior goods is important, trade can exacerbate inequality across countries.

The second general theme of this special issue is monetary policy.

"Monetary Policy, Inflation and Unemployment, In Defense of the Federal Reserve," by Nicolas Groshenny. investigates whether deviations from the Taylor Rule [Taylor (1993)] between 2002 and 2006 by the U.S. Federal Reserve helped to promote the dual mandate of price stability and maximum sustainable employment. He performs a counterfactual experiment with monetary policy following a Taylor Rule for the period 2002:Q1–2006:Q4, using a Bayesian method estimation of a DSGE new Keynesian model with unemployment on U.S. data. The model combines the nominal rigidities of new Keynesian models with equilibrium unemployment generated by search and matching frictions à la Diamond (1982) and Mortensen and Pissarides (1994). The structural estimates are used to infer shocks that hit the economy over 2002–2009. Through exogenous monetary policy shocks, the findings suggest that deviations from the estimated rule had significance in enhancing macroeconomic stability over the period. In particular, deviations from the Taylor Rule would have generated a sizeable increase in unemployment and undesirable inflation rates. The results provide some quantitative evidence in support of the expansionary stance of monetary policy in the first half of the 2000s, and consistent with the Federal Reserve's dual mandate.

"Optimal Monetary and Fiscal Policies in a Search-Theoretic Model of Money and Unemployment," by Pere Gomis-Porqueras, Benoit Julien, and Chengsi Wang, investigates monetary policy, but within a search-theory-based model of money, now commonly referred to as "new monetarism" [see Williamson and Wright (2011)]. As in Groshenny's model, unemployment arises because of search and matching frictions à la Diamond–Mortensen–Pissarides. But money is essential for trade in the frictional decentralized goods market, and there are no nominal rigidities. Their model builds on Berentsen, Menzio, and Wright (2011) by introducing fiscal policy instruments. They investigate whether inefficient outcomes generated by the underlying frictions in the labor and goods markets can be corrected with fiscal instruments. In this model, apart from the standard intertemporal distortion in monetary models, the other distortions are consequential to the use of generalized Nash bargaining as surplus sharing with matches of the labor and goods markets. The authors propose fiscal instruments and monetary policy to restore efficiency of monetary equilibrium, even when the Hosios (1990) and Friedman (1959) rules do not hold. In particular, with lump sum money transfers, a production subsidy financed by money printing can yield higher output of the goods exchanged in the frictional market. Furthermore, a vacancy subsidy financed by a dividend tax can restore efficiency even when the Hosios rule does not hold. Multiple such subsidies and inflation rates exist, leading to efficient allocation. The Friedman rule is only one of the possible policy options, regardless of buyers' bargaining power. In other words, for any buyers' bargaining power, one can find a fiscal policy to restore efficiency whether the Friedman rule holds or not.

"Inflation and Endogenous Quality Dispersion," by Richard Dutu, continues on monetary policy using a monetary search model. In contrast to the previous monetary policy papers in this issue, there is no labor market, and matching in the decentralized frictional goods market is directed as in standard price posting

with directed search or competitive search [see Peters (1984), Moen (1997)]. It is well known that directed search improves efficiency relative to random search and the Hosios rule holds endogenously. The directed search paradigm maintains the assumption that sellers can commit to the posted terms of trade. This is a particularly strong assumption when the directed search environment allows multilateral matching (many buyers per seller matches) ex post. This creates local demand conditions that can be exploited by sellers to extract a bigger surplus from buyers. Previous search monetary models with price posting and directed search follow the seller's commitment assumption on both price and quality levels posted [see Rocheteau and Wright (2005)]. Dutu questions the extent of commitment to terms of trade in the decentralized market by allowing sellers to post and commit to prices, but to allow quality to vary and be determined ex post by local market conditions. In particular, crowded local demand yields lower quality exchanged in trade at the posted price. Comparing this economy with the one under which sellers can commit to both price and quality ex ante, he shows that sellers and buyers are better off under the latter and free entry on the buyers' side. The model is evaluated with U.S. economic data and shows that sellers' ability to commit to both terms of trade reduces the welfare cost of inflation relative to an economy with price commitment only and quality varying according to ex post conditions. This result can give rise to a normative justification for strong commitment to terms of trade within an economy.

We believe that the papers in this special issue advance our knowledge on how inequality may relate to different factors and causes, and on the effects of these factors on welfare. We hope that this issue can promote interest in further research on these issues.

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