

Dissertation Abstract

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1) “Directed Search and Optimal Production” (Job Market Paper)

In many markets sellers face a stochastic demand, and buyers visit sellers without knowing their total number of customers. If the sellers have capacity constraints, they might not be able to serve all customers who visit their store. In a world where buyers can visit any number of sellers at no cost, an equilibrium where some customers do not get served can arise only if there is shortage of aggregate supply. However, if the markets are characterized by frictions, in the sense that buyers pay a cost to visit more than one seller, some buyers might not get served due to the inability to coordinate their visiting strategies. Studying the welfare properties of these markets is important, and currently there are no models that are well suited for this purpose.

In this paper I provide a general framework that builds upon directed search literature (see for example Montgomery 1991, Lagos 2000, and Burdett, Shi, and Wright 2001), and aims to analyze the efficiency properties, the production decisions, and the price determination in such markets. I consider a model in which sellers compete with each other for customers by advertising general trading mechanisms. A mechanism determines, as a function of ex post realized demand, the number of buyers that will get served and the side payments. Since each seller chooses her production and price advertisements strategically, one might expect inefficient outcomes to arise.

I show that constrained efficiency is always achieved in symmetric equilibrium. Efficiency is constrained by the lack of coordination among buyers. Another interesting result is that in small markets there exist continua of equilibrium prices, which are equally efficient, but not payoff equivalent. Equilibrium prices and the matching function are characterized by closed form solutions. Although sellers are allowed to advertise general mechanisms, common practices, such as announcing a fixed price or an auction, describe equilibrium behavior. Also, I show that if sellers can charge an arbitrary large entry fee, they can extract the whole market surplus in some equilibria. This result along with the efficiency result imply that authorities should intervene in this type of market only to redistribute surplus and not to improve efficiency.

As markets become large, the indeterminacy of equilibria that characterizes small markets vanishes. I present a set of fairly weak restrictions on preferences and technology, under which only a very simple class of mechanisms is posted in equilibrium. Also, the model is well suited to examine the effect of changes in supply on the number of successful matches along the intensive and the extensive margin. Keeping the number of units per buyer fixed across economies, the probability with which buyers get served gets bigger as we move to economies with less sellers. This means that the number of successful matches is more responsive along the intensive margin.

2) “Asset Prices and Monetary Policy” (with Juan Manuel Licari and Jose Suarez Lledo), **Review of Economic Dynamics**, Vol. 10, Issue 4, 761-779.

Monetary policy controls the money supply, which determines the rate of inflation, and hence the rate of return on (or the cost of holding) currency. The purpose of this paper is to study the effect of monetary policy on the price of and rate of return on other assets. We use a model in the tradition of modern monetary theory, extended to include real assets in fixed supply just like the standard “trees” in Lucas. These assets are valued for what they yield, which includes direct rate of returns, as is standard in finance, and potentially for some liquidity services, as is standard in monetary theory.

We show that money is essential (i.e. monetary equilibria Pareto dominate non-monetary equilibria), if and only if the real assets are scarce, in the precise sense that their supply is not sufficient to satisfy the demand for liquidity in the economy. In this case, real assets and money are concurrently used as means of payment and an increase in inflation causes agents to want to move out of cash and into other assets. More precisely, when money grows at a higher rate, inflation is higher and the return on money decreases. In equilibrium, no arbitrage amounts to equating the real return of both objects. Therefore, the price of the asset increases in order to lower its real return.

Hence, the model predicts clearly that inflation reduces the return on other assets, which is something that has been discussed extensively in the finance literature for some time. In particular, there is a large number of papers that report this negative relationship. However, only few attempt to explain this finding within a general equilibrium framework. This paper provides a tractable model where money and other assets coexist, and where monetary policy affects the equilibrium prices and rates of return on these assets in a straightforward and empirically relevant way.

3) “Asset Backed Securities” (work in progress, with Juan Manuel Licari and Jose Suarez Lledo)

In many economies the use of collateral is the main way to secure bank financing. In this paper we consider the following mechanism of securitization: banks pool loans and sell them to investors as a security. However, the amount of securities a bank sells must be backed by the value of a real asset. Agents can trade securities in a financial market which opens before they visit a decentralized (non-Walrasian) market. Since securities are potentially accepted as a medium of exchange, agents can use them to re-allocate their portfolios according to their liquidity needs. In equilibrium, the price of securities reflects their liquidity properties. Fiat money has an essential role in the economy, if and only if the supply of the underlying asset is not sufficiently large to back up all the demand for liquidity. In this case, we are able to link inflation generated by expansionary monetary policy with the rate of return on and the price of both the securities and the collateral.