MAIN PUBLICATIONS

Matching with externalities: the role of prudence and social connectedness in stability

Milton S. Braitt and J. P. Torres-Martínez

Abstract. In matching problems with externalities, prudence measures the importance an agent gives to others' potential reactions when she considers deviating and social connectedness measures others' capacity to react to the agent's deviation. Assuming that externalities and preferences are random, the roles of prudence and social connectedness are studied. It is shown that asymptotic stability---a property that never holds in the absence of externalities---is achieved when the product of social connectedness and prudence grows at least exponentially with the population. Since social connectedness increases quickly in both the marriage and roommates markets, stability obtains even when prudence vanishes (sufficiently slowly).

The roommate problem with externalities

José Luis Contreras and J.P. Torres-Martínez

Abstract. This paper extends the roommate problem to include externalities, allowing preferences for a partner to depend on the situation of others. Stability concepts for matchings and partitions of the set of agents are proposed and characterized, conditional on all agents having prudent expectations about other agents' reactions to deviations. We prove that any roommate problem with externalities has a stable partition and that a stable matching exists if there is a stable partition without odd rings. These results allow us to find restrictions on the space of preferences ensuring the existence of a stable matching. We also show that some classical properties are lost in the presence of externalities: the existence of paths to stability from any unstable matching, the coincidence of the core with the set of stable matchings, and the invariance of the set of agents who are alone in a stable matching.

Information within coalitions

Emma Moreno-García and J.P. Torres-Martínez

Abstract. We address economies with asymmetric information where agents are not perfectly aware of the informational structure for coalitions. Thus, when joining a coalition, each consumer considers the informational risk and may be uncertain about the prior relevant to her decision. In this context, we introduce cooperative solutions that we refer to as risky core, ambiguous core, and MEU-core. We provide existence results and a variety of properties of these concepts, including their coalitional incentive compatibility. We also formalize the intuition that the blocking power of coalitions is increasing with their information but decreasing with the degree of risk or ambiguity aversion faced by their members.

Financial segmentation and collateralized debt in infinite-horizon economies

Miguel Iraola, Fabián Sepúlveda, and J.P. Torres-Martínez

Abstract. In this paper we address equilibrium existence in economies with default, long-term collateralized debt, and financial market segmentation. We first prove equilibrium existence in the finite-horizon case of our model, by adapting techniques recently applied in two-period economies with segmented financial markets. We then show that a competitive equilibrium exists for infinite-horizon economies when credit markets are composed of finite-lived contracts or infinite-lived contracts that can be refinanced over time. Finally, we show that if credit markets include infinite-lived contracts that cannot be refinanced, an equilibrium exists when per-period utility functions are either additive in at least one commodity or satisfy a substitution condition, which holds for unbounded per-period utility functions. We illustrate our contributions by providing examples of economies that conform with the assumptions of each of our equilibrium existence results.

Endogenous differential information

Sebastián Cea-Echenique, Carlos Hervés-Beloso, and J.P. Torres-Martínez

Abstract. We include endogenous differential information in a model with sequential trade and incomplete financial participation. Agents update information through market signals given by commodity prices and asset deliveries. Information acts over admissible strategies and consumption tastes, allowing discontinuities in preferences and choice sets. Therefore, equilibrium may cease to exist. However, internalizing the compatibility between information and consumption through preferences, and without requiring either financial survival assumptions or fully revealing prices, equilibrium existence can be ensured.

Credit market segmentation, essentiality of commodities, and supermodularity

Marta Faias and J.P. Torres-Martínez

Abstract. We consider incomplete market economies where agents are subject to price-dependent trading constraints compatible with credit market segmentation. Equilibrium existence is guaranteed when either commodities are essential (i.e., indifference curves through individuals' endowments do not intersect the boundary of the consumption set) or utility functions are concave and supermodular. The smoothness of mappings representing preferences, financial promises, or trading constraints is not required. Hence, we may include in our framework economies where ambiguity is allowed and agents maximize the minimum expected utility over a set of priors, or where markets include non-recourse collateralized loans.

Credit segmentation in general equilibrium

Sebastián Cea-Echenique and J.P. Torres-Martínez

Abstract. We build a general equilibrium model with endogenous borrowing constraints compatible with credit segmentation. There are personalized trading restrictions connecting prices with both portfolio constraints and consumption possibilities, a setting which has not thoroughly been addressed by the literature. Our approach is general enough to be compatible with incomplete market economies where there exists wealth-dependent and/or investment-dependent credit access, borrowing constraints precluding bankruptcy, or assets backed by physical collateral. To prove equilibrium existence, we assume that both investment on segmented assets is not required to obtain access to credit and transfers implementable in segmented markets can be super-replicated by investing in non-segmented markets. For instance, this super-replication property is satisfied if either (i) all individuals have access to borrow at a risk-free rate; or (ii) financial contracts make real promises in terms of non-perishable commodities; or (iii) promises are backed by physical collateral.

Essential equilibria of large generalized games

Sofía Correa and J.P. Torres-Martínez

Abstract. We characterize the essential stability of games with a continuum of players, where strategy profiles may affect objective functions and admissible strategies. Taking into account perturbations defined by a continuous mapping from a complete metric space of parameters to the space of continuous games, we prove that essential stability is a generic property and every game has a stable subset of equilibria. These results are extended to discontinuous large generalized games assuming that only payoff functions are subject to perturbations. We apply our results in an electoral game with a continuum of Cournot-Nash equilibria, where the unique essential equilibrium is that in which only politically engaged players participate in the electoral process. In addition, employing our results for discontinuous games, we determine stability properties of competitive prices in large economies.

Equilibrium in collateralized asset markets: credit contractions and negative equity loans

Miguel Iraola and J.P. Torres-Martínez

Abstract. We address a general equilibrium model with collateralized debt, credit contractions, and financial market segmentation. Restrictions on credit access make borrower's optimal payment strategies – coupon payment, prepayment, and default – sensitive to idiosyncratic factors, even though the only payment enforcement is the seizure of collateral guarantees. We prove equilibrium existence, characterize optimal borrower's payment strategies, and provide a numerical example illustrating our main results. A remarkable feature of our model is that it rationalizes the prevalence of negative equity non-recourse loans.

Equilibrium with limited-recourse collateralized loans

Rubén Poblete-Cazenave and J.P. Torres-Martínez

Abstract. We address a general equilibrium model with limited-recourse collateralized loans and securitization of debts. Each borrower is required to pledge physical collateral, and bankruptcy is filed against him if claims are not fully honored. Moreover, agents have a positive amount of wealth exempt from garnishment and, for at least a fraction of them, commodities used as collateral are desirable. In this context, equilibrium exists for any continuous garnishment rule and multiple types of reimbursement mechanisms.

Long-lived collateralized asset and bubbles

Aloisio Araujo, Mário Páscoa, and J.P Torres-Martínez

Abstract. When infinite-lived agents trade long-lived assets secured by durable goods, equilibrium exists without any additional debt constraints or uniform impatience conditions on agents' characteristics. Also, price bubbles are absent when physical endowments are uniformly bounded away from zero.

Fiat money and the value of binding portfolio constraints

Mário Páscoa, Myrian Petrassi, and J.P. Torres-Martínez

Abstract. We establish necessary and sufficient conditions for the individual optimality of a consumption-portfolio plan in an infinite horizon economy where agents are uniformly impatient and fiat money is the only asset available for intertemporal transfers of wealth. Next, we show that fiat money has a positive equilibrium price if and only if for some agent the zero short sale constraint is binding and has a positive shadow price (now or in the future). As there is always an agent that is long, it follows that marginal rates of intertemporal substitution never coincide across agents. That is, monetary equilibria are never full Pareto efficient. We also give a counterexample illustrating the occurrence of monetary bubbles under incomplete markets in the absence of uniform impatience.

On equilibrium existence with endogenous restricted financial participation

Abdelkrim Seghir and J.P. Torres-Martínez

Abstract. Allowing for durable commodities, we prove equilibrium existence in an abstract incomplete market economy with endogenous restricted financial participation without requiring financial survival assumptions. We apply our results to general financial structures including nominal, real and collateralized asset markets.

The impossibility of effective enforcement mechanism in collateralized credit markets

Thiago Ferreira and J.P. Torres-Martínez

Abstract. We analyze the possibility of the simultaneous presence of two key features in price-taking sequential economies: collateralized credit operations and effective additional enforcement mechanisms, i.e. those implying payments besides the value of collateral guarantees. We show that these additional mechanisms, instead of strengthening, actually weaken the restrictions that collateral places on borrowing. In fact, when collateral requirements are not large enough in relation to the effectiveness of the additional mechanisms, lenders anticipate payments exceeding the value of the collateral requirements. Thus, by non-arbitrage, they lend more than the value of these guarantees. In turn, in the absence of other market frictions such as borrowing constraints, agents may indefinitely postpone the payment of their debts, implying the collapse of the agent's maximization problem and of such credit markets.

A market game approach to differential information economies

Guadalupe Fugarolas-Álvarez-Ude, C. Hervés-Beloso, E. Moreno-García, and J.P. Torres-Martínez

Abstract. In this paper we recast a differential information economy as a strategic game in which players propose net trades and prices. Pure strategy Nash equilibria are strong and determine both consumption plans and commodity prices that coincide with the Walrasian Expectations equilibria of the underlying economy.

Collateralized assets and asymmetric information

Myrian Petrassi and J.P. Torres-Martínez

Abstract. Introducing assets backed by physical collateral, we extend the [Cornet, B., De Boisdeffre, L., 2002. Arbitrage and price revelation with asymmetric information and incomplete markets. Journal of Mathematical Economics 38, 393-490.] model of asymmetric information to allow for default. We show that, independently of the financial-informational structure, equilibrium exists.

Wealth transfers and the role of collateral when lifetimes are uncertain

Abdelkrim Seghir and J.P. Torres-Martínez

Abstract. We develop a general equilibrium model of wealth transfers in the presence of uncertain lifetimes and default. Without introducing exogenous debt constraints, agents are allowed to make collateral-backed promises at any state of their life span.

General equilibrium in CLO markets

Mariano Steinert and J.P. Torres-Martínez

Abstract. We address a two-period equilibrium model with securitization of collateral-backed promises. Borrowers may suffer extra-economic default penalties and debts are pooled into collateralized loans obligations (CLO), allowing different seniority levels among tranches in a same CLO. As securities with lower priority receive nothing unless those with higher priority are fully paid, we will have a non-convex set of feasible payment rates. Even in this context, equilibrium always exists. Moreover, although CLO have endogenous payments, the durability of the collateral will avoid pessimistic beliefs about the future rates of default.

Collateral avoids Ponzi schemes in incomplete markets

Aloisio Araujo, Mário Páscoa, and J.P. Torres-Martínez

Abstract. Without introducing either debt constraints or transversality conditions to avoid the possibility of Ponzi schemes, we show the existence of equilibrium in an infinite horizon incomplete markets economy with a collateral structure.