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Idiosyncratic risk and financial policy ☆

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Abstract

In economies subject to uninsurable idiosyncratic risks, competitive equilibrium allocations are constrained inefficient: reallocations of assets support Pareto superior allocations. This is the case even if the asset market for the allocation of aggregate risks is complete.
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Idiosyncratic risk does not affect the allocation of resources at Pareto optimal allocations.[1] Competitive equilibrium allocations inherit this property if the asset market for the insurance of idiosyncratic risk is complete. But, if realizations of idiosyncratic shocks are publicly unob-

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[1] See [3,16,17].

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servable or unverifiable, idiosyncratic risk may well not be insurable; indeed, this is a standard assumption in macroeconomics.[2]

In abstract, two-period economies where financial markets are incomplete, competitive equilibrium allocations are constrained inefficient, *generically in the spaces of economies*, as demonstrated by [10].[3] This result, however, does not imply that constrained inefficiency holds for economies with idiosyncratic risk, as the particular structure of these economies is non-generic: the economies considered in the literature on incomplete financial markets allow for individual perturbations of preferences and endowments; but if one is to distinguish between idiosyncratic and aggregate risk, one must impose that some individuals, given an aggregate shock, face exactly the same idiosyncratic shocks and have the same preferences.

Thus, there is a gap between the type of model usually considered in macroeconomics and the generic results obtained in the literature on incomplete financial markets. The goal of this paper is to illustrate how these two strands of literature can be brought together. We do this in two ways. On one hand, we show that in the set of two-period economies with uninsurable idiosyncratic risk, competitive equilibrium allocations are, indeed, generically constrained suboptimal: reallocations of assets support Pareto superior allocations. In other words, we extend the generic results from the incomplete markets literature to the type of risk that is of most interest in macroeconomics: in most economies where idiosyncratic risk is uninsurable, a reallocation of the financial assets that permit insurance against aggregate risk can be used to make all types of individuals in the economy *ex-ante* better off. Importantly, this result does not depend on the assumption that there exists some aggregate shock against which the individuals cannot insure.[4]

On the other hand, we use a series of examples to emphasize the mechanism by which a reallocation of assets brings about a Pareto improvement: the ability of the policy to perturb future relative prices. This mechanism, which lies at the core of our general argument, is made explicit in an example for an exchange economy with ex-ante heterogeneous consumers, but also in two-period production economies with ex-ante homogeneous individuals. In this latter case, we show that the presence of uninsurable idiosyncratic risk leads to inefficiently high levels of savings at equilibrium, under standard assumptions. Importantly, the same mechanism we show operates in an economy of overlapping generations with individuals who are homogenous when young but face uninsurable, idiosyncratic labor shocks when old. Of course, in this type of economy equilibrium allocations are subject to the standard problem of dynamic inefficiency, even under certainty.[5] What our example shows is how, in the presence of idiosyncratic risk, the ability to perturb relative prices through perturbations to savings decisions must be compounded with standard recommendation derived from the problem of dynamic inefficiency. Importantly, in an economy in which the equilibrium interest rate is below the rate of population growth, a policy that forces individuals to invest more (the standard Golden Rule recommendation) may leave all generations worse off in lifetime utility.

[2] See [14] and [13].

[3] Also, [6] and [7].

[4] In fact, for the sake of simplicity, we prove our results for the case in which there is *only* idiosyncratic risk. But it is important to note that the result also holds in the presence of aggregate risk, and that the mathematical argument would be, as a matter of fact, simpler in that case, although it would require a more complicated notation. Also, the result holds whether the asset market for the allocation of aggregate risk is complete or not.

[5] See [9].

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