

RESTRIÇÕES POR LIQUIDEZ

Ref: Stiglitz and Weiss (1983)

Visão Geral: Em termos de decisão de consumo/poupança, o racionamento de crédito gera a possibilidade de que agentes cuja a capacidade de pagamento não é diretamente percebida pelas instituições financeiras se vejam restritas no mercado de crédito. O principal corolário da restrição de crédito em termos de decisão de poupança seria gerar uma alta propensão marginal a consumir em relação aos recursos líquidos disponíveis (i.e. renda corrente). Tipicamente, a probabilidade da restrição por liquidez ser efetiva é mais alta entre agentes cuja a riqueza é intensiva em capital humano (i.e. trabalhadores com um perfil de renda positivamente inclinado ao longo do tempo) e/ou agentes impacientes (no sentido de ter uma taxa de preferência temporal acima da taxa de juros). Restrição por liquidez pode ser vista como uma resposta a argumentos de equivalência ricardiana e de expectativas racionais de que algumas mudanças na renda corrente em geral não impactariam o consumo do mesmo período. No caso de agentes restritos por liquidez mesmo as mudanças antecipadas e transitórias de renda corrente, por exemplo fruto de uma política de tributária, afetariam o consumo numa relação de um para um.

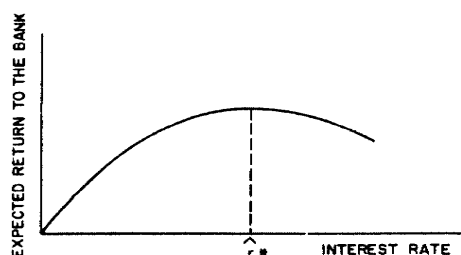
Antes de voltarmos aos efeitos da restrição de crédito sobre a decisão de consumo, vejamos a lógica do ponto de vista dos ofertantes de crédito:

RACIONAMENTO DE CRÉDITO DE EQUILÍBRIO

(Stiglitz and Weiss, AER, 1981)

Introdução: Um pressuposto básico de economia é que se os preços reagem a excessos de demanda, não deveria existir racionamento. Entretanto, o racionamento de crédito e desemprego existem na prática. Eles implicam em excesso de demanda por empréstimos e excesso de oferta de trabalhadores, respectivamente. Uma maneira de explicar estes fenomenos seria pela existência de rigidezes (stickness) nos preços do capital e do trabalho, neste caso o racionamento de crédito e de vagas no mercado de trabalho seria observado unicamente na transição entre posições de equilíbrio de longo prazo. Complementarmente, numa visão de prazo mais longo, desemprego estrutural (i.e. acima de alguma taxa natural de desemprego) ou racionamento de crédito poderiam ser explicados por restrições impostas pelo governo como a política de salário mínimo ou a lei da usura. Este texto propõe uma explicação de equilíbrio (i.e. não ad-hoc) para a ocorrência de excesso de demanda persistentes no mercado de crédito baseada em problemas de assimetria de informação entre demandantes e ofertantes de crédito (analogamente o argumento poderia ser usado para explicar excesso de oferta persistente no mercado de trabalho).

Ponto Chave: ponto, aumentar a contratual diminui prestador.



Depois de certo taxa de juros o retorno do

Caso 1: Seleção Adversa (dois tipos de tomadores de empréstimos)

X = retorno se bem sucedido; 0 = retorno se mal sucedido; p = probabilidade de sucesso

Tomadores de empréstimos sem risco $\rightarrow (p^a, X^a)$; λ = Fração da população
 Tomadores de empréstimos arriscados $\rightarrow (p^b, X^b)$; $1 - \lambda$ = Fração da população

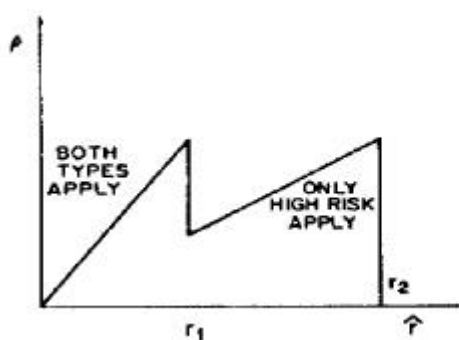
$$p^a > p^b ; X^a < X^b ; p^a \cdot X^a > p^b \cdot X^b$$

Tamanho do empréstimo = 1; R = taxa de retorno bruta

Calculo do Retorno Esperado; E = Retorno Esperado

(a) $R \leq X^a \rightarrow$
 agente tomam
 $R \cdot p^{me}$
 onde: $p^{me} = \lambda$

(b) $X^a < R \leq$
 tomadores
 empréstimos $\rightarrow$



os dois tipos de
 empréstimos $\rightarrow E =$

$$p^a + (1 - \lambda) \cdot p^b$$

$X^b \rightarrow$ só
 arriscados captam
 $> E = R \cdot p^b$

Taxa de juros de

Lição:
equilíbrio fixa com excesso de demanda por empréstimos

Caso 2: Azar Moral (Moral Hazard - dois tipos de ações mas um tipo de tomador)

Duas técnicas: $p^a > p^b$; $X^a < X^b$; $p^a \cdot X^a > p^b \cdot X^b$

Existe R^* sujeito a

$R \leq R^*$ $\rightarrow$ sem risco $\rightarrow E = R \cdot p^a$
$R > R^*$ $\rightarrow$ com risco $\rightarrow E = R \cdot p^b$

$$R^* \text{ satisfaz } p^a \cdot (X^a - R^*) = p^b \cdot (X^b - R^*) \text{ Restrição de Compatibilidade de Incentivos}$$

$$\text{---> } R^* = (p^a \cdot X^a - p^b \cdot X^b) / (p^a - p^b)$$

ABSTRACT: The adverse selection aspect of interest rate is a consequence of different borrowers having different probabilities of repaying their debt. The expected return to the bank obviously depends on the probability of repayment, so the bank would like to be able to identify "good borrowers" who are more likely to pay. It is difficult to identify "good borrowers" and to do so requires the bank to use a variety of **screening devices**. The interest rate that an individual is willing to pay may act as one such screening device: those who are willing to pay high interest rates may, on average, be worse risks; they are willing to borrow at high interest rates because they perceive their probability of repaying the loan to be low. As the interest rate rises, the average "riskiness" of those who borrow increases, possibly lowering the bank's profits. Similarly, as the interest rate and other terms of the contract change, the behavior of the borrower is likely to change. For instance, raising the interest rate decreases the return on projects that succeed. Higher interest rates induce firms to undertake projects with lower probabilities of success but higher payoffs when successful.

In a world with perfect and costless information, the bank would precisely stipulate all the actions that the borrower could undertake that might affect the return to the loan. However, **the bank is not able to directly control all the actions of the borrower**. Therefore, it will formulate the terms of the loan contract in a manner designed to induce the borrower to take actions that are in the interest of the bank as well as to attract low-risk borrowers. For both these reasons, the expected return by the bank may increase less rapidly than the interest rate and beyond a point may actually decrease, as depicted in figure 1. The interest rate at which the expected return to the bank is maximized, we refer to as the "bank-optimal" rate. Both the demand for loans and the supply of funds are functions of the interest rate (the latter being determined by the expected return at the "bank-optimal" rate). Clearly, it is conceivable that at the demand for funds exceeds the supply of funds. Traditional analysis would argue that in the presence of an excess demand for loans, unsatisfied borrowers would offer to pay a higher interest rate to the bank, bidding up the interest rate until demand equals supply. **But although supply does not equal demand at the "bank-optimal" rate, it is the equilibrium interest rate!** The bank would not lend to an individual who offered to pay more than a certain interest rate. In the bank's judgment, such a loan is likely to be a worse risk than the average loan at this certain interest rate level and the expected return to a loan at an interest rate above this is actually lower than the expected return to the loans the bank is presently making. Hence, there are no competitive forces leading supply to equal demand, and credit is rationed.

It is not the argument that credit rationing will always characterize capital markets but rather that it may occur under not implausible assumptions concerning borrower and lender behavior. This paper thus provides the first theoretical justification of true credit-rationing. Previous studies have sought to explain why each individual faces an upward-sloping interest-rate schedule. The explanations offered are (a) the probability of default for any particular borrower increases as the amount borrowed increases, or (b) the mix of borrowers changes adversely. In these circumstances we would not expect loans of different size to pay the same interest rate any more than we would expect two borrowers, one of whom has a reputation for prudence and the other a reputation as a bad credit risk, to be able to borrow at the same interest rate.

The term credit rationing is reserved here for circumstances in which either (a) among loan applicants who appear to be identical, some receive a loan and others do not, and the rejected applicants would not receive a loan even if they offered to pay a higher interest rate, or (b) there are identifiable groups of individuals in the population who, with a given supply of credit are unable to obtain loans at any interest rate, even though with a larger supply of credit, they would.

In this equilibrium model with credit rationing, both borrowers and banks seek to maximize profits, the former through their choice of a project, the latter through the interest rate they charge borrowers (the interest rate received by depositors is determined by the zero-profit condition). Obviously, we are not discussing a "price-taking" equilibrium. Our equilibrium notion is competitive in that banks compete. One means by which they compete is by their choice of a price (interest rate) that maximizes their profits. The reader should notice that in this model, there are interest rates at

which the demand for loanable funds equals the supply of loanable funds. However, these are not in general equilibrium interest rates. If, at those interest rates, banks could increase their profits by lowering the interest rate charged borrowers, they would do so. Although these results are presented in the context of credit markets, they are applicable to a wide class of principal-agent problems (including those describing the landlord-tenant or employer-employee relationship).