

**Public Policy and Innovation:  
Partnering with Capital Markets through Securitization**

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## Agenda

1. Motivation: Innovation and Public Policy
2. Traditional tools
3. Alternatives: partnering with capital markets

### **Secondary markets and securitization (ABS)**

Student Loans (SLs)

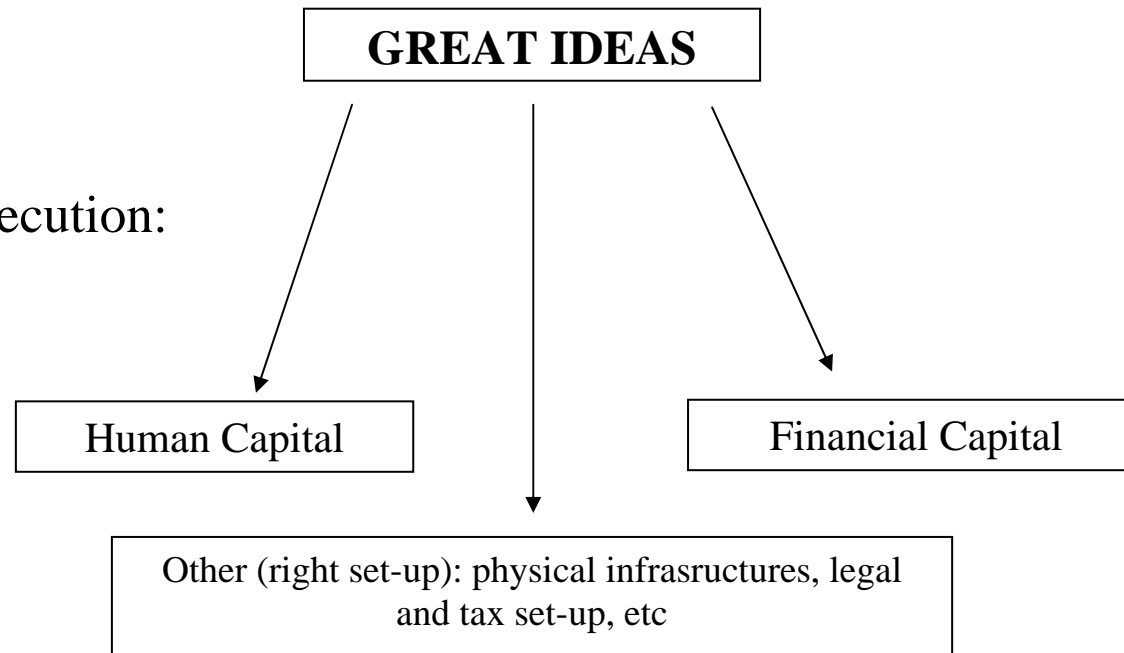
Small Business Loans (SBLs)

4. Other ideas / extensions
5. Conclusion

## Motivation

➤ Innovation starts with:

➤ But need execution:



➤ Public policy has a very important strategic role

➤ Focus: public policy as partner in fostering Human and Financial Capital

## Innovative firms and public policy

- Access to Human Capital:
  - Good educational system
  - Good interaction with private sector
  - *Good pool of talent (Student Loans)*
    - Many other spillovers: equal opportunity, me on this conference
  
- Access to Finance: small innovative firms generally have
  - *High finance cost (Small Business Loans)*
  - Low collateral
  - Underdeveloped Capital Markets (generally in the EU small countries)
    - Bad capital allocation
    - Low incentive to Venture Capital
  
- The talk is not about:
  - Problems facing individual firms: Corporate finance, optimal incentive mechanism, etc
  - How bad policies are worse than no policy

## **Traditional public policy tools**

- Public policy tools
  - Subsidies and grants
  - Public Investment companies
  - Partnerships with public entities
  - Subsidized interest rates
  - Government guarantees
  - Corporate tax policies / exempt status
  
- All important, but with serious limitations:
  - Very hard to evaluate results
  - Very hard to make criteria objective
  - Expensive solutions - Upfront investment may be needed
  - Limited spillover effects
  - Low monitoring ability and incentive alignment: agency problems, adverse selection, etc

## Traditional private sector tools

- Business angels
- Venture capital
- Stock market
- Bank Loans – main tool
  
- Major problems:
  - Not enough goes to the strategic important sectors
  - No secondary market
    - Banks cannot resell their loans, alleviate their balance sheet
    - Change in banks' credit policy have strong negative effects
    - High risk for banks mean high interest rates on the loans
    - Small set of lenders means high volatility in funds available

## One tested solution

### ➤ Solution:

- Secondary market: where assets are resell
- Develop **secondary markets**, with special focus on strategic areas
- **Securitization** as an efficient way to develop secondary markets

### ➤ Advantages:

- Separation between the holder and the originator
- Market prices set:
  - more transparency, liquidity and more efficient capital allocation
  - credit is always available at a particular price
- More developed/deeper capital markets:
  - Borrower: lower interest rate, increased credit availability, less volatility in the credit available
  - Lender: increase liquidity for its assets, flexibility in asset mix
  - Investor: increase choice of investment opportunities

## **One tested solution**

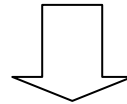
➤ Advantages (cont.):

- Better monitoring: Keep major credit decisions with private sector
- Low maintenance: run with the innovations and flexibility of capital markets
- More spillovers (e.g., new set of lenders with no need for deposit base)
- Strategic areas: can be especially target with incentives



## One tested solution: some questions

- Secondary markets mean more liquidity?
  - Resale of a set of loans from one party to another does not increase liquidity
  - If each buyer has a high cost in evaluating the security, liquidity will be low
  - Adverse selection problem: the originator will sell only the bad loans!
  
- Liquidity increases only if the security is commoditized, well known and understood



**Securitization**

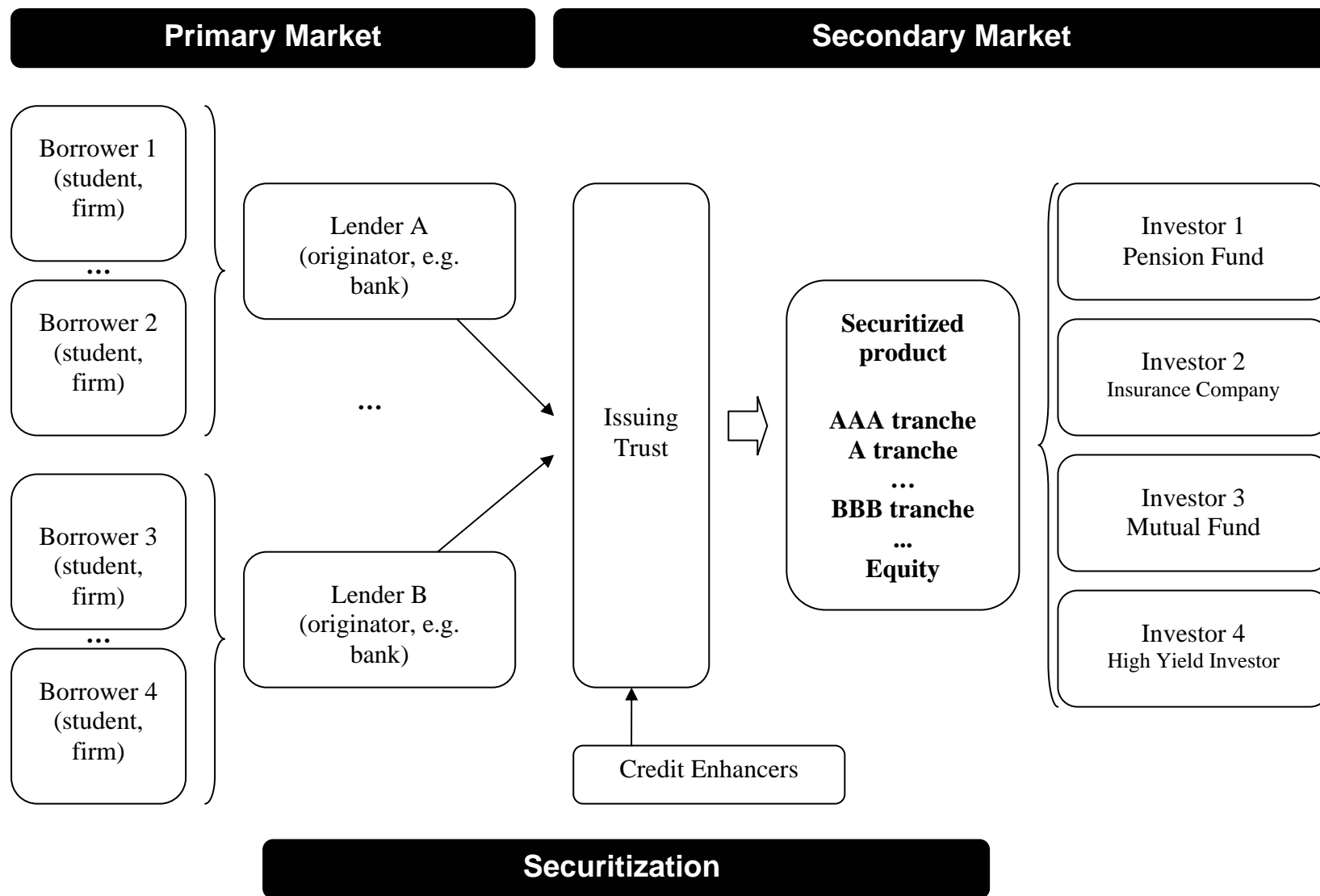
Package a set of loans into a single security that can be easily tradable

All loans in the security must be somewhat homogeneous: low information cost (e.g. student loans are more homogenous than corporate loans)

## Government role in Securitization

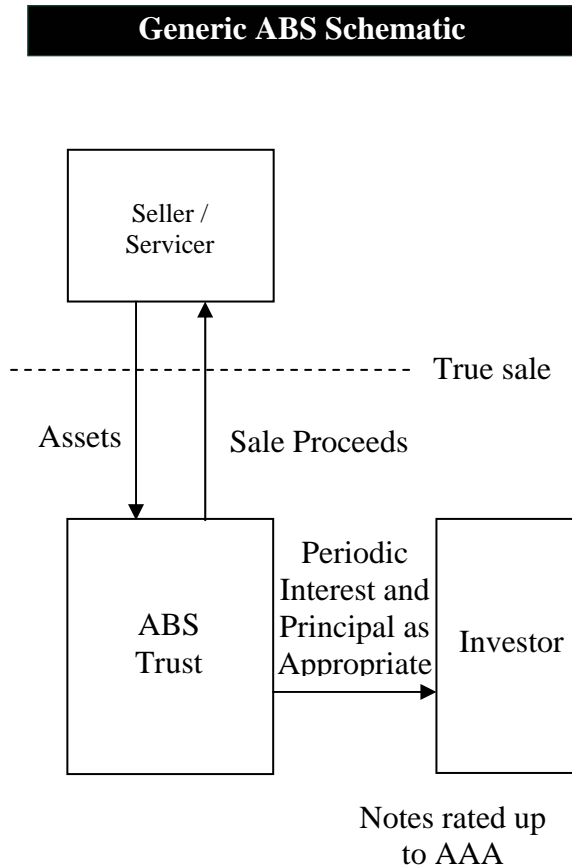
- Reduce cost: legislation, invest on information dissemination (e.g. information from Bank of Portugal), promote homogenization
- Provide Subsidies: start up costs for setting up the market/instruments (just a transfer to the tax payer...), tax exempt status, etc
- Promote agencies to work on these markets (private, public, semi-private)
- Credit enhancements: guarantees, keep junior tranches, etc.
- Liquidity provider: public pension funds could be actively engaged in this market.

# The process of securitization



# The process of securitization: The trust

## ➤ Legal Isolation of Assets



- Overview**
- ◆ Unlike unsecured debt obligations, where the bondholder has exposure to all facets of an issuer’s business, ABS investors are only taking the credit risk of the underlying assets placed in a trust.
  - ◆ Ratings are based on cash flows generated by a pool of assets, rather than on the creditworthiness of an operating company.
  - ◆ Cash flows on the assets are used to make payments on the ABS.
  - ◆ ABS are typically rated BBB through AAA based upon credit enhancement built into the structure, including overcollateralization, subordination of other securities and cash held in trust accounts.
  - ◆ In general, any statistically predictable cash flow can be securitized, provided that it can be isolated from the insolvency risk of the originator or any other entity through a true sale to a trust.
  - ◆ Assets can be amortizing, such as loans, or revolving, such as revolving lines of credit.
  - ◆ The assets are sold to the trust by the sponsoring company that originates and services the assets, also known as the “seller”.
  - ◆ The seller is typically hired as the servicer to service the assets.
  - ◆ Typically, there is no recourse to the seller or the servicer in the event of poor performance of the assets.

## **The process of securitization: The trust**

### ➤ Credit Enhancements

All these support the rating of the senior tranche, usually AAA

- Cash Reserves
- Subordination: by defining payment priority
- Insurance and other guarantees (against defaults)
- Overcollateralization: the excess of the collateral pool balance over the outstanding securities balance
- Excess spread: Spread between what the borrower pays and what the investor receives
- etc

# Payment Waterfall

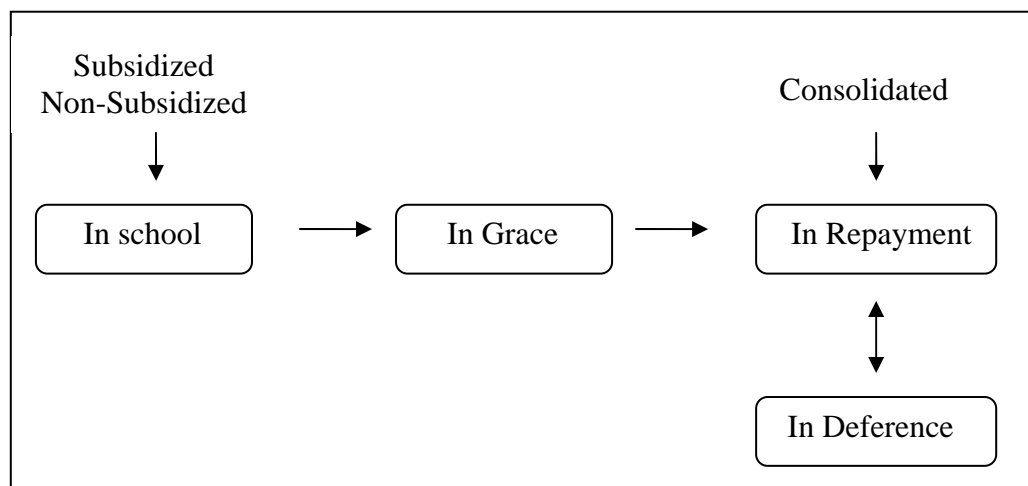
- Lots of flexibility on how the cash flows received are used

	Structure A	Structure B	Structure C
	(Monthly) payments from borrowers + Reserve fund deposit (if needed) - Servicing fee	(Monthly) payments from borrowers + Reserve fund deposit (if needed) - Servicing fee	(Monthly) payments from borrowers + Reserve fund deposit (if needed) - Servicing fee
Payment priority ----->	Interest on Senior Notes	Interest on Senior Notes	Interest (pro rata)
	Interest on Junior Notes	Principal on Senior notes	Principal on Senior notes
	Principal on Senior notes	Interest on Junior Notes	Reserve fund deposit (pro rata)
	Principal on Junior notes	Principal on Junior notes	Principal on Junior notes
	Reserve fund deposit	Reserve fund deposit	

## **Example I: Student Loans ABS**

- Underlying asset may vary...
  - Active way for public policy (e.g. different ABS for different undergraduate majors)
  - Loans to students in universities or other undergraduate institutions
  - Loans made to the student or their parents
  - Full-time or partial time students
  - Loans amounts and types (loan payment structure regarding interest and principal, who pays what and when)
  - Loan maturity, ...
- ... In any case:
  - Underlying should be a large pool (diversification)
  - Relatively homogeneous (risks are easily understood – easy to predict cash flows)
  - Long maturities with low risk usually very appealing
- With the same underlying, a lot of different structures can be arranged:
  - Structures should be targeted to specific type of clients
  - Guaranteed or not by the government
  - Single or mutual tranches

## Typical kind of loans in the US



➤ Risk for the investor:

- Interest rate if fixed rates are used (trust can hedge this risk with interest rate swaps)
- Credit risk (risk of default on payments – trust can hedge with insurance, government guarantees):
  - Default probability: Loan type (student or parents? University or professional school? Undergraduate or graduate,? etc), Seasoning of loan, Macro conditions,  
In the US the experience is 10% default rates; almost all (70%) in the first year of repayment
  - Loss severity: depends on guarantees
- Prepayment risk (small for floating rate loans – 4%/6% CPR)



## **Example II: Small Business Loans ABS (not so developed)**

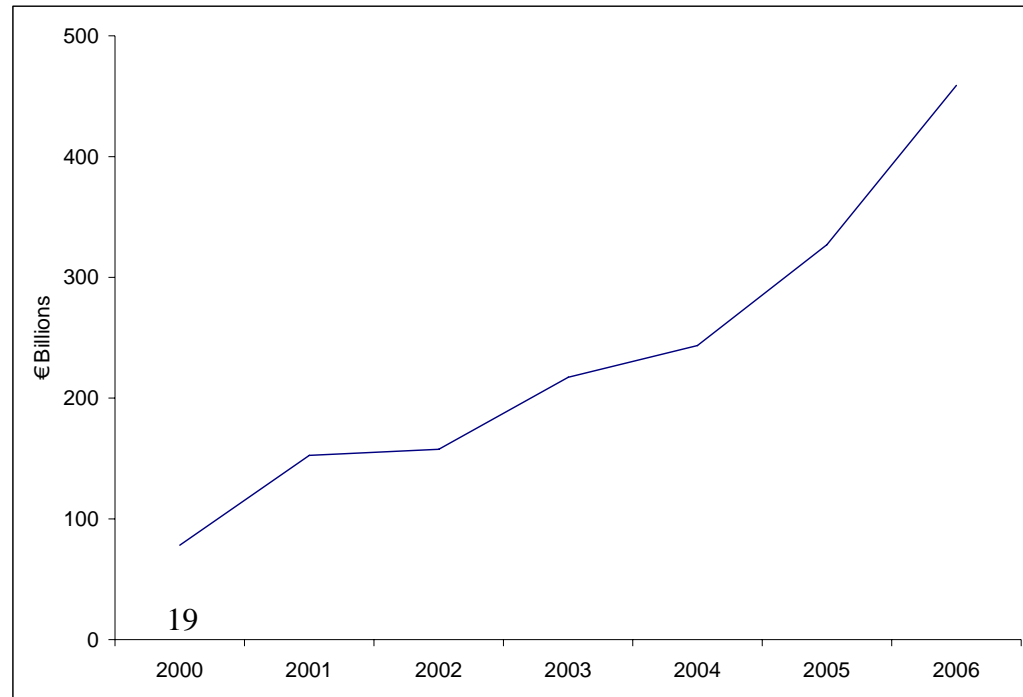
- Rationale:
  - Usually small businesses find it hard to have access to credit in reasonable conditions
  - This is especially true in innovative industries, where collateral and experience is low
  - Small number of lenders brings too much volatility to the credit available
- Major roadblock: no homogenization means securitization is limited
  - Usually, terms constantly revised
  - Different quality: Credit assessment is subjective and data intensive
  - High heterogeneity: fixed and floating rate, reference rate and reset schedules, interest and amortization schedules, maturity and pre-payment provisions, collateral type, type and dimension of business, industry the business is in, ...
- Consequences of heterogeneity:
  - High transaction / information costs
  - Very difficult to predict cash flows
  - Credit enhancements costly due to lack of information

## **Small Business Loans (cont.)**

- ... Difficult case for securitization
- The government can help mitigate some of these constraints, focusing for instance in areas:
  - Deemed as strategic (e.g. green loans, technology, exports, etc)
  - Are in special need (disaster recovery, urban requalification, etc)
  - Only when borrowers cannot access markets in good conditions
- How:
  - Guarantees (usually 70%/80% in the US)
  - Promote underwrite standards (e.g. loan-to-value, loan payment-to-income ratios)
  - Align incentives (issuer has to keep part of the pool, borrower keeps personal responsibility)
  - Promote standards (homogenization) for each pool: minimum number of loans in the pool (diversification decreases risk), minimum number of guaranteed portions of loans, minimum aggregate principal balance, single loan weight in the pool, similar rates and maturity dates, etc.
  - Promote data dissemination: No historical information publicly available
- For investors, major risks are again: Prepayment (depends on pre-payment penalties and interest rate) and Credit risk (depending on government guarantees).

## Some Data from Europe

- SB loans represent only 3% of all asset classes.
- Only 1-2% of securitizable SB claims in bank balance sheets have been securitized (compared with 10% of the total volume of outstanding residential mortgage loans).
- The Spain case:
  - Spanish Treasury guarantees up to 80 % of notes rated at least “AA”. To qualify, at least 80% of the pool to be securitized must comprise SB loans. The originator must commit to reinvest 80% of the proceeds in the SB sector within one year.
  - Approximately 60 Spanish banks have participated.
- Yearly Issuance of Securitization In Europe:



## Other ideas

### ➤ Venture capital:

- Public agency
- Participating in existing venture capital initiatives  
Government as a seed: widely used in US and Europe
- Problem: equity market not that well developed.

### ➤ Individual Innovation Accounts backed by future taxable income

- Used as collateral
- A way for the government to recover some of the guarantees provided

### ➤ Tax incentives to the holders of SLs or SBLs ABS

- Same flavor as retirement or health accounts

## Conclusions

- Government has an important role in fostering innovation
- Government can and should partner with capital markets
- This cooperation can be made through incentives to the creation of secondary markets and securitization
  - Student loans
  - Small Business Loans