

Financial Stability and Financial Inclusion

Peter J. Morgan
Sr. Consultant for Research

Victor Pontines
Research Fellow

Asian Development Bank Institute

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Outline

- 1. Relation between financial stability and financial inclusion**
- 2. Data and issues**
- 3. Stylized facts**
- 4. Previous work**
- 5. Our approach**
- 6. Conclusions and further work**

1. Relation of Financial Stability and Financial Inclusion

- **Definitions and dimensions of financial stability**
- **Definitions and dimensions of financial inclusion**
- **Channels for interaction between financial stability and financial inclusion**

1. Definitions of Financial stability

- Many attempts—financial stability notoriously difficult to define—a complex notion with multiple dimensions, unlike inflation
- Perhaps easier to recognize “financial instability”
- One example:

Financial stability “...can be defined as a condition in which the financial system – comprising of financial intermediaries, markets and market infrastructure – is capable of withstanding shocks and the unravelling of financial imbalances, thereby mitigating the likelihood of disruptions in the financial intermediation process which are severe enough to significantly impair the allocation of savings to profitable investment opportunities.”

ECB Financial Stability Review, 2012

Definitions: Procyclicality and interconnectedness

- **Procyclicality** is “...mechanisms that operate within the financial system and between it and the macro-economy and that can generate outside financial cycles and business fluctuations.”

Borio (2010)

- **Interconnectedness** is “...common exposures and interlinkages in the financial system, that result in joint failures of financial institutions by making them vulnerable to common sources of risk.”

Borio (2010)

Sources of Financial System Risk

Procyclicality

- Bank capital/lending feedback loop
- Asset value/bank lending feedback loop
- Exchange rate/balance sheet interactions (currency mismatches)
- Liquidity—interbank and other money markets (maturity mismatches)—related to non-core financing ratio and deposit volatility
- Leverage
- Interest rates/credit risk

Interconnectedness—common exposures

- Common exposures to similar asset classes
- Indirect exposures through counterparty risks
- Ownership structure
- Systemically important financial institutions (SIFIs)
- Infrastructure-based risks
- Level of financial development

Definitions of Financial Inclusion

- “Financial inclusion aims at drawing the “unbanked” population into the formal financial system so that they have the opportunity to access financial services ranging from savings, payments, and transfers to credit and insurance.”
(Hannig and Jansen 2010)
- “... the process of ensuring access to financial services and timely and adequate credit where needed by vulnerable groups such as weaker sections and low income groups at an affordable cost. It primarily represents access to a bank account backed by deposit insurance, access to affordable credit and the payments system.”
(Khan 2011)

Dimensions of Financial Inclusion

- Formal accounts
 - Frequency of use, mode of access
 - Purposes of accounts
 - Barriers to use; and
 - Alternatives to formal accounts (mobile money)
- Savings—use of accounts
- Borrowing—sources, uses
- Insurance—health and agriculture

Source: Demirguc-Kunt and Lapper (2012)

Expected Impacts of Financial Inclusion on Financial Stability

- **Positive**

- Financial sector diversification
 - Larger and more diverse bank assets contribute to resiliency
 - Small savers contribute to deposit base size and stability, reducing dependence on “non-core” financing
- Better transmission of monetary policy
- Improved surveillance of money laundering

- **Negative**

- Promotion of inclusion could lower asset quality (sub-prime lending)
- Outsourcing by banks could increase reputational risk
- New risks from specialized MFIs

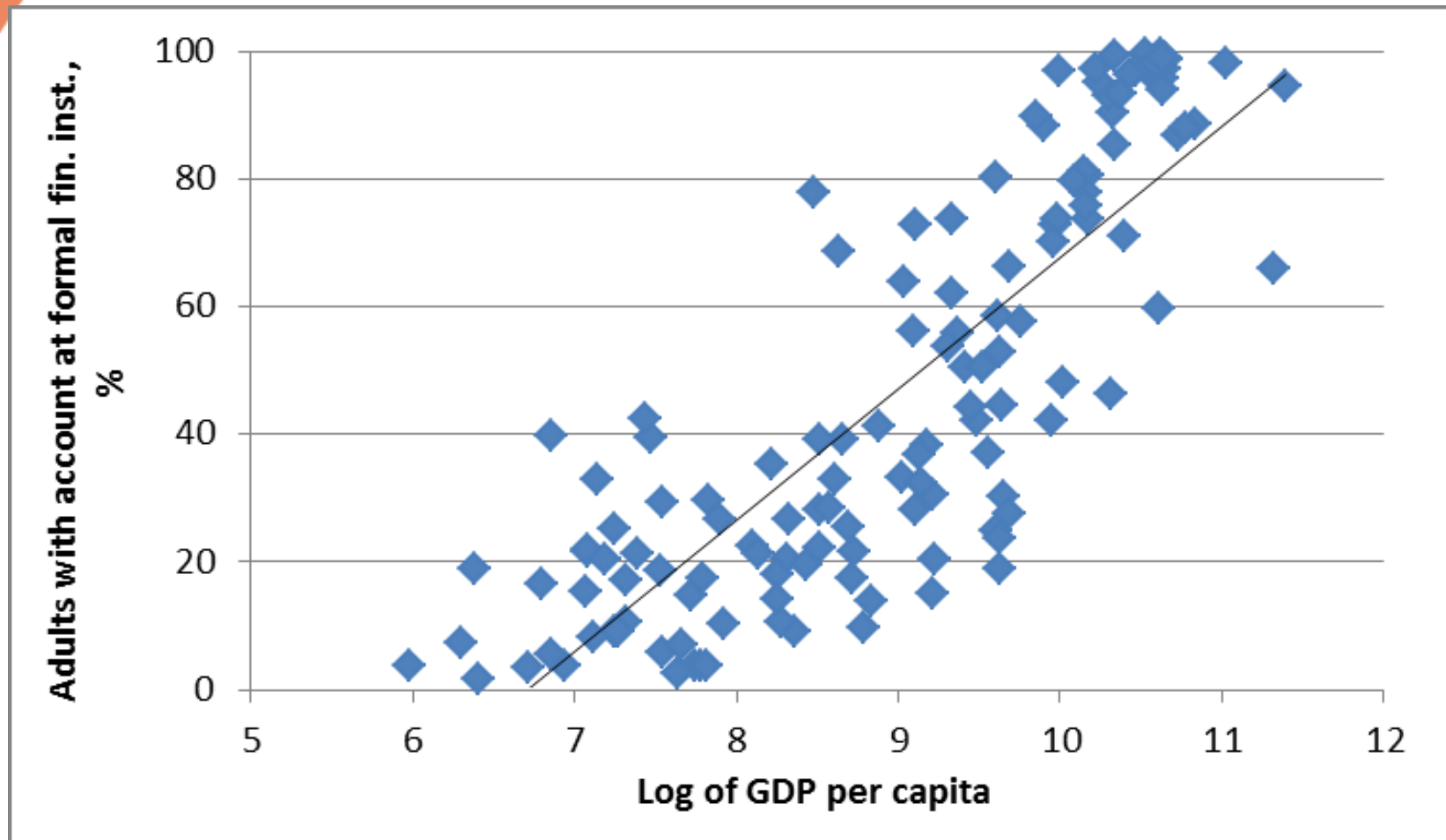
2. Data sources and Issues

- World Bank Global Findex (164 countries, 61 years)
- IMF Financial Access Survey (193 countries, ~11 years)
- Data on financial stability relatively available
- Basic problem is relatively short span of data on financial inclusion
 - Up to 10 years on number of bank branches, etc.
 - Only 1-2 years on small firm access
 - Only one year (2011) on household access to bank deposits and loans—so basically cross-section
 - Missing data for many countries and years leads to very sparse datasets

Financial stability and inclusion variables

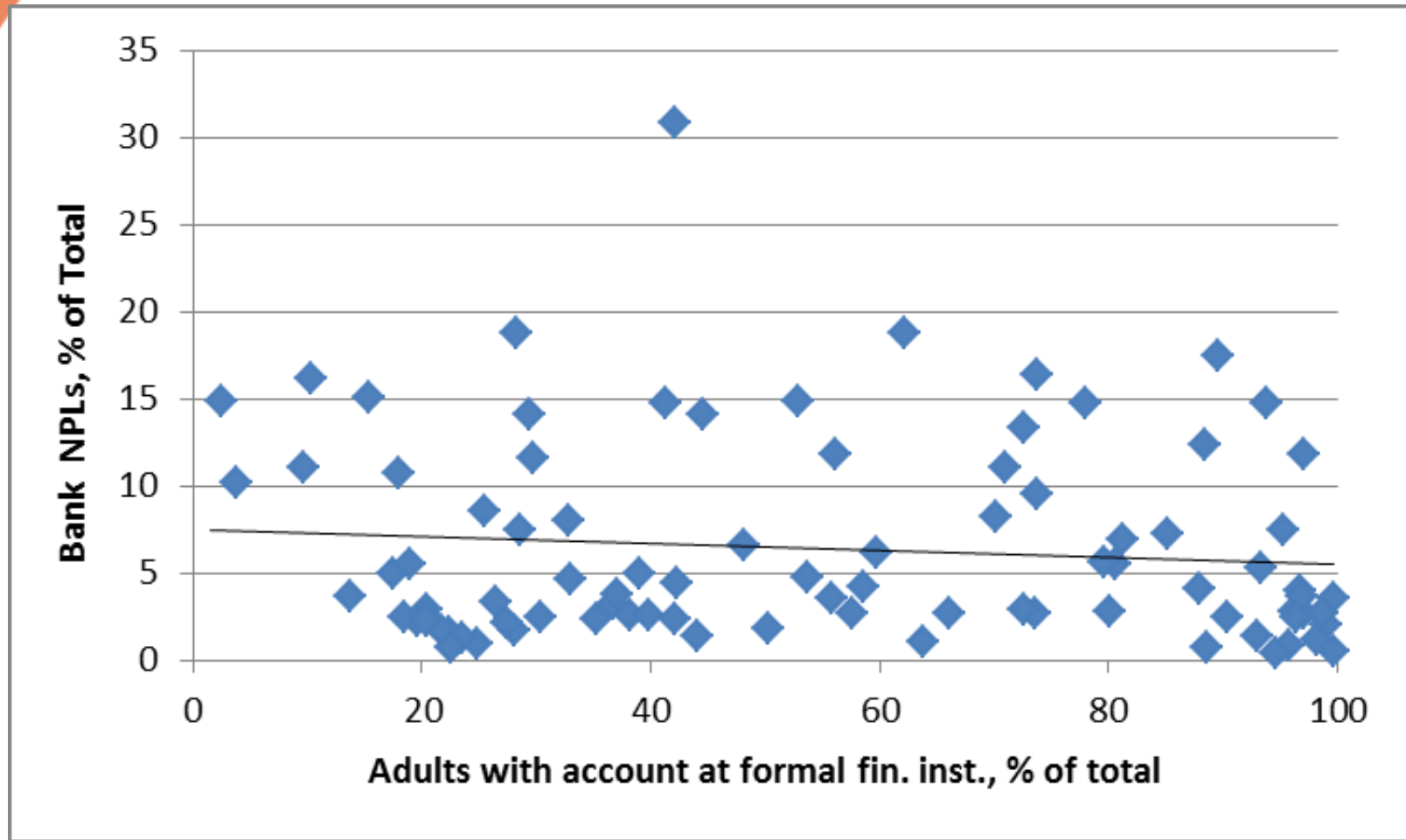
- Financial stability measures
 - NPL%
 - Bank Z-score
 - Deposit volatility over cycle
 - Banking crisis (e.g., Rogoff and Reinhart)
- Financial inclusion measures
 - Number of bank branches, accounts, ATMs per 1000 persons
 - Similar data for credit unions/cooperatives, insurance companies
 - Firms with deposits or line of credit, % of total
 - SMEs with deposits or line of credit, % of total
 - Adults with deposit at formal financial institution, % of total
 - Adults borrowing or saving in past year, % of total

3. Stylized Facts--Share of adults with accounts at formal inst. strongly related to income



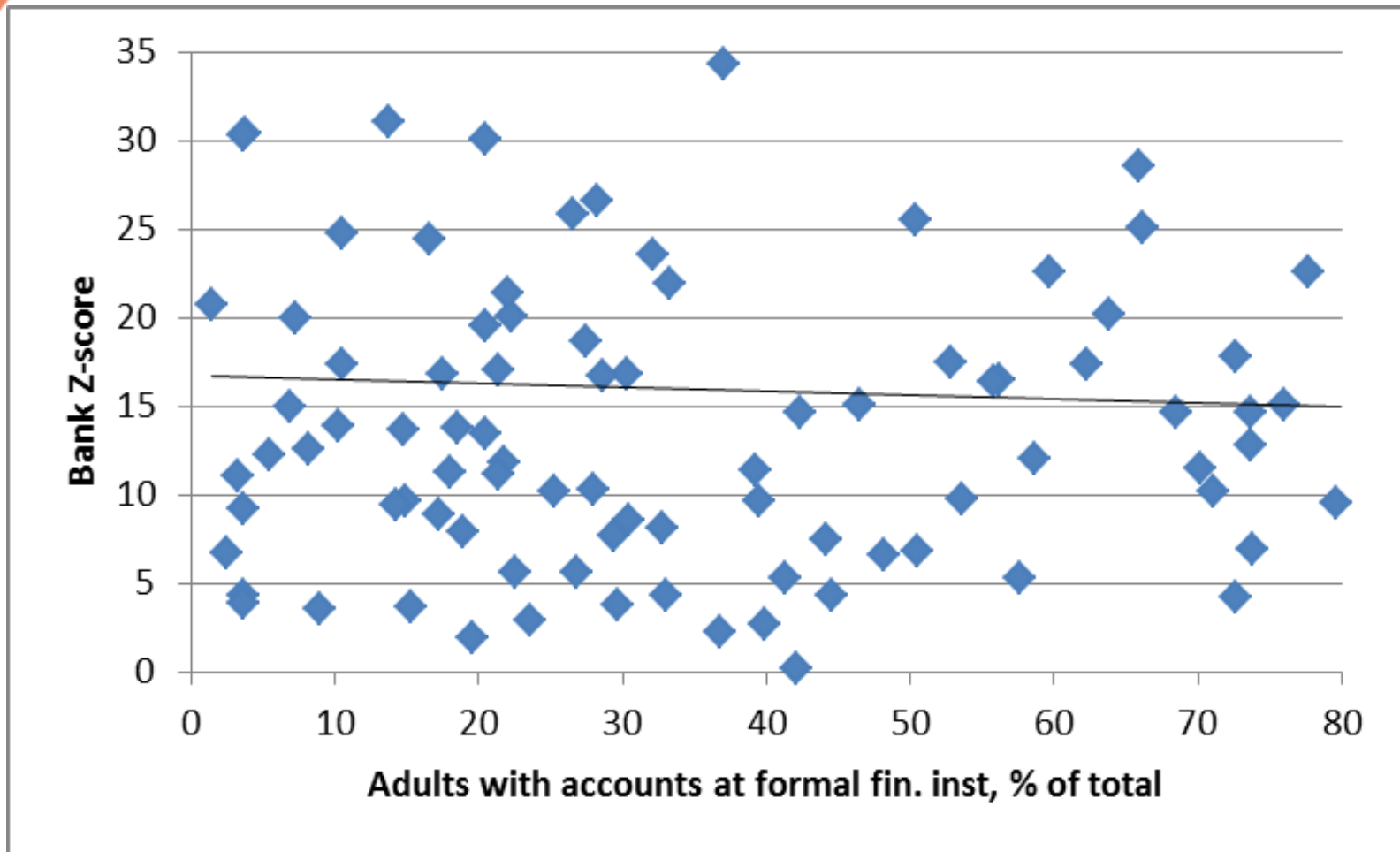
Source: World Bank Global Findex Database (2012) (2011 data)

Little correlation of adult account access with financial stability



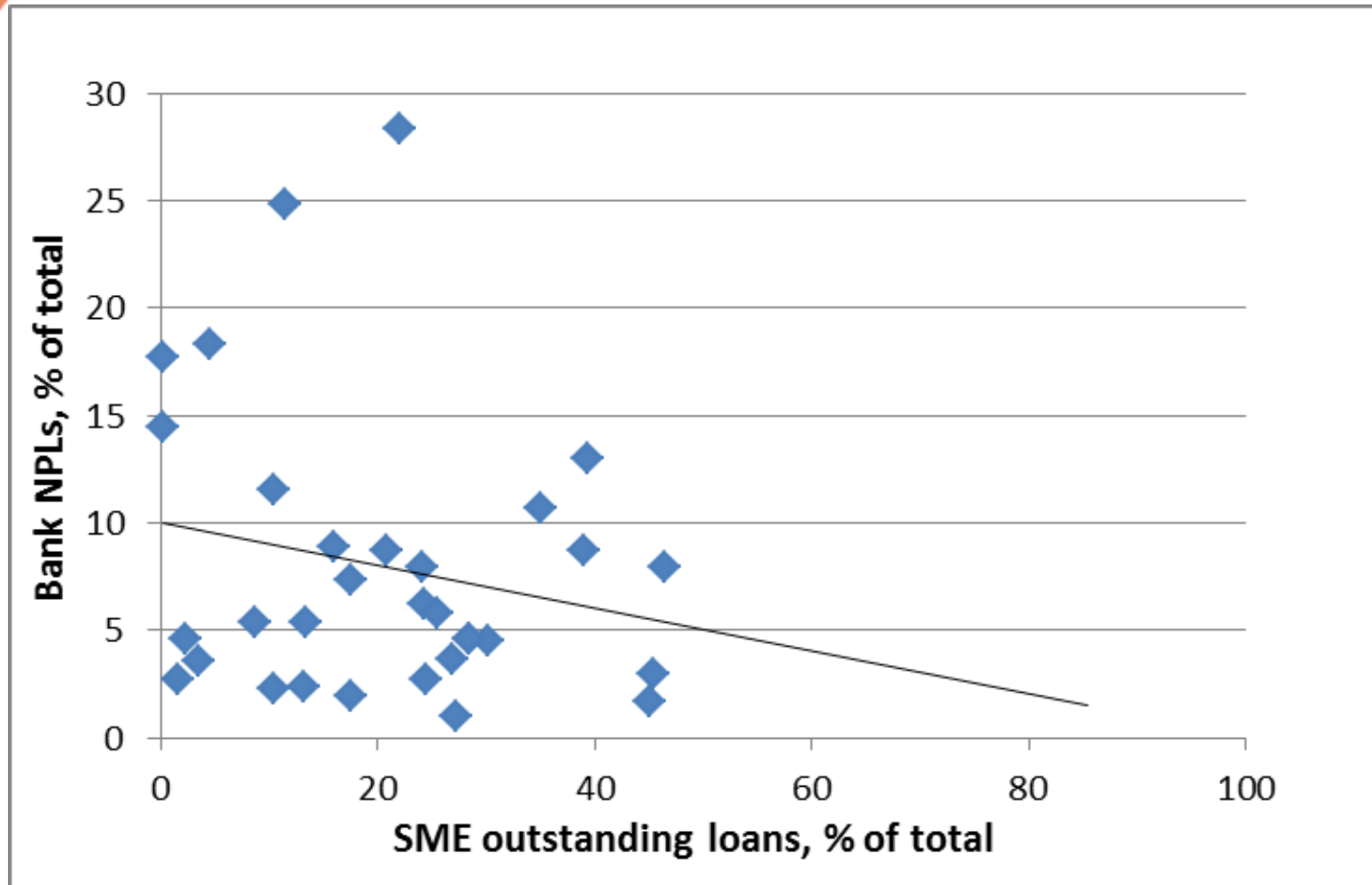
Source: World Bank Global Findex Database (2012) (2011 data)

Little correlation of adult account access with financial stability (2)



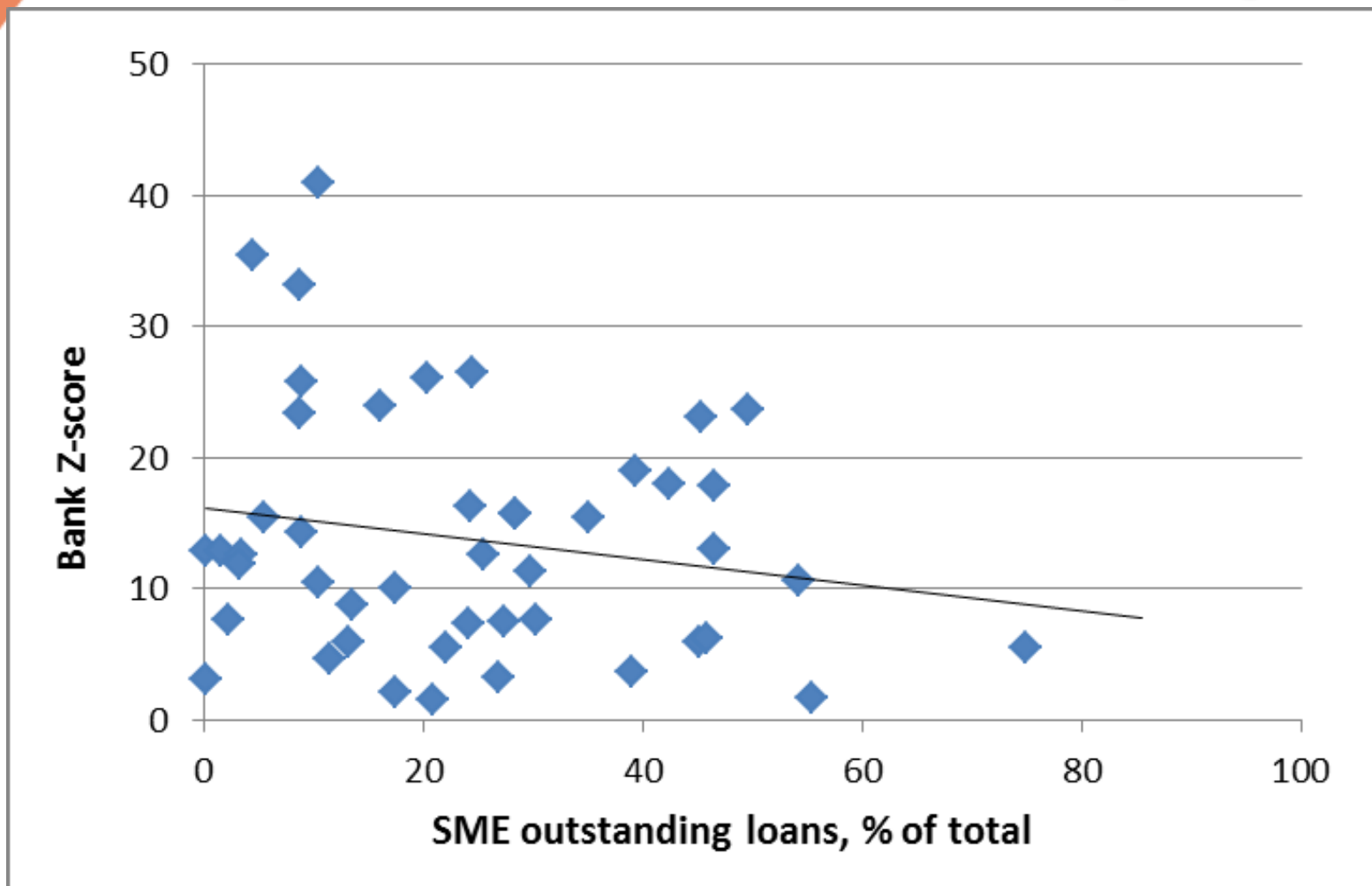
Source: World Bank Global Findex Database (2012) (2011 data)

Some correlation of SME lending share with bank NPLs



Source: IMF Global Financial Access Survey (2013) (2001-11 avg.)

But correlation of SME lending share with bank Z-score has wrong sign



Source: IMF Global Financial Access Survey (2013) (2001-11 avg.)

4. Previous empirical work

- **Adasme and Uribe (2006)**
 - NPLs of small firms have quasi-normal loss distributions, while those of large firms have fat-tailed distributions, so systemic risk of former is less
- **Han and Melecky (2013)**
 - Greater share of people with bank deposits tends to reduce volatility of total bank deposits during economic downturns
 - a 10 percent increase in the share of people that have access to bank deposits can reduce the deposit growth drops (or deposit withdrawal rates) by 3-8 percentage points

5. Our Approach--Model

Estimation results

6. Conclusions and further work

- Financial inclusion could have both positive and negative implications for financial stability
 - Positive: Diversification of bank assets, increased stability of deposit base
 - Negative: Erosion of credit standards, etc. (sub-prime)
- Financial inclusion data problematic because of short time span and sparsity
- We find some evidence that an increased share of lending to SMEs aids financial stability, mainly reduction of NPLs

Thank you