



Workshop on

# **“The Costs and Benefits of International Banking”**

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Presentation to

**“Financial Protectionism”**

# Financial Protectionism: the First Tests

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# The Usual Disclaimer

- Research presented here solely reflects the views of the authors and not those of the Bank of England

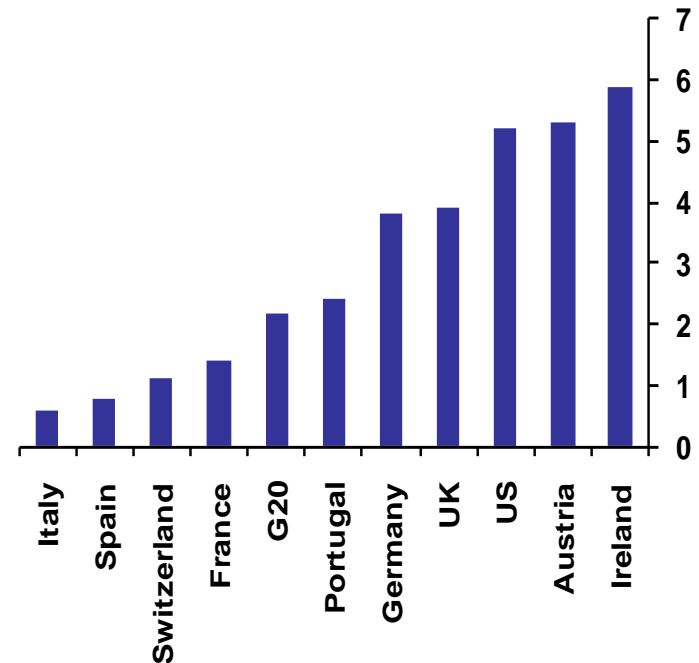
# Motivation

- Great recession frequently compared to ‘Great Depression’
- Trade protectionism blamed for spreading/deepening ‘Great Depression’
- Little evidence of substantive ‘classic’ trade protectionism in ‘Great Recession’

# Motivation (2)

- But public sector financial system interventions occurred around the world...

Public capital injection as a fraction of 2008 GDP

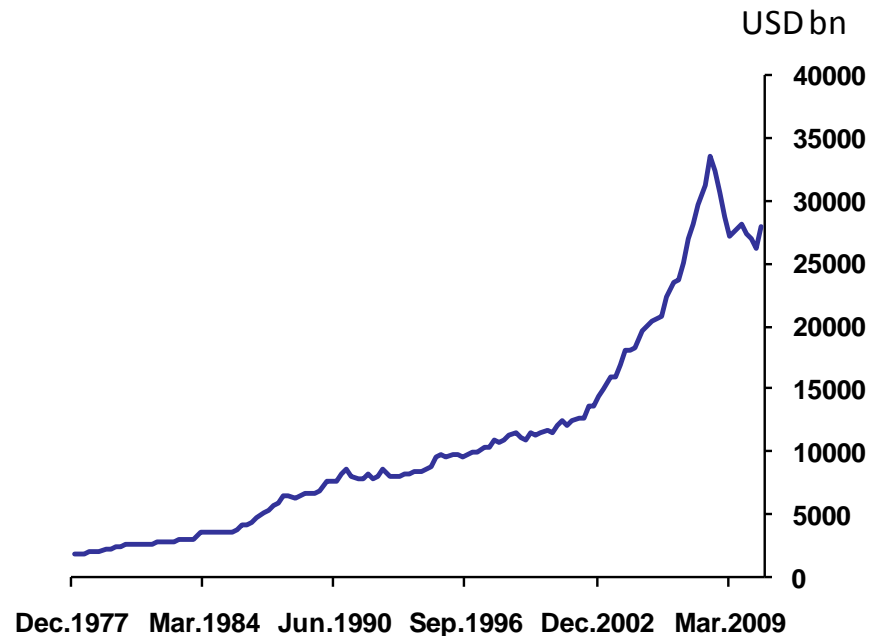


Source: IMF

# Motivation (3)

- ... and cross-border bank lending fell by an unprecedented amount at the same time.
  - “Flight Home” or “Great Retrenchment”

Real BIS bank external asset claims



Source: BIS

# Motivation (4)

- In this paper we ask if the two are related:
  - Q: Has government support (nationalization, public capital injection, unusual liquidity support) for banks affected their foreign lending?
  - That is, did the ‘Great Recession’ financial interventions lead to a new type of protectionism, *financial protectionism?*

# Definition of *Financial Protectionism*

- Public intervention leads to nationalistic change in banks' lending behaviour:
  - Less lending to foreigners (quantities)
  - Higher interest rates to foreigners (prices)
  - More lending and/or lower interest rates to residents



# Investigating Financial Protectionism

- Key: a) *differential* effect on quantities and/or prices to *foreigners/domestics*, only *after* b) public intervention
  - Suggests difference in difference approach (which we use)
- *Preview of Results*: find effects in both quantities and prices

# Data Set

- BIS datasets do not provide individual bank breakdown
  - So can't compare foreign/domestic banks or private/public banks
- Publicly available micro datasets do not provide data on external lending
- Accordingly, we use a *confidential* Bank of England dataset to test this hypothesis

## Data (2)

- The database provides comprehensive balance sheet information for all banks operating in the UK at quarterly horizon (1997Q3 – 2010Q1)
- Data usually used for regulatory purposes and national account statistics (→ measurement error taken seriously)
- Data covers 487 banks, 56 of whom are UK-owned
  - Number of observations = 9,615

# Data (3)

- Public sector interventions data collected by us, conducting bank-by-bank Google searches for ‘ “bank name” nationalisation nationalise privatise’
- Constructed suitable binary dummies for: *privatisation, nationalisation, public capital injection, liquidity support*

# Empirical Approach

- First (main) dependent variable: ‘Loan mix’
  - Loan mix = Lending to UK residents/ Sum of Lending to UK residents and non-residents
    - Bank by bank (not group!)
- Second dependent variable: Interest rate
  - Effective interest rate on new UK private non-financial corporation loans of less than one year maturity

# Empirical Approach (2)

- Fall in the 'Loan mix' and/or increase in interest rate following foreign bank public sector intervention consistent with Financial Protection
- Similarly interpret increase in the 'Loan mix' and/or decrease in interest rate following UK bank public sector intervention

# Empirical Approach (3)

$$Y_{i,t} = \alpha_i + \beta_t + \gamma_{FOR} \text{Nat}_{FOR,i,t} + \gamma_{UK} \text{Nat}_{UK,i,t} + \delta \text{Priv}_{i,t} + \zeta \text{Cap}_{i,t} + \vartheta \text{LL}_{i,t} + \varepsilon_{i,t} \quad (1)$$

- $\text{Nat}_{FOR,i,t}$   
= 1 Foreign bank  $i$  is nationalised at or before time  $t$ , 0 otherwise
- $\text{Nat}_{UK,i,t}$   
– =1 if British bank  $i$  is nationalised at or before time  $t$ , 0 otherwise
- All other interventions  
– = 1 British bank  $i$  receives intervention at or before time  $t$   
– =-1 if a foreign bank receives intervention at or before time  $t$ , 0 otherwise
- *Note presence of comprehensive time ( $\beta_t$ ) and bank FE ( $\alpha_i$ )*

# Results (1): Sensitivity Analysis

<u>After:</u>	<u>Foreign Nationalisation</u>	<u>British Nationalisation</u>	<u>Unusual Access to Loans or Liquidity</u>	<u>Public Capital Injection</u>	<u>Foreign Privatisation</u>
Default	-10.9** (2.1)	.5 (.5)	2.8** (.6)	-1.3** (.5)	-10.8** (3.1)
Denominator Variant	-10.6** (2.1)	1.5* (.6)	1.5* (.6)	-.9 (.5)	-12.3** (3.4)
Robust SEs, not clustered	-10.9** (2.7)	.5 (1.9)	2.8 (1.5)	-1.3 (1.0)	-10.8** (2.8)
Traditional SEs	-10.9** (2.0)	.5 (2.0)	2.8* (1.2)	-1.3 (.8)	-10.8** (3.4)
Weight by Log Loans	-10.6** (2.0)	.1 (.4)	2.6** (.6)	-1.4** (.4)	-11.5** (3.1)
Weight by Log Assets	-10.8** (2.0)	.2 (.5)	2.7** (.6)	-1.4** (.4)	-11.2** (3.1)
Control for Total Loans	-9.9** (2.0)	-.5 (.5)	3.5** (.6)	-1.1* (.5)	-10.9** (3.1)
Control for Total Assets	-9.8** (2.0)	-.5 (.5)	3.8** (.5)	-.9 (.5)	-10.9** (3.1)
Tobit	-11.7** (.6)	-3.2 (2.3e+7)	-.1 (.4)	-.6** (.1)	-10.0** (88.)



# Results (2): Adding Controls

<u>Extra Control:</u>	<u>Foreign Nationalisation</u>	<u>British Nationalisation</u>	<u>Unusual Access to Loans or Liquidity</u>	<u>Public Capital Injection</u>	<u>Foreign Privatisation</u>	<u>Control</u>
Default (none)	-10.9** (2.1)	.5 (.5)	2.8** (.6)	-1.3** (.5)	-10.8** (3.1)	
Loan Growth	-10.8** (1.9)	.6 (.5)	3.0** (.6)	-1.4** (.5)	-10.8** (3.2)	-.9** (.3)
Asset Growth	-11.1* (2.1)	.4 (.5)	2.9** (.6)	-1.4** (.5)	-10.8** (3.2)	.030** (.004)
Capital Adequacy	-11.1** (2.1)	.0 (.5)	3.1** (.6)	-1.3** (.5)	-10.9** (3.1)	4.4** (.8)
Capital Adequacy, variant	-11.1** (2.1)	-.0 (.5)	3.1** (.6)	-1.3** (.5)	-10.8** (3.1)	4.3** (.8)
Assets/Capital (Leverage)	-10.8** (2.1)	-1.5** (.4)	2.8** (.6)	-1.5** (.5)	-10.6** (3.1)	-3e-7 (4e-7)
Assets/Capital (Leverage), variant	-10.9** (2.1)	.5 (.5)	2.9** (.6)	-1.3** (.5)	-10.8** (3.1)	-3e-7 (4e-7)
Wholesale Market Dependence	-10.9** (2.1)	.5 (.6)	2.8** (.6)	-1.3** (.5)	-10.8** (3.1)	1.2 (3.0)

# Results (3): More Controls

	<u>Foreign Nationalisation</u>	<u>British Nationalisation</u>	<u>Unusual Access to Loans or Liquidity</u>	<u>Public Capital Injection</u>	<u>Foreign Privatisation</u>	<u>Control</u>
Profits/ Assets	-8.2** (2.7)	.5 (.5)	1.8** (.5)	-.7 (.4)	n/a	34. (20.)
Profits/ Assets, variant #1	-8.4** (2.7)	.5 (.5)	1.8** (.5)	-.6 (.4)	n/a	31. (25.)
Profits/ Assets, variant #2	-8.4 (2.7)	.5 (.5)	1.8** (.5)	-.6 (.4)	n/a	30. (25.)
Dividends/ Assets	-8.5** (2.7)	.5 (.5)	1.7** (.5)	-.6 (.5)	n/a	-16. (207.)

# Results (4): Important Controls

	<u>Foreign Nationalisation</u>	<u>British Nationalisation</u>	<u>Unusual Access to Loans or Liquidity</u>	<u>Public Capital Injection</u>	<u>Foreign Privatisation</u>	<u>Control</u>
Bank Nationality x Time FE	-16.1** (3.2)	1.8 (2.1)	4.0** (1.4)	-.9 (1.0)	-4.7 (3.7)	F(•)= 1.2**
Status-Switching Banks	-9.5** (2.2)	1.2 (.6)	1.6** (.5)	-1.0* (.4)	-10.8** (3.1)	F(•)= 36**
EC Objection or Investigation	-10.7* (4.2)	.3 (.6)	2.8** (.6)	-1.3** (.5)	10.8** (3.1)	F(•)= 1.0

Note: inclusion of Bank-Nationality x Time FE wipes out any potential country x time-specific effects (exchange rates, national business cycles, ...)

- “Flight Home” or “Great Retrenchment”

# Conclusion from 'Loan mix'

- **British** banks behaviour does not appear to change following nationalisation
- But **foreign** banks lend more outside and less in the UK following nationalisation
  - Highly statistically significant, robust, size of effect reasonable
  - → We interpret this as evidence of **financial protectionism**
  - Not trivial: 12% loan activity nationalized

# Interest rates as Regressand

- With imperfect competition, banks can charge interest rates above cost of capital (Freixas and Rochet, 2008)
- Previous work rejects perfect competition in the UK (Claessens and Laeven, 2004)
- So look for evidence of financial protectionism in interest rate data

# Interest rates as Regressand (2)

- ‘Effective’ (weighted by loan) interest rate data are only available since 2004Q1 and for 40 largest lenders to a particular sector
  - sample much smaller → 679 observations
- We use effective interest rate on new private non-financial corporation loans of less than one year maturity as the dependent variable

# Results

<u>After:</u>	<u>Foreign Nationalisation</u>	<u>British Nationalisation</u>	<u>Unusual Access to Loans or Liquidity</u>	<u>Public Capital Injection</u>
<b>Default</b>	.71** (.07)	.19 (.17)	.15* (.06)	.04 (.05)
<b>Interest Rate Variant</b>	.86** (.25)	-.83** (.16)	.08 (.14)	.29 (.16)
<b>Robust SEs, not clustered</b>	.71** (.08)	.19 (.14)	.15 (.10)	.04 (.07)
<b>Traditional SEs</b>	.71** (.17)	.19 (.10)	.15 (.08)	.04 (.07)
<b>Weight by Log Loans</b>	.71** (.07)	.16 (.17)	.20** (.07)	.03 (.06)
<b>Weight by Log Assets</b>	.71** (.07)	.18 (.16)	.17** (.06)	.04 (.05)
<b>Control for Total Loans</b>	.71** (.07)	.18 (.16)	.17* (.07)	.04 (.06)
<b>Control for Total Assets</b>	.71** (.07)	.21 (.16)	.14* (.05)	.03 (.06)
<b>Drop &gt;  2σ  outliers</b>	.70** (.07)	.08 (.06)	.10* (.04)	.05 (.04)

# Interest Rate Conclusion

- Effect of foreign nationalisation statistically significant, correct sign and robust
  - ➔ Consistent with *financial protectionism*
- Effect of British nationalisation typically Insignificant
  - ➔ Consistent with earlier results
- Results robust to choice of dependent variable



# Overall Summary

- First evidence of behaviour consistent with *financial protectionism* for foreign, but not British banks
  - Use bank-level quarterly panel with time- and bank-specific fixed effects
  - After *British* nationalizations, *little* happens to interest rates or loan mix of British banks
  - After *foreign* nationalizations, foreign banks cut back more on British loans, raise interest rates

# BoE Bank Balance Sheet data

- This short Intro will cover:
  - Coverage
  - Types of data available
  - How to Access

# Coverage

- By law all Banks operating in the UK have to report balance sheet data to the Monetary and Financial Statistics Division (MFSD) at BoE
  - Data for foreign branches/subsidiaries + UK-owned banks
  - <http://www.bankofengland.co.uk/statistics/reporters/defs/defs.htm>

# Coverage (II)

- Data available back to 1989
  - But forms & definitions change over time
  - Consistent definitions for all banks since 1997 at monthly/quarterly horizon
  - Consistent definitions for UK-owned banks since 1989 at quarterly horizon

# Current types of Data

- Locational
  - BT – Complete Balance Sheet
  - AL – Lending by 18 sectors
  - AD – Deposits by 18 sectors
  - PL – Complete Income Statement
  - CC – External Assets (Geographical Breakdown)
  - CL – External Liabilities (Geographical Breakdown)
  - WO – Net Writeoffs

# Current types of Data (II)

- Consolidated
  - UK-owned banks consolidated Assets – Form CE
    - By maturity/ type of borrower
    - Local in local
  - Similar for UK-registered Subsidiaries – Form C1
- Effective interest rate – Form ER
  - On deposits from Government, Private Financial & Non-Financial Institutions + Households
  - Similar for Loans

# Historical Data

- UK regulators used time-varying, bank-specific capital requirements as regulatory tools from 1989 onwards (since Basel I)
- Data collected by BoE until 2008Q1
- Ideal to answer empirical Macro-Pru questions:
  - Does Macro-Pru work?/Does it leak?
  - Interaction with Monetary Policy/ International Transmission

# Access

- Access Granted to:
  - BoE Employees
  - Secondees (IMF/ other Central Banks) at BoE
  - Visiting scholars (Houblon-Norman)
  - But in line with Bank of England act, research needs to address FS or monetary policy issue
- Big barrier to entry, but some of this data is unique and currently very relevant!



# Thank you

- For any comments.