National Culture, Bank Risk-Taking, Profitability and Financial Technology

Dr Stella Mourouzidou Damtsa

Co-Authors: Dr Andreas Milidonis, University of Cyprus
Dr Konstantinos Stathopoulos, University of Manchester

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1. **Does National Culture affect bank risk –taking?**

2. **Does National Culture affect bank profitability?**

3. **Does National Culture affect the ability of banks to address the challenges in the current, rapidly advancing technological environment?**

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National Culture and Bank Risk-Taking

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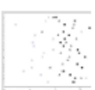
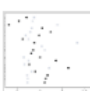
Outline

Figures (2)





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Review

National culture and bank risk-taking

Stella Mourouzidou-Damtsa[a], Andreas Milidonis[b], Konstantinos Stathopoulos[a]
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Abstract

We investigate the relation between national cultural values and bank risk. Despite the rigid transnational regulatory oversight of systemic European banks, we find evidence of an economically significant association between cultural values and domestic bank risk. Specifically, we report a positive (negative) association between the cultural values of individualism and hierarchy (trust) and domestic bank risk-taking. Consistent with our predictions, this relation weakened during the recent financial crisis and does not hold for global banks, regardless of the period under investigation. Our findings are robust to endogeneity tests that mitigate concerns regarding reverse causality and confounding effects affecting our conclusions.

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JEL classification

G01; G21; Z13

Keywords

Bank risk-taking; National culture; Financial crisis; Domestic vs. global banks

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Agenda

1. Motivation
2. What is National Culture and how do you measure it?
3. Data
4. Statistical Model
5. Results
6. Technology adoption impact
7. Robustness Checks
8. Research Limitations
9. Conclusion and Implications
10. Suggestions for Further Research

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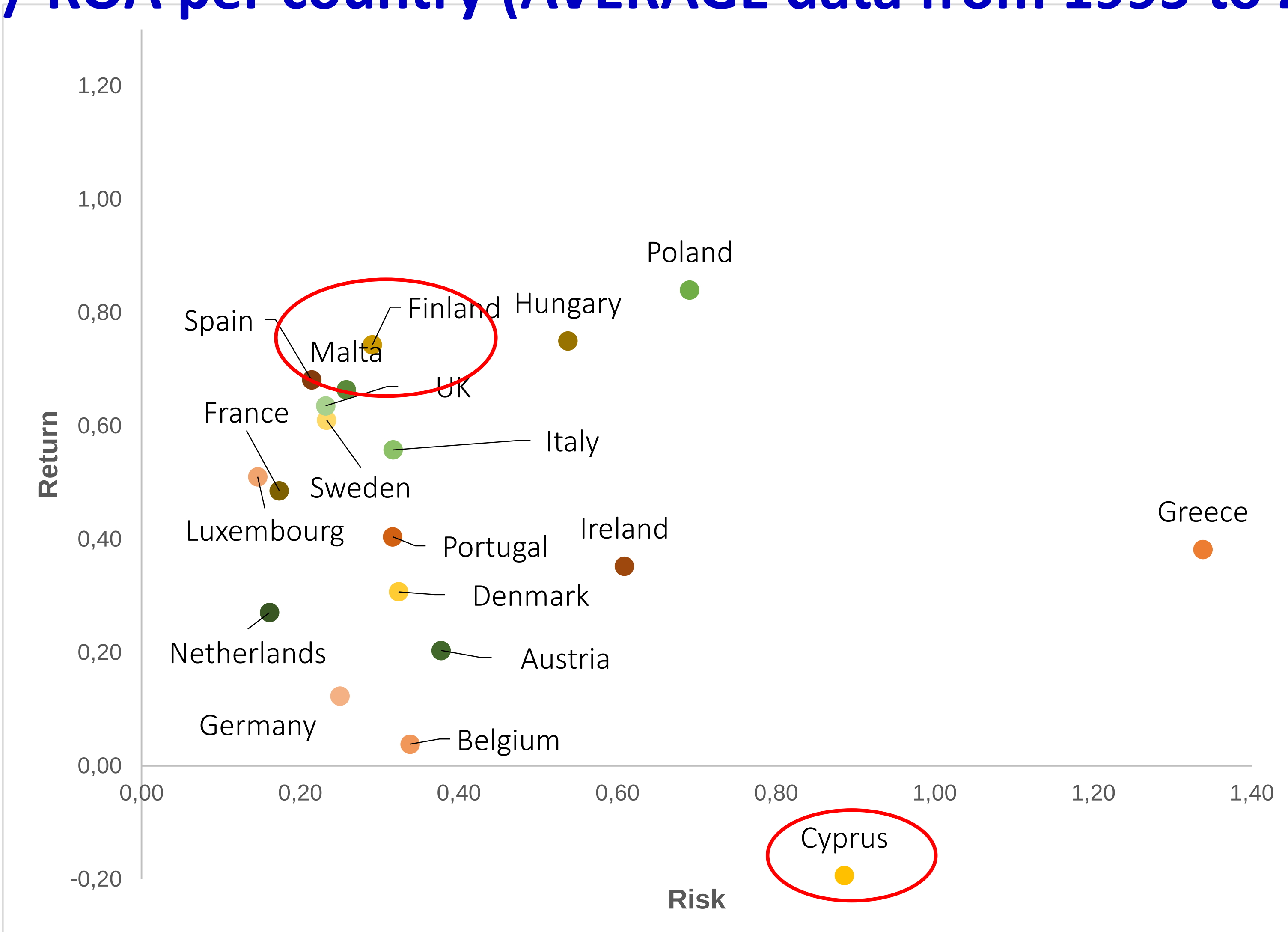
Motivation
Risk / ROA per country (AVERAGE data from 1995 to 2014)



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Risk = 5 year ROA volatility

Motivation

Seminal article by Clark (1987): Differences in the Cotton Mill industry explained by National Culture. Since the publication of this article, literature on National Culture is growing.

Some examples:

- Electronic banking adoption (Zhu et al., 2018)
- Women's success in leading SMEs (Naidu and Chand, 2017)
- Corporate innovation (Chen et al., 2017)
- Stakeholder's engagement with firms (Dal Maso et al., 2017)
- People's propensity to complain (Luria et al., 2016)
- Safety management (Noort et al., 2016)
- The success rate of new products (Eisend et al., 2016)
- Cycling level (Oosterhuis, 2016)
- Mergers and acquisitions (Ahern et al., 2015)
- Corporate risk-taking (Li et al. 2013)
- Accounting conservatism (Kanagaretnam et al., 2011)
- Investing in stock markets (Kwok et al., 2006)

What is National Culture and how do you measure it?

Culture definition by Guiso, 2006:
'Customary beliefs and values that ethnic, religious and social groups transmit fairly unchanged from generation to generation'.

Measured by three proxies singled out by sociology and economics (Hofstede, 1980; Fiske, 1991; Schwartz, 1994; Guiso et al., 2006; Trompenaars, 2012; Ahern et al., 2015) to influence managerial decisions:

1. **Individualism**
2. **Trust**
3. **Hierarchy**

World Values Survey

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Individualism vs Collectivism

- Emphasis on individual advancement vs group goals
- Shape their identity based on their achievements
- Winner attitude

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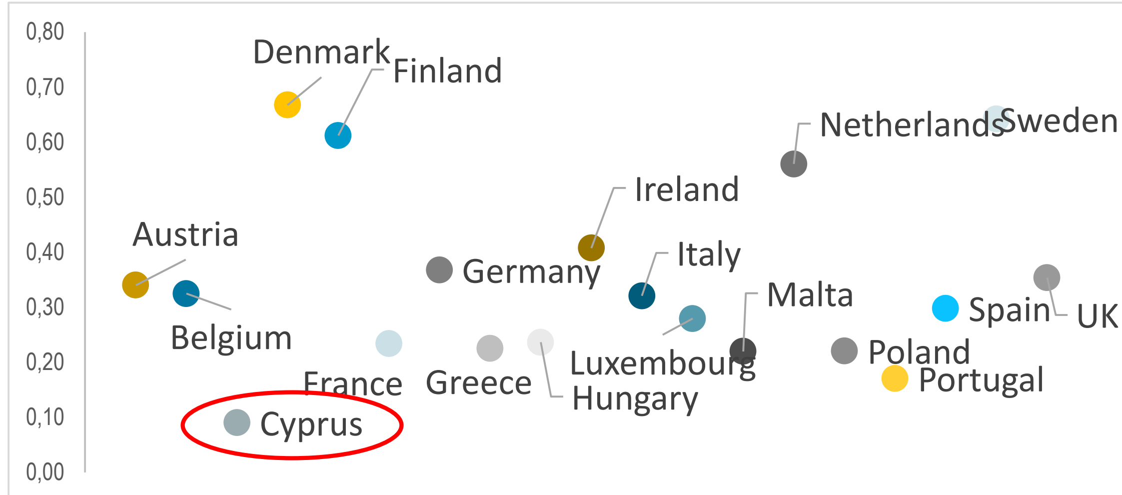
Trust / DisTrust



- Strong bank – customer relationships are based on trust (Dwayne et al., 2004). Customer trust is necessary for banks to attract deposits (Ratnovski, 2013)
- When trust in financial institutions in low, we observe the phenomenon of mattress cash (Coupé, 2011); declining trust triggers bank runs (Knell and Stix, 2010)
- When trust is high, CEOs and managers decentralise and delegate efficiently (Bloom et al., 2012)

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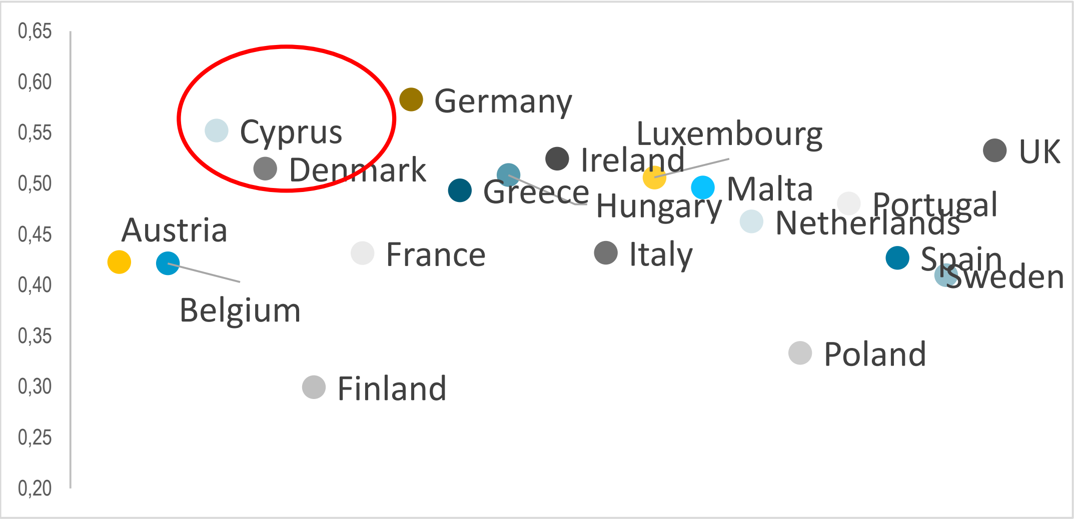
Hierarchy vs Egalitarianism



- Hierarchical societies form power ranks according to social status
- Lower ranking employees follow top-management instructions without questioning them in contrast, in egalitarian societies management and employees view themselves as equals (Brett et al., 1998)

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Data

Austria
Belgium
Cyprus
Denmark
Finland
France
Germany
Greece
Hungary
Ireland
Italy
Luxembourg
Malta
Netherlands
Poland
Portugal
Spain
Sweden
UK

- We follow Acharya and Steffen (2015) and use a dataset of European banks included in the EBA stress tests.
- Our sample consists of 99 banks in 19 countries which were selected by the EBA for the 2014 stress tests, covering at least 50% in the domestic banking sector and approximately 70% in terms of 2013 total European banking assets.
- All banks in our sample follow a common regulatory framework and have a common regulator.
- Sample includes Global banks (e.g. BNP Paribas, HSBC, Santander, UniCredit, ING etc); Domestic banks (e.g. Erste bank, Lloyds, Bank of Ireland, Alpha bank, etc)

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The Financial Stability Board (FSB) maintains and updates a list of global banks. I use the list published in 2015: http://www.fsb.org/wp-content/uploads/2015-update-of-list-of-global-systemically-important-banks-G-SIBs.pdf

Variables associated with bank risk and / or profitability according to existing literature

1. Bank variables e.g. size, NIM, Operating expenses etc
2. Corporate governance and other institutional variables, e.g. transparency financial statements, common vs civil law etc.
3. Macroeconomic and Competition Variables e.g. GDP growth, Domestic Credit as a percentage of GDP, Herfindahl-Hirschman index, etc

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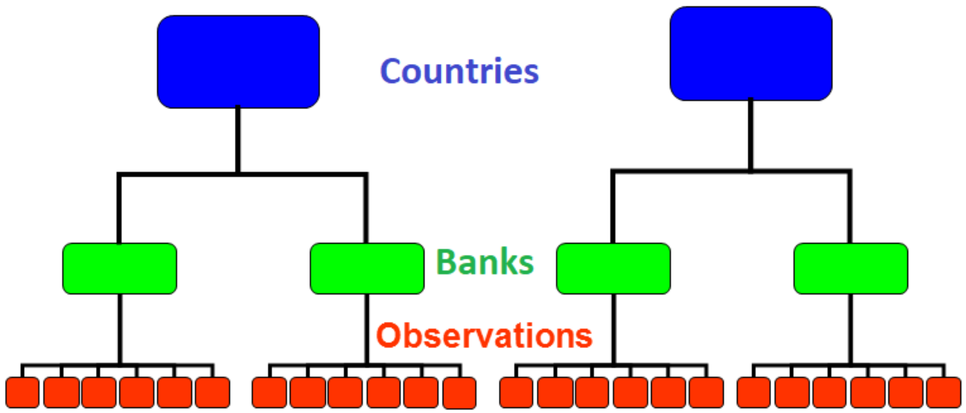
Statistical Model



$$\text{Bank Risk}_{i,j,t} = \alpha + \beta(\text{Cultural Variables})_{j,t} + \gamma(\text{Bank Financial Variables})_{i,j,t} + \delta(\text{Corporate Governance Measures}) + \zeta(\text{Macroeconomic determinants})_{i,j,t} + \text{Year FE} + \varepsilon_{i,j,t}$$

Bank ‘i’ in Country ‘j’ at Year ‘t’

Raudenbush and Bryk, 2002; Gelman, 2007; Goldstein, 2011; Field, 2013; Li et al., 2013

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National Culture and Bank Risk-Taking – Results

	All Banks	Domestic	Global
	+ve	+ve	None
	-ve	-ve	None
	+ve	+ve	None

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National Culture and Bank Profitability – Results

	All Banks	Domestic	Global
	+ve	+ve	None
	+ve	+ve	None
	-ve	-ve	None

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Financial Technology

Global FinTech Report 2017

Redrawing the lines: FinTech's growing influence on Financial Services

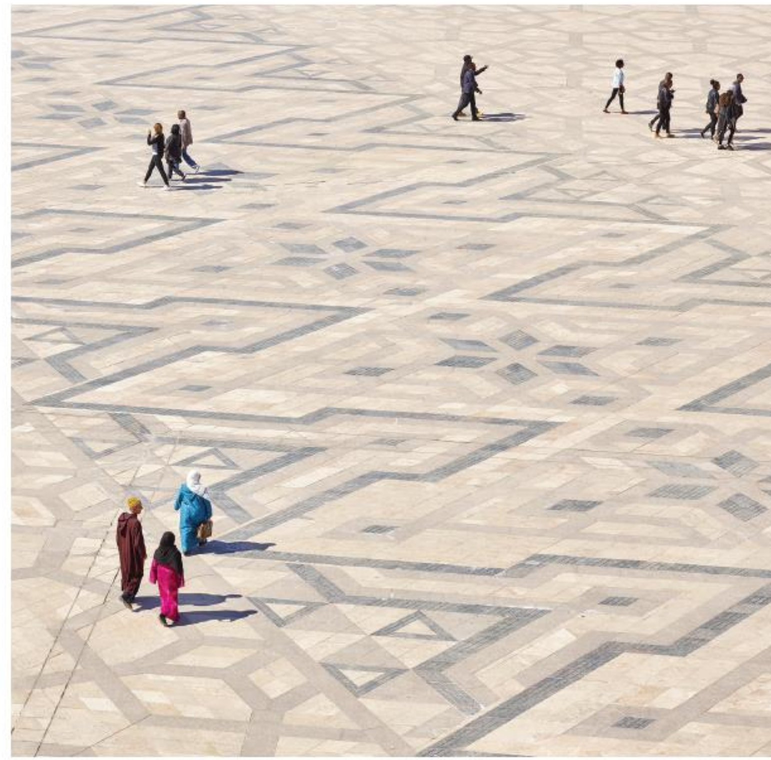
More than 80% believe business is at risk

88% of incumbents are increasingly concerned they are losing revenue to innovators

82%
of incumbents expect to increase FinTech partnerships in the next three to five years

77%
expect to adopt blockchain as part of an in production system or process by 2020

20%
expected annual ROI on FinTech related projects



pwc

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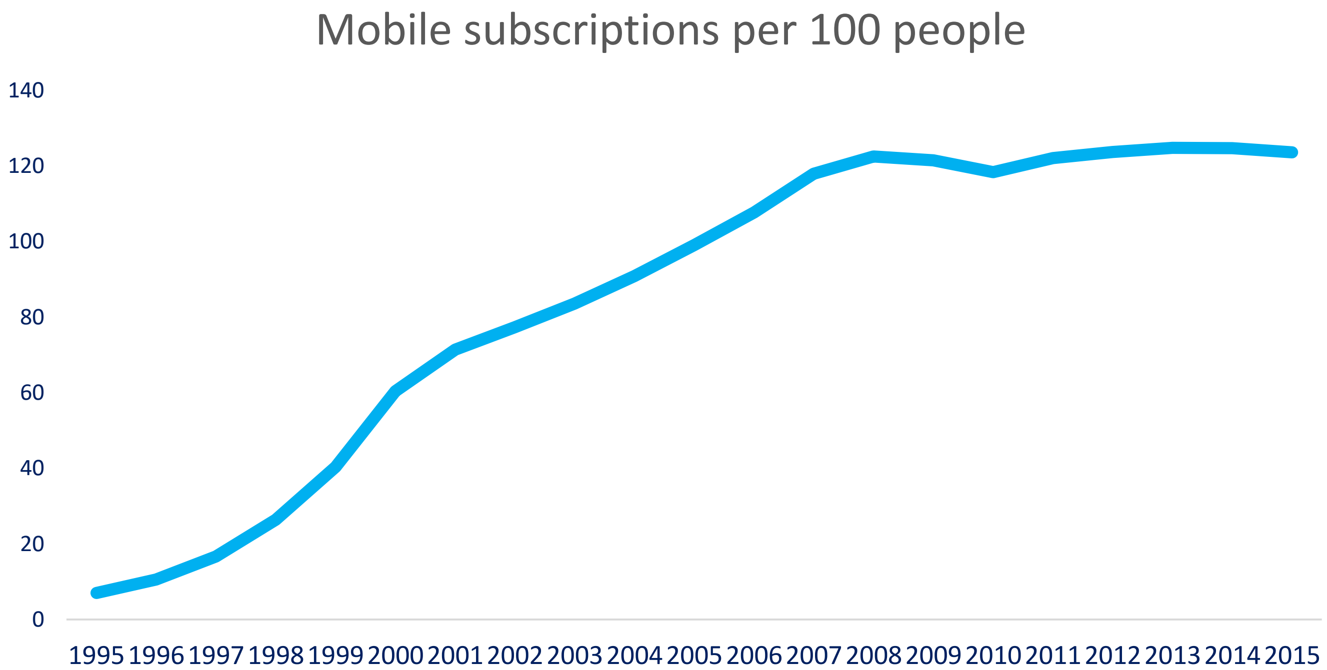
Global survey of 1,308 financial services and fintech executives

Technological Adoption Proxy



- Already used in literature as a proxy for technological adoption (Mallat, 2007; Au and Kauffman, 2008; Slade et al., 2015)
- Banks are among the leading sectors utilising mobile technology (Tommi, 2007) providing access to banking services twenty-four hours a day, saving time, effort and cost (Suoranta, 2003)

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Technological Adoption and Bank Profitability

	All Banks	Domestic	Global
	+ve	+ve	+ve

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National Culture and Bank Profitability – Results

	Domestic / Local Owners	Domestic / Foreign Owners	Domestic / CEO local	Domestic / CEO foreign
	+ve	None	+ve	None
	+ve	None	+ve	None
	-ve	None	-ve	None
	+ve	+ve	+ve	+ve

Interacting hierarchy with technological adoption

	All banks
	+ve
	+ve
	-ve
	+ve
 X 	-ve

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Robustness Checks

- Used three sets of national culture scores: World Values Survey; Hofstede and Globe
- Used three different proxies of bank risk: Volatility of ROA, z-score and Loan Loss Provisions
- Used two difference proxies of bank profitability: Return on Assets (ROA) and Return on Equity (ROE)
- To formally address concerns regarding the impact of omitted variables (i.e., confounding effects) to our conclusions, we conduct two-stage least squares (2SLS) regressions by selecting instrumental variables (IVs) for our national culture variables (i.e., individualism, trust and hierarchy).

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Research Limitations (the list is not exhaustive!)

- The Risk Weighted Assets Ratio could have been used as a proxy for risk but data was not available for the whole of our time series (1995-2014)
- The sample consists only of banks selected by the EBA for the 2014 stress tests which may have some bias implications. On the other hand, the homogeneity of the sample and the fact that EBA considered all the banks in my sample as important enough to assess the European financial stability makes results more profound and less susceptible to confounding effects due to heterogeneity
- A better proxy may exist for technological adoption e.g. the European Commission Digital Economy and Society Index (DESI). Again, we have used 'mobile subscriptions per 100 people' as a technological adoption proxy because data was available for our time series
- Relative small sample for banks with non-domestic CEOs

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Conclusion and Implications

- Cultural values have deep roots in societies and affect bank managers’ decision making
- Global banks and domestic banks with foreign ownership/CEO are less susceptible to cultural biases compared to domestic banks with local ownership/CEOs
- Banks operating in hierarchical societies may find technological advancement and financial technology competition more challenging compared to banks operating in egalitarian societies

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Conclusion and Implications

Our research aims to create awareness of the impact of national culture to:

1. Board of Directors
2. Bank regulators
3. Shareholders
4. Bondholders
5. Depositors

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Suggestions for further research (the list is not exhaustive)

1. How to mitigate the cultural biases effect
2. Accept Europe’s cultural diversity and find ways to integrate a multicultural Europe into one banking union
3. How does national culture affect corporate culture?

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