

Digital Technology Adoption and Patterns of Convergence / Divergence among Insurers and Banks

This is joint work with Gianvito Lanzolla and Andreas Tsanakas.

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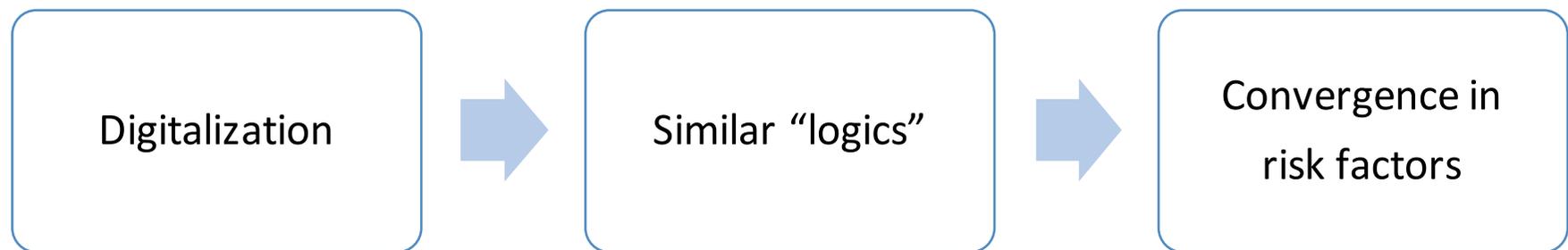


Our study:

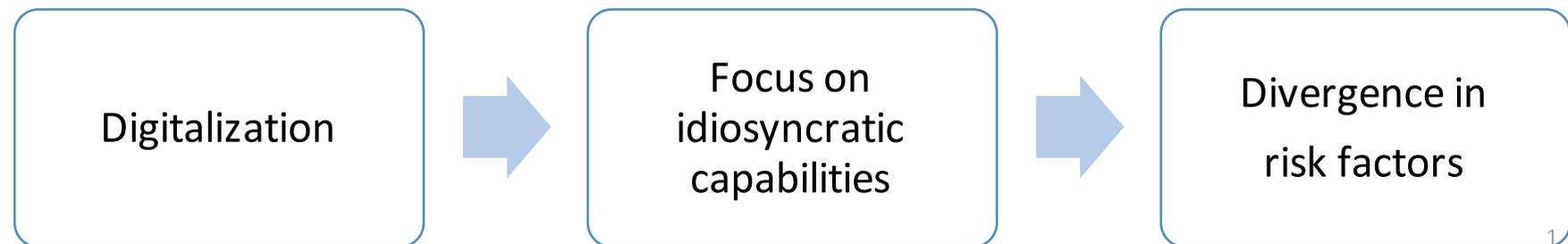
Digitalization → Convergence / divergence in risk factors

Industry boundary blurring (Kim et al. 2015)

Digitalization → connectivity (Lanzolla et al. 2019)



Focus on idiosyncratic capabilities (Lanzolla and Giudici, 2017)



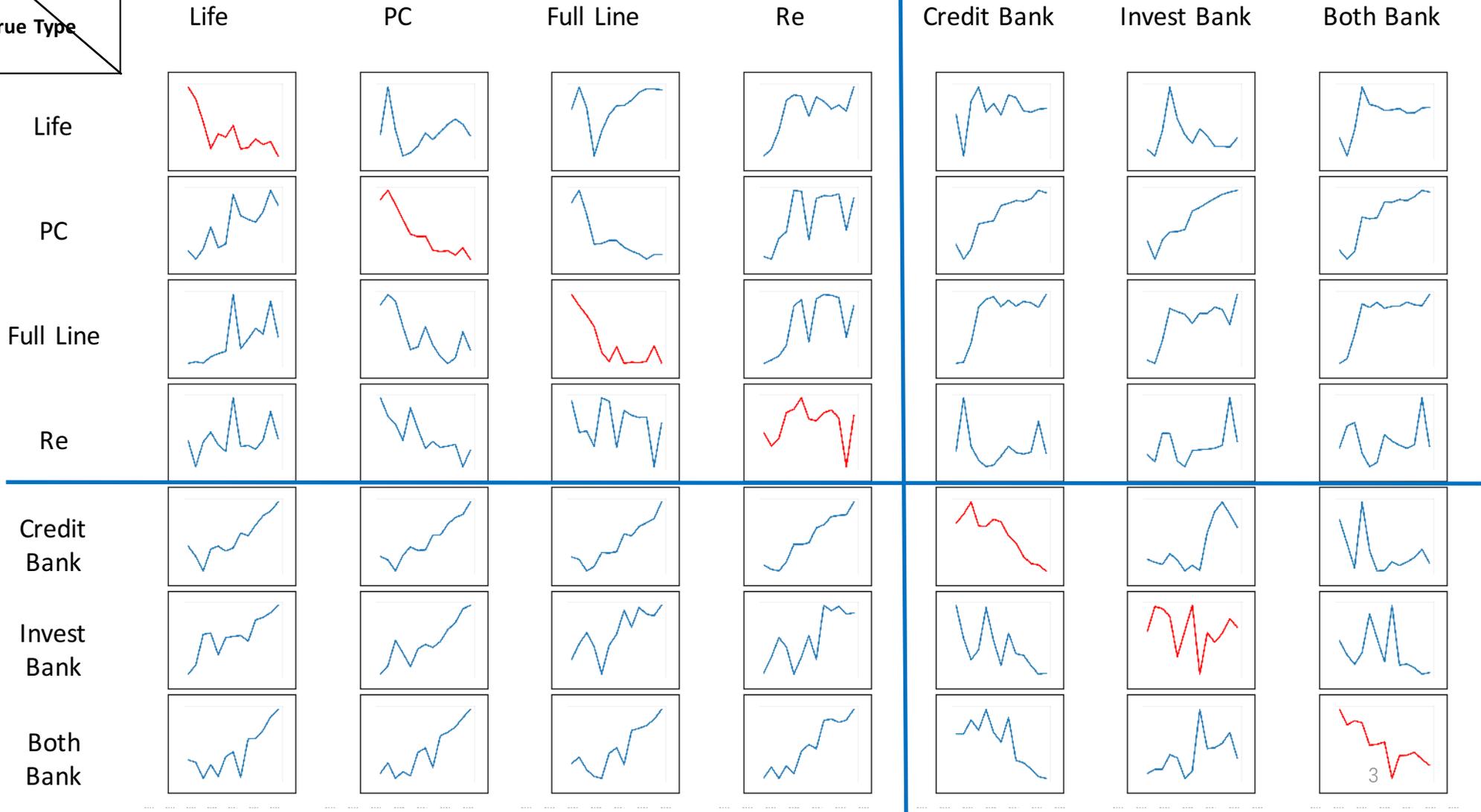
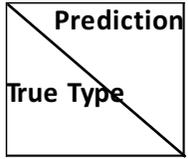
CONTEXT, DATA AND MEASURES

Text data: Item 1A Risk Factors, US 10-K forms (financial reports required by SEC), 2006-2018

Dependent variable: 'blurring' between insurers and banks

Blurring for an individual company is understood as the **difficulty in identifying the (sub-)industry** it belongs to, using a classification algorithm.

- Logistic Regression, applied on document word frequencies
 - Also testing other classifiers
- $Blur = 1 - Prob(true\ type)$
 - Calculated using leave-one-out cross validation
- Lower predicted probability of the true type → Less confidence in the accuracy of prediction → **More blurring**



Empirical results

- Independent variable: extent of digitalization
 - Cosine Similarity between digitalization keywords and Risk Factors of each company / year
 - Year fixed effects capture regulation changes

- Regression model

- $Blur_i = \alpha_1 + \beta_{11} \cdot digit_i + X_i \beta_{12} + \varepsilon_i$ (1)

- $Blur_{it} = \alpha_2 + \beta_{21} \cdot digit_{it} + X_{it} \beta_{22} + \gamma_{2i} + u_{it}$ (2)

- $Blur_{it} = \alpha_3 + \beta_{31} \cdot digit_{it} + X_{it} \beta_{32} + \gamma_{3i} + u_{it}$ (3)

	(1) Blur OLS	(2) Blur RE	(3) Blur FE
digit	0.089*** (0.012)	0.064*** (0.013)	0.056*** (0.017)
life	-0.584*** (0.056)	-0.488*** (0.133)	
pc	-0.129*** (0.037)	-0.197* (0.107)	
fullline	-0.059 (0.075)	0.150 (0.188)	
re	-0.981*** (0.114)	-1.039*** (0.181)	
credit	-0.468*** (0.023)	-0.620*** (0.074)	
invest	-0.143 (0.132)	-0.417* (0.241)	
Year FE	Yes	Yes	Yes
Obs.	7496	7496	7496

Thank you!

We are looking forward to hearing your feedback!

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