POLAC MANAGEMENT REVIEW (PMR)
DEPARTMENT OF ECONOMICS AND MANAGEMENT SCIENCE
NIGERIA POLICE ACADEMY, WUDIL-KANO

BANKING SECTOR CREDIT AND ECONOMIC GROWTH IN NIGERIA (1990 -2020)

Shettima, Fatima Abdullahi Ph.D Department of Business EducationSaadatu Rimi College of Education, Kumbotso, Kano

Farouq, Fatima Umar Department of Business EducationSaadatu Rimi College of Education, Kumbotso, Kano

Daba, Sani Aminu Department of Business EducationSaadatu Rimi College of Education, Kumbotso, Kano

Abstract

The paper examines the relationship between banking sector credit and economic growth in Nigeria spanning the period 1990 - 2020. The long run and short run relationship of variables of interest were established used Autoregressive distributed lag ARDL bound approach for cointegration analysis. The result of the analysis indicates that banking sector credit has positive insignificant relationship with economic growth in Nigeria over the period of coverage while domestic credit to private sectors impedes growth. The paper recommends the need for less credit facilities and more liberalization of economic policies to private sectors in order to stimulate economic growth in Nigeria.

Key words: Bank credit, Economic Growth, Autoregressive Distributed Lag (ARDL)

1. Introduction

Financial intermediaries and markets can alleviate market frictions through producing information and risk sharing in different ways. In practice, the structure of financial systems can be bank-based or market-based, varying across countries. The influence of financial structure on economic growth is dependent on the overall development of the real economy and institutions. The association is also different during crisis periods and non-crisis periods. Market-based systems tend to have an advantage for financially dependent industries in good times but are a disadvantage in bad times. The recent rapid growth of shadow banking benefits economic growth but also poses additional risks to the financial system and real economy. (Allen, Gu & Kowalewski, 2017)

In Nigeria, financial sector has grown steadily in recent times, albeit, the socio-economic peculiarities of the country, occasioned by weak institutional quality, poor governance, corruption and insurgency in some parts of the country, among others. Over the years, the stock market has been very active with high performance rating with reflecting a steady increase in margin loans to customers. The All Share Index (ASI) returned +40.99 per cent on year-to-dates (YTD), at end-December 2017, the highest by any African country during the period (Bloomberg, 2017).

The financial sector has been dubbed “the brain of the economy” (Mishkin 2006) in view of its essential role in allocating capital. Without an efficient financial sector, it is hard or even impossible to transfer idle funds to more efficient uses; new ideas, innovative products, and productive investments would therefore be abandoned,

and society would in turn be trapped in the status quo. It is therefore not surprising to find that historically and comparatively, economic prosperity has always been accompanied by financial development (Rajan and Zingales 2003; Rousseau and Sylla 2003). Greenwood et al. (2013) further show that financial development can explain approximately 23% of cross-country dispersion in output. Whereas the positive effects of financial development on economic performance have been questioned since the 2008 financial crisis, the literature as a whole seems to support the beneficial role of financial development in the process of economic growth (Arestis et al. 2015; Popov 2018; Valickova et al. 2015).

This study contributes to the existing literature on banking sector credit on economic growth in Nigeria by investigating the relationship between banking sector credit and economic growth in Nigeria using resent dataset. The findings will not only help to assess the extent to which banks stimulate economic growth but also indicate long run and short run relationships between banking sector credit and economic growth in Nigeria. This study is structure into five section. This includes Introduction, literature Review, methodology, data presentation and analysis of results and conclusion and recommendations of the study.

1. Literature review

2.1 Theoretical Review

The theoretical underpinning of this study lies on three competing theories of finance and economic growth nexus - supply-leading, demand-following and the feedback hypothesis purported by Greenwood and Jovanovic (1990). Firstly, the supply-leading or Finance-led growth hypothesis posits a causal relationship from financial growth to real growth. The deliberate creation of financial institutions and markets increases supply of financial services and catalyses growth in the real sector. Secondly, demand-following or growth-led hypothesis financial growth postulates a causal relationship from real growth to financial growth. As the real sector develops, the increased demand for financial services induces growth in financial sector. Thirdly, the feedback hypothesis or the "bi-directional causality view", This view postulates that the finance and economic developments are mutually causal, that is, they have bi-directional causality. According to this hypothesis, a country with a well-developed financial system could promote high economic expansion through technological changes, product and services innovation. This in turn will create high demand on the financial arrangements and services (Levine, Loayza, & Beck, (2000). As the banking institutions effectively respond to these demands, higher economic growth will be achieved. Both financial growth and economic developments therefore are inter-dependent, and their relationships could lead to bidirectional causality (Akintola, Oji-Okoro, & Itodo, 2020).

2.2 Empirical Review

Swamy and Dharani (2020) explore the finance and economic growth nexus in G-7 economies as these countries experience significantly higher levels of financial development. Using a balanced panel of 31 years from 1983 - 2013, it provides new evidence on the finance–growth relationship. It shows the presence of nonlinearity as there is an inverted U-shaped relationship between finance and growth in the long run. Estimating the thresholds in the finance–growth nexus, we notice that there exists a threshold effect of finance at 109% of Gross Domestic Product (GDP). They observe that exceeding the threshold would hinder the countries instead of furthering economic growth as too much finance is harmful. Based on the panel Granger causality test results, they claim that financial development should be associated with optimal growth performance. Their findings for the G-7 economies offer some useful policy inferences to the emerging and developing economies in designing their financial development strategies.

Akintola, Oji-Okoro, and Itodo.(2020) investigates the impact of the financial sector development on economic

growth in Nigeria, by looking at the independent contributions of the money, capital and foreign exchange markets to the growth of the economy, using quarterly data between 2000Q1 and 2019Q4.The results indicated that while financial deepening, banking system liquidity and all share index had positive and significant impact on the growth of real output in the long-run, the behaviour of exchange rate spread was consistent with falling levels of real output growth.

Liu and Zhang (2020) explore the endogenous mechanism between financial structure and economic growth. Their theoretical analysis shows that there exists an optimal financial structure evolving to meet different demands of the real economy in the process of economic development. They then investigate whether financial structure matters for economic growth using a panel data of 29 provinces across the eastern, central, and western regions in China from 1996 - 2013. The empirical results show that financial structure has a significant impact on economic growth. However, the effect of financial structure on regional economic growth varies and presents an inverse U-shape. These results confirm the evolving effect of financial structure on economic growth at different stages of economic development.

Cave, Chaudhuri and Kumbhakar (2020), utilize a multiple indicators multiple causes (MIMIC) model to create a more complete measure of financial development. In doing this, they treat banking sector and stock market developments as two latent indicators of financial development, and use the MIMIC model to predict them which are used as their proxies. Using data from 101 countries over the period 1990- 2014, they use the predicted values of the two latent variables as regressors, among other controls, in the growth regression. They found a robust negative relationship between banking sector development and economic growth whereas the effect of stock market development on economic growth is positive up to a threshold after which the effect becomes negative.

Benczúr, Karagiannis, and Kvedaras,. (2019), focuses on groups of high-income countries (OECD, EU, and EMU), this study shows that the finding of a non-linear, hump-shaped impact of financing on economic growth is robust to controlling for financing composition in terms of the sources (bank credit, debt securities, stock market) and the recipients of finances (households, non-financial and financial corporations), or both. In particular, we obtain the following results. First, the non-linear impact of total bank credit is more pronounced than that of either household credit alone, or the sum of bank credit, debt securities, and stock market financing. Second, credit to non-financial corporations tends to have a positive, while credit to households a negative impact on growth, even after allowing for non-linearity. Third, debt-securities and stock market-based financing have a different impact on growth. Finally, the estimated turning point of the non-linear relationship is close to that found by Cournède and Denk (2015) for the OECD countries, and lower than that established by Arcand, Berkes, and Panizza (2015) for a broad set of countries.

Innocent, Ademola and Glory (2019) examines the influence of bank credits on the Nigerian economy using time series data covering the period from 1980 to 2017.Gross domestic product was used as proxy for the economy while credits to the private sector, public sector and prime lending rate were used as proxies of Banks credits. Unit root test was used to test stationary which reveals that all the variables were stationary at first difference. The regression analysis result shows that credit to the private sector have positive effect on Nigerian economy while credit to public sector and prime lending rate have negative effect on the Nigerian economy. The result of co-integration test presented reveals that there exist among the variables co-integration which means long-run analysis.

Asteriou, and Spanos, (2019), examine the relationship between financial development and economic growth on the face of the recent financial crisis, using a panel dataset of 26 European Union countries over the period 1990–2016. The empirical approach uses multiplicative dummies to compare two distinct sub-periods before/after the crisis. The results show that before crisis, financial

development promoted economic growth, while after the crisis it hindered economic activity. Also, the findings suggest that during the years 2008 and 2009 the capital adequacy of banks protected depositors and promoted the stability of the financial system.

Fufa and Kim (2018) studies the role of financial development in economic growth, they apply an array of convergence tests designed to capture nonlinear transitional dynamics to real outputs per capita. Strong evidence of multiple convergence clubs is observed, implying that the clubs are formed based on the initial level of real output per capita and average growth rate. Their empirical results show that the stage of economic growth of each country plays an important role for the composition of the convergence clubs. Furthermore, financial development emerges to be a significant determinant, albeit plays differently in the economic growth of each convergence club.

Hou and Cheng (2017) study provides new evidence on the long- and short-term effects of life insurance, banking, and stock markets on economic growth using the pooled mean group (PMG) technique. The sample consists of 31 countries and covers the period from 1981 - 2008. They contribute to the existing literature in two ways. First, they examine whether variations in time series averaging methods, used for a generalized method of moment's estimator (GMM), affect the robustness of the effect of financial activities on growth. Second, they explore the long- and short-term effects as well as the nonlinear effect of the finance–growth nexus. The results of the entire sample analyzed using GMM and PMG estimators provide robust evidence that private credit impedes economic growth. However, the effects of life insurance and stock market on growth are not robust for GMM estimator using different time series averaging procedure. Their findings further suggest that the effects of financial activities on growth vary with the time period, income level, and financial development. That is, countries at different levels of development should engage in different financial activities to ensure sustainable growth.

Empirical literatures on the relationship between banking sector credit and economic growth presents mixed results, some literature supports that positive relationship between banking sector credit and economic growth exist. For instance, Chu, (2020), Liu and Zhang (2020), Ngo and Le (2019), Asteriou and Spanos (2019), Toh, Gan, and Li (2019), Ugolini (2019) and Barajas, Chami and Yousefi (2016) while study by Cave, Chaudhuri, and Kumbhakar (2020), Lin (2020), Swamy and Dharani (2019), Shen, Fan, Huang, Zhu, and Wu (2018) and Valickova, Havranek and Horvath (2015) opine negative relationships.

3. Methodology

The paper used secondary data specifically annual time series data for Gross Domestic Product per capita proxy for Economic growth as the dependent variable, while Explanatory variables for the paper include Banking sector credit and Domestic credit sector to private sector. Annual data for these variables was sourced from World Bank dataset.

The paper follows the model adopted by Aniekan, Akpansung and Babalola (2011) with slight modification to suit the current situation of capture relevant variables to analyse the relationship of banking sector credit and economic growth in Nigeria. The paper used Autoregressive distributed lag ARDL bound approach to cointegration analysis developed by Pesaran et al. The model specifies the relationship between Banking Sector Credit (BSC), Domestic Credit to Private Sector (DCP) explanatory variables and Gross Domestic Product (GDP) dependent variable. The estimation is carried out for the period 1990 to 2020.

Hence, Model was implicitly specified as follows:

$$GDPP = f(BSC, DSP) \quad \text{..... (1)}$$

While the econometric model are as follows:

$$GDP = \beta_0 + \beta_1 BSC + \beta_2 DCP + \mu \quad \text{.....(2)}$$

Apriori expectation of Banking sector credit, domestic credit to private sector are expected to be positively related to Gross Domestic product per capita proxy to Economic Growth.

4. Presentation and Discussion of Result

4.1 Stationary property of the variables

To ascertain the level of stationarity of the series, the variables in the model are subjected to unit root test, The Augmented Dickey Fuller (ADF) and Phillip Perron (PP) test are used. For annual data on variables for the period 1990 - 2020, the results of the ADF test and PP test are presented in table 1.

Table 1: Results of Unit root test

VARIABLES	ADF TEST		PP TEST		ORDER OF INTEGRATION
	@LEVELS	@1ST DIFF	@LEVELS	@1ST DIFF	
GDP	**-0.742(0.826)**	**-3.702(0.009)**	**-0.895(0.775)**	**-3.716(0.009)**	**I(1)**
BSC	**2.043(0.999)**	**-3.493(0.015)**	**2.6129(0.99)**	**-3.376(0.020)**	**I(1)**
DCP	**-1.580(0.479)**	**-2.990(0.047)**	**-1.195(0.663)**	**-2.708(0.008)**	**I(1)**

Source: Eviews 9 Output

Both the ADF test and the PP test for GDP, BSC and DCP indicate that the series is non stationary in levels. However, the first differences of the series are stationary as per both tests. Hence, the variables GDP, BSC and DCP are integrated of order one I(1).

4.2 Existence of long-run cointegration

ARDL model specifies the relationship between GDP (dependent variables) and BSC, DCP (explanatory variable). The existence of long-run cointegration relationship for GDP, BSC and DCP is investigated in Table 1. Maximum lag order for various variable in the model is set at four (m=4) and the estimation is carried out for the period 1990 - 2020.

Table 2: Testing for existence of a level relationship among the variables in the ARDL model

F-statistic	95% Lower Bound	95% Upper Bound	90% Lower Bound	90% Upper Bound
7.4621	**5.6824**	**6.9064**	**4.6872**	**5.6769**

Source: Author's computation using Microfit 5.0

The computed F statistics is **7.4621** which exceeds the **95%** upper bound **6.9064** implies that there exist a long run cointegration relationship between economic growth, banking sector credit and domestic credit to private sector in Nigeria. The paper estimated the long run coefficients by estimating an ARDL model using Univariate ARDL cointegration test option of Microfit 5.0 with maximum lag m=4. Table 3 presents the estimated long run coefficient for the model based on ARDL (3,0,2) specification selected using Schwarz Bayesian Criterion.

Table 3: Estimated Long Run Coefficients using the ARDL Approach

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
BSC	**0.016312**	**0.040195**	**0.40581[.690]**
DCP	**-66.3142**	**12.9754**	**-5.1108[.000]**
INPT	**8088.5**	**1575.9**	**5.1325[.000]**
TREND	**89.1344**	**31.6869**	**2.8130[.012]**

Source: Author's computation using Microfit 5.0

The estimated coefficient of the log run relationship indicates that banking sector credit has positive insignificant relationship with economic growth at 5% level. Thus, any unit increase in banking sector credit increases economic growth by **0.016312** although not significant. The insignificant banking sector credit may be as a result of the challenging operating environment, currency devaluation and other macro challenges that continue to place roadblocks in the sectors path, while domestic credit to private sector has a negative significant relationship with economic growth in Nigeria in the long run. Domestic credit to private value indicates that a unit increase in Domestic credit to private reduces economic growth by 66.3142. This suggests to achieve economic growth there is need to reduce domestic credit to private sectors in Nigeria.

Table 4: Error Correction Representation for the Selected ARDL Model

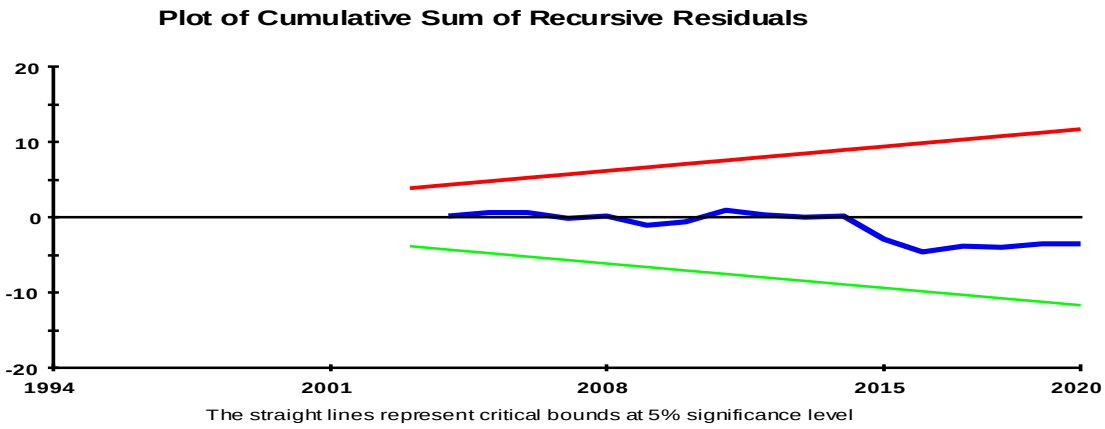
Regressor	Coefficient	Standard Error	T-Ratio[Prob]
dGDPPER1	**0.72903**	**0.20982**	**3.4746[0.003]**
dGDPPER2	**0.29569**	**0.18506**	**1.5978[0.127]**
dBSC	**0.010274**	**0.027078**	**0.37943[0.709]**
dDCP	**-40.5868**	**9.8538**	**-4.1189[0.001]**
dDCP1	**37.7755**	**11.4929**	**3.2868[0.004]**
dTREND	**56.1420**	**16.6168**	**3.3786[0.003]**
ecm(-1)	**-0.62986**	**0.16999**	**-3.7053[0.002]**

Source: Author's computation using Microfit 5.0

Table 4 shows the short run coefficients estimates. The error correction coefficient for dBSC and dDCP estimated at -0.62986 is statistically significant at 5% level, has the correct negative sign implies a speed of adjustment of 62% to equilibrium. The ecm(-1) further confirms the existence of a stable long run relationship indicating economic growth, banking sector credit and domestic credit to private sector are cointegrated. The coefficient of the error term (ecm -1) implies that the deviation from long run equilibrium level of economic growth of current year is corrected by 62% in the next year to bring to back equilibrium.

4.3 CUSUM and CUSUM-SQ test for stability

These two are applied to examine the stability of the long run coefficient together with short run dynamics (Pesaran and Pesaran, 1997). The tests are applied to the residuals of all variables of ARDL (3,0,2) model. Figure 1 and 2 are graphical representation of CUSUM and CUSUM-SQ plots. Both CUSUM and CUSUM-SQ plots of the variable do not cross the critical bound which indicates no evidence of any evidence of any significant instability



.

Fig 1: CUSUM

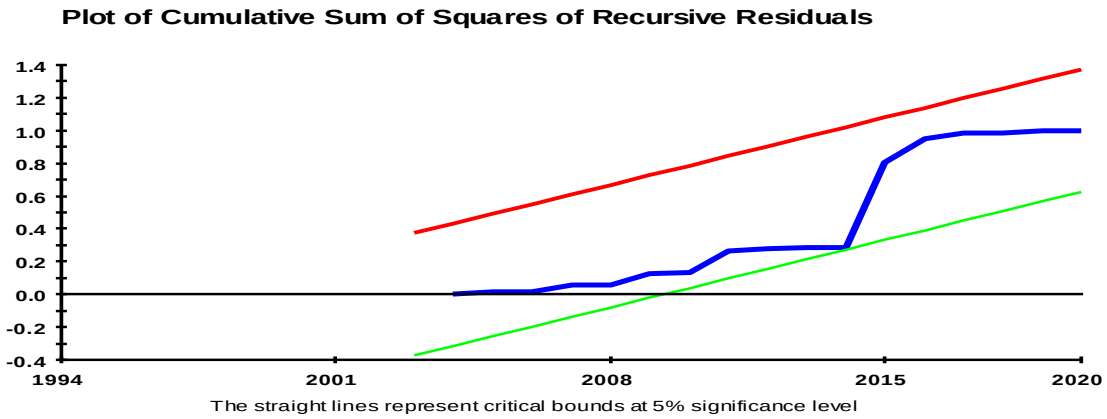


Fig 2: CUSUM-SQ test

5. Conclusion and Recommendations

The paper investigates the relationship between banking sector credit and economic growth in Nigeria over the period 1990 - 2020. The long run and short run relationship of variables of interest were established using Autoregressive distributed lag ARDL bound approach to cointegration analysis. The result of the analysis indicate that banking sector credit has positive insignificant relationship with economic growth in Nigeria over the period of coverage while domestic credit to private sectors impedes growth which is contrary to expectation.

The paper recommends the need for less bank credit and more liberalization of economic policies to private sectors in order to stimulate economic growth in Nigeria.

References

Akintola, A. A, Oji-Okoro, I. and Itodo, I. A. (2020) Financial Sector Development and Economic Growth in Nigeria: An Empirical Re-Examination, *Central Bank of Nigeria Economic and Financial Review 58(3).*

Allen, F., Gu, X., and Kowalewski, O. (2018). Financial structure, economic growth and development. In: Beck, T. and Levine, R. (Eds.), *Handbook of finance and development*. Edward Elgar, Cheltenham, UK and Northampton, MA, USA, 31–62.

Arestis, P., Chortareas, G., and Magkonis, G. (2015). The financial development and growth nexus: a meta-analysis. *J. Econ. Surv.* 29(549–565).

Asteriou, D. and Spanos, K. (2019). The relationship between financial development and economic growth during the recent crisis: evidence from the EU. *Finance Res. Lett.* 28: 238–245.

Barajas, A., Chami, R., and Yousefi, S.R. (2016). The finance and growth nexus re-examined: do all countries benefit equally. *J. Bank. Financ. Econ.* 1: 5–38.

Benczúr, P., Karagiannis, S., and Kvedaras, V. (2019). Finance and economic growth: financing structure and non-linear impact. *J. Macroecon.* 62: 103048.

Cave, J., Chaudhuri, K., and Kumbhakar, S.C. (2020). Do banking sector and stock market development matter for economic growth empirical economics. *Empir. Econ.* 59(1513–1535).

Chu, L.K. (2020). Financial structure and economic growth nexus revisited. *Borsa Istanb. Rev.* 20(24–36).

Fufa, T. and Kim, J. (2018). Financial development, economic growth and convergence clubs. *Appl. Econ.* 50(6512–6528).

Greenwood, J., Sanchez, J.M., and Wang, C. (2013). Quantifying the impact of financial development on economic development. *Rev. Econ. Dynam.* 16(194–215).

Greenwood, J., & Jovanovic, B. (1990). Financial development, growth, and the distribution of income. *The Journal of Political Economy, 98(5),* Part1, 1076-1107.

Hou, H. and Cheng, S.-Y. (2017). The dynamic effects of banking, life insurance, and stock markets on economic growth. *Jpn. World Econ.* 41(87–98).

Innocent, I. O., Ademola, O. G., & Glory, E. W. (2019). Influence of Bank Credits on the Nigerian Economy. *American Economic & Social Review, 5*(1), 1-9.

Levine, R., Loayza, N., & Beck, T. (2000). Financial intermediation and growth: Causality and causes. *Journal of Monetary Economics, 46*, 31-77.

Lin, L. (2020). Bank deposits and the stock market. *Rev. Financ. Stud.* 33(2622–2658).

Liu, G. and Zhang, C. (2020). Does financial structure matter for economic growth in China. *China Econ. Rev.* 61(101194).

Mishkin, F.S. (2006). *The next great globalization: how disadvantaged nations can harness their financial systems to get rich*. Princeton University Press, Princeton, NJ.

Ngo, T. and Le, T. (2019). Capital market development and bank efficiency: a cross-country analysis. *Int. J. Manag. Finance* 15(478–491).

Popov, A. (2018). Evidence on finance and economic growth. In: Beck, T. and Levine, R. (Eds.), *Handbook of finance and development*. Edward Elgar, Cheltenham, UK and Northampton, MA, USA, 63–104.

Rajan, R.G. and Zingales, L. (2003). *Saving capitalism from the capitalists: unleashing the power of financial markets to create wealth and spread opportunity*. Crown Business, New York.

Rousseau, P.L. and Sylla, R. (2003). Financial systems, economic growth, and globalization. In: Bordo, M.D., Taylor, A.M., and Jeffrey, G. (Eds.), *Globalization in historical perspective*. University of Chicago Press, Chicago, 373–416.

Shen, C.-H., Fan, X., Huang, D., Zhu, H., and Wu, M.-W. (2018). Financial development and economic growth: do outliers matter. *Emerg. Mark. Financ. Tr*. 54(2925–2947).

Swamy, V. and Dharani, M. (2019). The dynamics of finance-growth nexus in advanced economies. *Int. Rev. Econ. Financ*. 64(122–146).

Swamy, V. and Dharani, M. (2020). Thresholds in finance-growth nexus: evidence from G-7 economies. *Australian Economic Papers*, (Epub ahead of print).

Toh, M.Y., Gan, C., and Li, Z. (2019). Revisiting the impact of stock market liquidity on bank liquidity creation: evidence from Malaysia. *Emerg. Mark. Financ. Tr*. 55(1776–1802).

Ugolini, S. (2019). The coevolution of banks and corporate securities markets: the financing of Belgium's industrial take-off in the 1830s. *Business History*, (Epub ahead of print).

Valickova, P., Havranek, T., and Horvath, R. (2015). Financial development and economic growth: a meta-analysis. *J. Econ. Surv.* 29(506–526).