

BANKING ON FAMILY: WHAT WAS THE ROLE OF FAMILY IN THE ESTABLISHMENT OF BANKS IN NINETEENTH CENTURY SOUTH AFRICA?

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Abstract

Banks act as an intermediary between those with funds and those who seek funds for economic enterprises. They are a source of credit and capital investment and their economic value is clear. However, what is not known is what the impact of social connections, especially familial connections, between shareholders are on the establishment of banking connections. Using data from nineteenth century South Africa, we study the establishment of colonial banks and their shareholder profile. We show, using network analysis, that family connections and influential individuals were key to the establishment of these banks. This research opens new lines of inquiry into how these network structure may influence the success of these ventures as well.

Key words: banks, colonial, South Africa, networks, shareholders

INTRODUCTION

Banks played an important role in the development of the South African economy in the mid-eighteenth century, providing credit and capital for investment, much of it drawn in turn from the shareholders who backed the banks. Recent literature has emphasised that banking in this period in New England and elsewhere was heavily dependent on informal networks – including of kinship – both to raise the money and to control its allocation, and thus its economic effects. However, these have largely been impressionistic surveys which have lacked the quantitative basis with which to test these arguments. The survival of several lists of shareholders from the banks established in South Africa during the 1850s provides the basis for a network analysis of the connections of individual shareholders, in conjunction with the contextual data of kinship, age, ethnicity and occupation supplied for over forty per cent of investors by the South African Family Register. This analysis confirms the strong importance of networks of kinship and ethnicity amongst shareholders of these banks, and the significance of key individuals as nodes in this network through whom information might have been disseminated. This helped to support the initial formation of the South African banking network, but also introduced several long-term problems which dogged subsequent phases of expansion after 1861.

NETWORKS AND BANKS: WHAT WE KNOW

In neoclassical economics, agents such as individuals are assumed to be rational and that all decision-making takes place based on full information. However, in sociology and history, individuals and their decision-making are embedded in the society in which these individuals find themselves. Granovetter called this the problem of embeddedness.¹ The recent increase in computational power and information has

¹ M. Granovetter, 'Economic action and social structure: The problem of embeddedness', *American journal of sociology*, 91, 3 (1985), pp.481-510.

enabled economists to exploit network analysis to study embeddedness and how networks influence decision-making. In more recent work, he offers three reasons why networks are important for economic outcomes: it affects the flow of information, reward and punishment are distributed through networks, and trust is determined by the network.² This suggests that networks are important to many different aspects of human behaviour and in turn, have an impact on economic outcomes. Network analysis is the key method to study networks and economic outcomes.³ It has been applied to community development, migration patterns, and labour markets.⁴

It has also been applied to finance and banking, which will also be our focus here. A seminal paper by Banerjee et al. showed how networks were essential for the diffusion of micro-finance in India.⁵ Since the Great Recession, many articles have focused on how the links between financial institutions caused spill overs and contagion between these institutions. Elliott et al. develop a model of financial contagion.⁶ Using a network-based approach, they show that diversification and integration between financial institutions have different effects on contagion depending on the network structure. We propose to investigate another aspect of networks, banking and the potential for contagion, namely family connections and the establishment of private joint banks. In the nineteenth century South Africa, these banks were established and gained quick traction despite resistance from the government at the time. However, we do not have a description of the shareholders nor the role that networks, specifically family networks played in the establishment of these banks. It is our proposal to study this here. Were family connections important for the establishment of banks? And if they were, was this limited to specific banks or not? By using network analysis, we identify individuals who might have been influential in more than on bank, and highlight the possibilities and scope for future work into both multilateral investment and the potential for contagion as financial conditions changed.

² M. Granovetter, 'The impact of social structure on economic outcomes', *Journal of economic perspectives*, 19, 1 (2005), pp.33-50.

³ M. Granovetter, 'The strength of weak ties', *American Journal of Sociology*, 78, 6 (1973), pp. 1360-1380.

M.O. Jackson, *Social and economic networks* (Princeton, Princeton University Press, 2008).

M.O. Jackson, 'Networks in the understanding of economic behaviors', *Journal of Economic Perspectives*, 28, 4 (2014), pp.3-22.

⁴ K. Munshi, 'Community networks and the process of development', *Journal of Economic Perspectives*, 28, 4 (2014), pp.49-76.

C. Parsons and P.L. Vézina, 'Migrant Networks and Trade: The Vietnamese Boat People as a Natural Experiment', *Economic Journal*, 128, 612 (2018), pp. F210-F234.

J.D. Montgomery, 'Social networks and labor-market outcomes: Toward an economic analysis' *American Economic Review* 81, 5 (1991), pp. 1407–1418.

L. Beaman and J. Magruder, 'Who gets the job referral? Evidence from a social networks experiment', *American Economic Review*, 102, 7 (2012), pp.3574-3593.

⁵ A. Banerjee, A.G. Chandrasekhar, E. Duflo, and M.O. Jackson, M.O., 'The diffusion of microfinance' *Science*, 341, 6144 (2013), p.1236498.

⁶ M. Elliott, B. Golub and M.O. Jackson, 'Financial networks and contagion', *American Economic Review*, 104, 10 (2014), pp.3115-3153.

Applying network analysis to the shareholder profile also makes it possible to address a further question, as to whether this affects the success of the enterprise. Merton and Bodie provides five functions by which to judge the performance of a financial system.⁷ The most important of these functions for the South African context is that financial systems offer a way to pool funds and undertake large-scale enterprises. The historical evolution of many financial systems and businesses in general are based on networks. Studies have shows that in the American context exchange was difficult if there were no networks based on family, religion or long-term association.⁸ Besides enabling the mobilisation and pooling of funds, Merton and Bodie⁹ also notes that the construction of strong networks of weak ties can enable individuals and companies to overcome information asymmetries. Stulz discusses how the information asymmetry between the entrepreneur and investor could be mitigated through future arrangements like dividend payment or cash-flow incentives.¹⁰ However, he states that this would only be one measure of the success of an enterprise. Therefore, if strong connections between the shareholders did exist in South African banks in the 1850s, as the studies cited have shown for the United States in the nineteenth century, then it could be assumed that there is less asymmetry in information, and that further work would show that this led to greater financial success. This result would correspond with Mabin's findings in the later period of South African banking after 1860¹¹, where he proposed that the banks had a high level of connection with local shareholders and therefore supported specific local developmental projects.

Our aim therefore is to determine the shareholding structure within and between these banks, the degree of interconnection, and thus the potential for information sharing, commercial success and financial contagion. This is because these networks determined the shareholder structure, and in turn the business of the bank. One way through which this could happen is the disproportionate influence of the large shareholder, and as Levine shows, to maximize private benefit at the expense of the small shareholder through managerial influence and election of members to the boards.¹² By identifying and measuring these large shareholders in South African

⁷ R. Merton and Z. Bodie, 'A Conceptual Framework for analyzing the financial environment' in D. Crane, K. Froot and S. Mason (eds), *The Global Financial System: A Functional Perspective* (Boston, Harvard Business School, 1995), p. 5.

⁸ N.R. Lamoreaux, D.M.G. Raff, and P. Temin, 'Beyond Markets and Hierarchies: Towards a New Synthesis of American Business History,' *American Historical Review* 108, 2 (2003), pp. 404-33. N.R. Lamoreaux, *Insider Lending: Banks, Personal Connections, and Economic Development in Industrial New England* (New York, Cambridge University Press, 1994).

⁹ Merton and Bodie, 'Conceptual Framework'.

¹⁰ R.M. Stulz, 'Merton Miller's Contributions to Modern Finance', *Journal of Applied Corporate Finance*, 13, 4 (2001), pp.8-28.

¹¹ A. Mabin, 'Concentration and dispersion in the banking system of the Cape Colony, 1837-1900', *South African Geographical Journal*, 67, 2 (1985), pp.141-159.

¹² H. DeAngelo and L. DeAngelo, 'Managerial ownership of voting rights: A study of public corporations with dual classes of common stock', *Journal of Financial economics*, 14, 1 (1985), pp.33-69.

L. Zingales, 'The value of the voting right: A study of the Milan stock exchange experience', *Review of Financial Studies*, 7, 1 (1994), pp.125-148.

banks in the 1850s, as individuals who are central to the wider network of shareholders, we can therefore identify the potential for their impact on banking priorities. This is particularly important because South Africa in this period arguably possessed a 'bank-based' system rather than a 'market-based' system. Demirgüç-Kunt and Levine argue that in market-based systems, securities markets are central, while in bank-based systems, banks are central to mobilising savings, and the lack of a formal stock exchange or securities market in South Africa before 1887 strongly suggests that the colony fell into this latter category.¹³ This is further supported by the small economic units that these banks supported – small scale, individual farmers selling to small retail dealers.¹⁴ This makes the South African banking context of the 1850s an effective case study for the study of networks and shareholders in banking, and our analysis shows that there was a higher level of connectivity within the system at this point than previous scholarship has recognised, suggesting that a high potential existed for overcoming informational asymmetries. This also made it vulnerable to contagion however, potentially leading to the collapse of numerous colonial banks during the crisis of 1865.¹⁵

SOUTH AFRICAN BANKING: A HISTORY WITH COMPARISON TO OTHER REGIONS

Banking in South Africa developed in three main phases in the nineteenth century. The first was between 1793 and 1837, with the formation of a Lombard or loan bank by the Dutch East India Company administration in 1793.¹⁶ This was followed by a discount bank by the British administration in 1806. Both were under government control, and commercial banks did not enter the scene until 1836, when promoters in London and Cape Town presented competing proposals. Both were blocked by the Colonial Office, but the second group pushed on regardless and set up the Cape of Good Hope Bank in 1837 as an unincorporated partnership based on a deed of settlement. This led to the second phase of development, as further banks emerged on the same basis between 1838 and 1861, initially concentrated in Cape Town and the leading towns of the eastern Cape but then spreading to the rural provinces of the western and eastern Cape and new territories in British Kaffraria and Natal. Two banks were founded before 1840, then eight banks in the 1840s and thirteen in the 1850s. When imperial banks began to appear in the third phase after 1861, to fund the expanding wool industry and exploit new mineral deposits, they therefore encountered a relatively mature banking system. Cape Town alone had five major joint-stock banks, most with capitals over £100,000 and several thousand shareholders. Grahamstown and Port Elizabeth had two large banks apiece with similar capitals, while all the leading towns in each district had smaller independent banks with capitals between £20,000 and £50,000. The total nominal capital was

R. Levine, *The corporate governance of banks: A concise discussion of concepts and evidence* (Washington, The World Bank, 2004).

¹³ A. Demirgüç-Kunt and R. Levine, 2004. '*Financial structure and economic growth: A cross-country comparison of banks, markets, and development*' (Cambridge, MIT press, 2001).

¹⁴ We thank Prof. Robert Ross for this valuable insight.

¹⁵ E.H.D Arndt, *Banking and Currency Development in South Africa 1652 – 1927*, (Pretoria, Juta, 1928).

¹⁶ Ibid.

about £1.5 million, the total paid-up capital about two-thirds of that, and the banks circulated between them nearly £350,000 in bank notes in 1861, besides investing large amounts of money in local mortgages and bill discounting, making them a very important component in the wider regional economy.¹⁷

Banking in South Africa before 1861 therefore consisted of many unit banks, about thirty in total, whose shares were floated locally and whose capital was invested in local mortgages and paper. They both reflected and exacerbated key features of the South African economy in this period. The western Cape was dominated by arable agriculture, mainly wheat and wine, and had entered a long period of decline after the 1820s due to the abolition of slavery and indentured service, the lack of export markets and the migration of *trekboers* northwards away from British control. As a result, banks tended to have smaller capitals. By contrast, the expanding frontiers of the eastern Cape were dominated by pastoral agriculture and, from the 1830s, by widespread investment in the production of wool for export to Britain to supply the textile factories of Yorkshire.¹⁸ As in Australia during the same period, where banks played an important role in sustaining the export trade, both long- and short-term credit was urgently needed to support the opening up of new pasturage and to enable farmers to support themselves while wool was shipped to Britain for sale.¹⁹ Cape Town was an important emporium for the export of wool and the sale of manufactured goods imported from Britain and elsewhere, as well as a source of capital in its own right, and the several large commercial banks founded there specialised in supporting merchants through remittances and bill discounting.

Banks in South Africa therefore bore little resemblance to those of England, Scotland or Ireland during this period, which were increasingly dominated by large joint-stock branch banks and supported by the Bank of England and large banking institutions such as the Bank of Scotland, the Royal Bank of Scotland and the Bank of Ireland. Neither did they resemble banks in Australia, where, by the 1830s and 1840s, there was a mixture of local unit banks, colonial branch banks and transnational imperial banks headquartered in London.²⁰ Instead, they more closely resembled the banks found in the United States, which tended to be small, local unit banks founded and run by and for local elites, even in settled regions such as the north-eastern states (Dowd, 1992; Lamoreaux, 1996).²¹ As Lamoreaux has shown, these resulted in dense networks and clusters of overlapping shareholders and interlocking directorships. Although characterised by 'insider lending', with directors frequently loaning money

¹⁷ Ibid.

A.C. Webb, *The roots of the tree: a study in early South African banking: the predecessors of First National Bank, 1838-1926* (Johannesburg, First National Bank of Southern Africa, 1992).

¹⁸ T. Keegan, 1997. *Colonial South Africa and the Making of the Racial Order*, (Charlottesville, Virginia: University Press of Virginia, 1996).

¹⁹ A. Barnard, *The Australian Wool Market*, (Melbourne: Melbourne University Press, 1958).

²⁰ S.J. Butlin, *Foundations of the Australian Monetary System, 1788-1851*, (Sydney, University of Sydney, 1953).

²¹ K. Dowd, 'Free banking in Australia' in K. Dowd (ed), *The Experience of Free Banking* (London, Routledge, 1992).

Lamoreaux, *Insider Lending*.

to their own industrial and commercial enterprises, the result was an economic system where limited local capital was directed into productive local enterprises rather than being abstracted for speculation elsewhere. 'Investment in bank stock, consequently, was a way in which ordinary savers could participate in the activities of the region's most prominent entrepreneurs', notes Lamoreaux, '... and they proved to be extraordinarily effective vehicles for channelling savings into economic development'.²² The situation persisted until the late nineteenth century, when the growing abundance of capital made insider lending less important for raising capital and forced the adoption of professional standards.

The composition of the shareholders in South African banks was thus of crucial importance for its own process of economic development. As in the United States, settlers in South Africa lacked easy access to large capital markets, or even to easy means of remittance and exchange, and banks faced intense competition with each other to attract deposits. Especially in the early years of each bank, which set the tone for their development, shareholders therefore had disproportionate influence over how big the capital of the bank was and were a powerful voice in how it should be employed. In Swellendam, for instance, the family firm of Barry & Nephews was the largest single economic force in the region, and thus the Swellendam Bank founded in 1852, in which the Barrys were leading shareholders²³, was to all intents and purposes an extension of their existing mercantile network²⁴, as we will show in the following sections. The patriarch of the Barry family, Joseph Barry, first arrived in the Cape Colony as a wine merchant in 1819. The firm then diversified into other areas and monopolised the general merchandise trade of the region, and also expanded into the lucrative export trade in wool.²⁵ The South African Central Bank in Graaff-Reinet was likewise strongly supported by the Mosenthals, a family firm of German Jewish merchants who dominated trade in the district, and they were initially able to exercise considerable influence over it.²⁶ By the same token though, investment in local bank shares by outsiders, above all the merchant capitalists of Cape Town, was one of the few ways which capital could be injected into the region and the banks subordinated to the priorities of those interests.²⁷

Moreover, although the third phase in the development of South African banking began with the introduction of these imperial banks, there were key continuities

²² Ibid, p.5

²³ From the SAF records, we know that Joseph Barry, the patriarch of the family, as well as younger generations afterward married into the Van Reenen family. The Van Reenen family was a prominent entrepreneurial family of the Cape Colony (G. Groenewald, 'Dynasty building, family networks and social capital: Alcohol pachters and the development of a colonial elite at the Cape of Good Hope, c. 1760-1790', *New Contree*, 92 (2011), pp. 23-53). We thank Prof Robert Ross for showing this out to us.

²⁴ Arndt, *Banking and Currency Development*.

²⁵ A.P. Buirski, 'The Barrys and the Overberg', (M.A. thesis, Stellenbosch University, 1952).

²⁶ D. Fleischer and A. Caccia, *Merchant Pioneers. The House of Mosenthal* (Johannesburg, J Ball, 1984).

²⁷ S. Dubow, *Land, labour and merchant capital in the pre-industrial rural economy of the Cape: the experience of the Graaff-Reinet District (1852-72)* (Cape Town, University of Cape Town, 1982).

with the second phase.²⁸ Although the London and South African Bank arrived in 1861 and proposed to open branches directly, its rival, the Standard Bank of British South Africa, arrived in 1863 'with the avowed object of absorbing as many local banks as possible.'²⁹ The Commercial Bank of Port Elizabeth was taken over almost immediately, for instance, with its shareholders receiving stock in the Standard Bank at a ten per cent premium. Since the directors of local banks were often retained as managers of the new branches, while local investors became shareholders of the new imperial banks, this led to important continuities in business practices and priorities which affected in turn how the imperial banks operated as they expanded and either absorbed or outlasted the colonial banks.³⁰ By 1900 there were only four commercial banks in the colony, with over 100 branches, which concentrated power in the hands of remote directors and shareholders but also continued to reflect the influence of the banks they had absorbed.³¹ The profile of shareholders among local banks in the 1850s therefore created path-dependencies which continued to affect South African finance after 1861 and its subsequent economic development. Where their records survive, it is possible to recover this profile and marry it with contextual data to establish how this shaped the long-term development of the banking sector.

SHAREHOLDER DATA

Because many of the small local banks founded in the 1850s subsequently collapsed or were absorbed over by other banks in the late nineteenth century, the survival of the records of their shareholders is patchy, and the data has therefore been collated from several sources. The Beaufort West Bank, Swellendam Bank and the Cape Commercial Bank published lists of their shareholders in pamphlets which are now held by the National Library of South Africa in Cape Town (Beaufort West Bank, 1854; Swellendamsche Bank, 1852; Cape Commercial Bank, undated but circa 1854). Manuscript copies of the deeds of settlement of the Commercial Bank of Port Elizabeth and the British Kaffrarian Bank are held by the Standard Bank Group Archives in Johannesburg (PE A1/13; KWT A1/1/1), while the Historical Papers Research Archives of the William Cullen Library in University of the Witwatersrand in Johannesburg holds materials for the South African Central Bank (A1510). The data assembled here therefore represent less than half of the banks founded in South Africa in the 1850s, and an even smaller proportion of those active during that decade. However, it also offers a broad cross section of the different types of local banks founded before 1861, ranging from urban commercial banks such as the Cape Commercial Bank in Cape Town and the Commercial Bank of Port Elizabeth, to rural banks on the eastern frontier such as the British Kaffrarian Bank, and the smaller banks established in settled midlands districts such as Swellendam, Graaff-Reinet

²⁸ Arndt, *Banking and Currency Development*,
Webb, *The roots of the tree*

S. Jones, 'The imperial banks in South Africa 1861–1914', *South African Journal of Economic History*, 11, 2 (1996), pp.21-54.

²⁹ Arndt, *Banking and Currency Development*, p.269

³⁰ Arndt, *Banking and Currency Development*.

³¹ Mabin, 'Concentration and dispersion'.

and Beaufort West that became the powerhouse of the settler economy during the 1850s.³² The sample, though small, is therefore representative.

Because the minute books for several of these banks have survived it is also possible to reconstruct in some cases how shareholders made their investment. The usual practice before forming the bank was to circulate a prospectus around the locality and invite expressions of interest from investors. For example, the South African Central Bank was formed due to dissatisfaction with the existing Graaff-Reinet Bank, which 'had fallen into the hands of individual shareholders who exercised it in a manner alike unrespective [sic] of the interests of the other shareholders and regardless of the accommodation of the public generally'.³³ After the Commercial Bank of Port Elizabeth refused to set up a branch, several of the 'leading merchants' met and formed a committee in February 1854 which drew up the prospectus and the deed of settlement, and then received and examined applications for shares.³⁴ They received over 7,600 applications for the 3,500 shares available and decided to make an 'equitable allotment' based on certain principles, such as ensuring that enough shares were distributed locally to qualify local directors; to exclude those with bad characters or reputations; to only make large grants of shares to absentee investors 'as would render it worth their while to continue shareholders'; but also to favour absentee investors over local ones, since the latter would find it easier to obtain shares later on.³⁵ Some banks allocated fixed quotas, such as the British Kaffrarian Bank, which set aside 800 shares for Cape Town and 800 for local investors.³⁶ Some banks also made agency arrangements with other banks to sell their shares. For instance, the Beaufort West Bank asked the nearby Worcester Commercial Bank to receive subscriptions in January 1855, and received a letter from the Western Province Bank in Paarl in April 1855 asking to purchase further shares.³⁷ There were therefore multiple paths for shareholders to invest in bank shares in the 1850s, forming complex networks of shareholders between these new banks.

However, since family connections were important in enabling certain large shareholders to exercise disproportionate influence over banking policy, it is equally important to identify these connections. We therefore used the names, surnames, and - where possible - location data like place of residence, place of birth or place of death to match lists of shareholders with the South African Family Register (SAF).³⁸ This Register is a genealogical database of all persons settling in South Africa after 1652 and their descendants, containing vital information on over half a million individuals for this period.³⁹ The data has some biases, especially since it is based on

³² Dubow, *Land, labour and merchant capital*.

³³ A1510 p. 1

³⁴ A1510 pp. 2-13

³⁵ A1510 pp. 14-23, esp pp. 22-3.

³⁶ SBSA, KWT A1/1/1, 24 March 1858

³⁷ SBSA, BFW A1/1/1/, 4/1/1855, 2/4/1855

³⁸ More information on SAF can be found in Cilliers (2017).

³⁹ J. Cilliers, and M. Mariotti, 'The shaping of a settler fertility transition: eighteenth-and nineteenth-century South African demographic history reconsidered', *European Review of Economic History*, 23, 4 (2019), pp.421-445.

various religious records like baptism and marriage registers. Although these were an important part of Afrikaner culture at the time, it could have been delayed and limited in rural areas since some families may have only attended religious ceremonies once or twice a year. However, they show that over time these newly-settled areas and their record-keeping improved substantially. It also excludes numbers of British settlers in the western Province, and although data is incorporated for British and German settlers in the eastern province after 1820, it does not capture individuals who settled briefly and perhaps returned to Europe or those who never settled in South Africa and invested via proxy. Despite these limitations though, the SAF remains the most comprehensive dataset of population and family connections at the Cape Colony until the first census of 1865, and merging its data with individual shareholders makes it possible to move beyond looking at individual patterns of investment to look for the first time at the informal familial connections which lay behind these networks.

Table 1 indicates the banks, the year of establishment, the number of shareholders and the match rate with SAF. The combined information from the shareholders and SAF enables us to investigate the shareholder profile of South African banks. We also aim to find individuals who shared connections between various banks and who might have been influential in their establishment. Since these banks had different structures and aims, we can also investigate whether this influenced the shareholder profile, or vice versa.

[INSERT TABLE 1 HERE]

THE PROFILE OF SOUTH AFRICAN BANKING SHAREHOLDERS

By the 1850s, South Africa had a complex society dominated mainly by European settlers who became farmers and merchants, who had settled mainly in the Western Cape and midland districts such as Graaff-Reinet and Swellendam during the seventeenth and eighteenth centuries, and British immigrants, who acted mainly as merchants and professionals in Cape Town and the western and midlands districts but were also farmers and pastoralists on the expanding eastern frontier. There were also the descendants of the slaves imported throughout the seventeenth- and eighteenth-century as well as the Khoi and San people in the region, who were primarily working as farm labourers. Little is known about the economic conditions of these indigenous people, but more research is being done on these groups. However, the shareholder data and the SAF registers focus almost exclusively on the settlers at the time.

Although the inherent limitations of the SAF Register and the limited match more noted above mean that it cannot be used to provide the more detailed breakdowns of ethnicity necessary for analysing the relative ethnic balance of shareholders, a rough categorisation of the names of shareholders in all six banks into 'English', 'Dutch', 'Jewish' and 'Unknown' (where the name is difficult to read) suggests that overall investment in bank shares in the Cape Colony was evenly divided between

'Dutch' and 'British' investors, albeit but with very wide and highly suggestive differences between individual banks.

[INSERT TABLE 2 HERE]

For example, nearly 85 per cent of investors in the British Kaffrarian Bank were British, reflecting their numerical predominance within a region settled mainly by British immigrants, and so were more than 60 per cent of shareholders in the Commercial Bank of Port Elizabeth, in a town dominated by British merchants who bought wool from British settlers on the eastern frontier.⁴⁰ By contrast, in rural districts in the midlands such as Swellendam and Beaufort which had both been opened for colonisation by Dutch settlers in the eighteenth century, and had only a thin substratum of recently-arrived British traders and merchants, Dutch names predominated. The more evenly balanced proprietorship of the South African Central Bank may reflect the importance of Graaff Reinet as the economic hinterland of Port Elizabeth and the higher population of recent English migrants; as noted above, supporters had first pressed the Commercial Bank of Port Elizabeth to establish a branch before setting up their own bank.⁴¹ Lastly, the relatively large numbers of Dutch shareholders in the Cape Commercial Bank may reflect its success in attracting larger numbers of semi-skilled workers who made up most of the Dutch middling and artisan class in the city, as well as the success of the earlier banks founded since 1836 in engrossing investment from the British capitalists who had established them.⁴²

The same data shows that women made up just under 12 per cent of investors, a figure which other work on female investors in this period has shown is probably an under-estimate, but which was nevertheless in line with levels of investment in Britain during this period.⁴³ As this work has pointed out, despite provisions in many companies' bye-laws which frequently forced women to act through male proxies and otherwise limited their autonomy, many women valued the security and lower costs of management associated with share ownership, especially widows or spinsters dependent on this reliable source of income. Not surprisingly, rates of female share ownership were therefore higher in western and midlands banks in districts which had older and more mature economies and social structures. Over time, the law of partible inheritance in the Cape tended to create a higher level of

⁴⁰ Keegan, *Colonial South Africa*.

⁴¹ Dubow, *Land, labour and merchant capital*.

K.W. Smith, *From frontier to midlands: a history of the Graaff Reinet district, 1786-1910* (Grahamstown, Rhodes University, 1976)

⁴² Keegan, *Colonial South Africa*.

⁴³ M. Freeman, R. Pearson, and J. Taylor, 'A doe in the city: Women shareholders in eighteenth-and early nineteenth-century Britain', *Accounting, Business & Financial History*, 16, 2 (2006), pp.265-291.

J. Rutterford, D.R. Green, J. Maltby, and A. Owens, 'Who comprised the nation of shareholders? Gender and investment in Great Britain, c. 1870-1935', *Economic History Review*, 64, 2 (2011), pp.157-187.

direct female property ownership.⁴⁴ By contrast, in frontier districts in the eastern Cape and British Kaffraria, the settler or pioneer society tended to be younger and dominated by male migrants, and demands for capital perhaps meant that share purchase more directly reflected motives of commercial preference rather long-term investment.

[INSERT TABLE 3 HERE]

Besides providing information on family connections, as discussed below, the SAF can also provide data for the more limited group of shareholders who appear in the sample, although due to the nature of the sources discussed above these data are probably more representative of Dutch rather than British shareholders. Nevertheless, using the SAF database to reconstruct the age profile of the 42 per cent of shareholders captured in the sample shows that most were younger than 40 years of age, and that there was also no significant difference between the various banks except for the British Kaffrarian Bank. The average lifespan of the Cape Colony was 50 years of age⁴⁵, so the average shareholder in the 1850s was middle-aged, and therefore had had an opportunity to accumulate more surplus capital than younger investors. The exception was the British Kaffrarian Bank, where all of the shareholders were young men, which may reflect the demographic profile of the settler society within a recent frontier colony, and/or the low level of matches that could be made with the SAF database and thus the limited sample size.

[INSERT TABLE 4 HERE]

A second demographic measure found from the SAF is the occupations of the shareholders. We use the HISCO classification for these occupations, which provides five categories of historical occupations based on the skills needed for these occupations: (a) professionals, (b) skilled workers, (c) semi-skilled workers, (d) farmers and fishermen, and (e) low and unskilled workers.⁴⁶ Although satisfactory for most demographic purposes, one shortcoming with the HISCO classification is that it focusses on the skills of the occupation rather than the wealth and status of the individual, and therefore does not allow for a distinction between wealthy farmers who had the capital to invest in bank shares and poorer farmers who were operating at a subsistence level. However, Fourie shows using probate inventories that most farmers in the Cape Colony were wealthy⁴⁷, reflecting an agricultural sector that was divided between wealthy agriculturists in the Western Cape and pastoralists in the Eastern Cape, on the one hand, and their workforce of native

⁴⁴ D. von Fintel, S. Du Plessis, and A. Jansen, 'The wealth of Cape Colony widows: Inheritance laws and investment responses following male death in the 17th and 18th centuries', *Economic History of Developing Regions*, 28, 1 (2013), pp.87-108.

⁴⁵ J. Cilliers and J. Fourie, 'New estimates of settler life span and other demographic trends in South Africa, 1652–1948', *Economic History of Developing Regions*, 27, 2 (2012), pp.61-86.

⁴⁶ M.H. van Leeuwen, I. Maas, and A. Miles, *HISCO: Historical international standard classification of occupations* (Leuven, Leuven University Press, 2002).

⁴⁷ J. Fourie, 'The remarkable wealth of the Dutch Cape Colony: measurements from eighteenth-century probate inventories', *Economic History Review*, 66, 2 (2013), pp.419-448.

peoples and former slaves on the other, who rarely had much spare capital for investment. This suggests that the farmers identified by the SAF database were generally wealthy farmers from much the same social class as the merchants and professionals who made up most of the investors.

[INSERT TABLE 5 HERE]

Applying this analysis to the list of shareholders suggests several important patterns. Unsurprisingly, low-skilled and unskilled investors were in a very rare, except in the Swellendam Bank, where they made up about a quarter of shareholders. Why this should have been the case is unclear, but probably reflected a deliberate decision on the part of the founders to lower the barriers for investment as much as possible. Whereas shares in the other banks were available in denominations of £10 each, the 3,000 shares offered by the Swellendam Bank were only £5 each, putting them into the reach of even unskilled workers who might hope to benefit from the preferential access to credit and banking facilities which they would enjoy as shareholders.⁴⁸ In general though, investment was dominated by professionals and skilled workers, who made up two thirds of investors and were often the only people in eastern districts with the capital to invest in shares. Thus, in the Commercial Bank of Port Elizabeth, which was founded to cater for the mercantile needs of this growing centre for the export of wool to Britain, the shareholders were mainly composed of professionals, skilled workers and (wealth) farmers. In the South African Central Bank, which was founded – as noted above – by ‘the agricultural and commercial interests’, and ‘the large and influential section of the local community’, and where applicants were carefully vetted by the founders, most of the shareholders were professionals and skilled workers such as merchants.⁴⁹ Only in Cape Town was there an urban economy large and wealthy enough to support a wider range of investors outside the upper and middle classes. This may suggest why nearly 20 per cent of the investors in the Cape Commercial Bank there were semi-skilled labourers, compared to only about 10 per cent in the Swellendam Bank for the reasons noted above, and who were absent from most other banks.

Without further contextual information it is hard to draw conclusions about the reasons for investing, but some of the sources noted above offer some suggestions. As in the case of New England however, where Lamoreaux found that shareholders frequently hoped to benefit from preferential access to banking facilities, there is evidence that investors had similar aims. The South African Central Bank was founded not just to deliver a profit for its shareholders but also, even primarily, ‘to meet the necessity for extended bank accommodation to meet the rapidly increased trade of Graaff-Reinet, and to develop the agricultural resources of this and

⁴⁸ A good guess is that these individuals were inhabitants of the mission stations in the area like Genandendal, Zoar, and Zuurbraak. We did quick preliminary study of the names and did not find any links. Despite this, we leave it for future research to investigate these links between the inhabitants of the mission stations and financial institutions more deeply.

⁴⁹ A1510 pp. 1-3, 9

neighbouring districts'.⁵⁰ The directors of the Beaufort West Bank noted with satisfaction in their first report to the shareholders in 1856 that they had provided bills on Cape Town for £13,294 over the past year, offering a profit of £365 and 'a great accommodation to the public', as well as receiving £11,122 in deposits, 'mostly all of which was formerly locked up without any interest being derived from it'.⁵¹ In some cases the nexus of private, corporate and public benefit was hard to disentangle. The directors of the same bank agreed in July 1855 for example to discount bills for £812 for their chairman Mr Pritchard, one of their largest shareholders, to enable him to lay out money for the use of the bank.⁵² Banks could therefore be influenced by the composition of their shareholders, particularly their professional and occupational interests, as well as by the clusters of family connections which will be discussed in the following section.

DID FAMILIES PLAY A ROLE IN THE ESTABLISHMENT OF BANKING?

The importance of this analysis lies not only in a prosopographical analysis of the bank shareholders collectively, but also in a study of the connections between them and the impact this had on the development of banking networks. We use two measures to study these effects, firstly the degree of connectivity between all individuals within this wider network, and secondly the 'betweenness' or centrality of specific individuals who acted as nodes or points of high connectivity in the network. Our thesis is that the network will exhibit a high degree of connectivity and centrality, as a result of the importance of such connections in providing investors with access to capital and credit in South African banks during the 1850s, noted above, and demonstrated by a relatively low number of connections needed to link any two individuals within this network. We also predict that we will find a high level of 'betweenness' or centrality, given what existing scholarship has shown of the disproportionate importance of key individuals and family groups, such as the Barrys in Swellendam and the Mosenthals in Graaff-Reinet, in supporting and directing both banking and economic development. This would be exhibited by a high degree of differentiation within the sample between a few well-connected investors and a large group of investors owning more shares overall but having lower levels of connectivity, and thus influence. Our results confirm this prediction.

Network analysis measures the extent of connectivity by calculating the number of connections each individual has to other individuals. It is measured through $\frac{d_i(g)}{n-1}$, where g is the measure of connections to other individuals, n is the number of individuals and $d_i(g)$ the number of connections for individual i . The result is the average path length or the average number of connections needed to link any two individuals, with highly-connected networks having lower average path lengths due to the greater number of potential linkages. Since a low average path length might mean either that there are a large number of individuals with moderate levels of

⁵⁰ A1510 p. 9

⁵¹ SBSA, BFW A1/1, 5 Feb. 1856

⁵² SBSA, BFW A1/1, 9 July 1855

connectivity, or a small number of exceptionally well-connected individuals, calculating the incidence of betweenness or centrality can establish which is the case. The betweenness centrality is measured by $Ce_i^B(g)$ as shown in the equation below and gives an estimate of many connections an individual has and how they are connected to other individuals. If we have three individuals (i, j, k) , the betweenness centrality tells us on how many paths individual i lies between any other combination of j and k . It is therefore equal to:

$$Ce_i^B(g) = \sum_{k \neq j, i \notin k, j} \frac{P_i(kj)}{\frac{P(kj)}{2}}$$

The closer this ratio is to 1, the more paths individual i lies on and are therefore better connected. Jackson describes individuals with high ‘betweenness’ as important for the spreading of and access to information, which also allows them to overcome informational asymmetries better than less-connected individuals and to play a disproportionately important role in the operation of the respective banks.⁵³

The average degree or the average number of connections between shareholders in the network studied here was 2.6. The network diameter or the largest distance between any two nodes in the network, and was 6. The average path length, showing the average number of connections needed to connect any two individuals, was 3.8. These network statistics therefore show a relatively dense and small network between banking shareholders in the Cape Colony during the nineteenth century. This relates well to the small-world phenomena of random networks described in Watts and Strogatz, better known as six degrees of separation.⁵⁴ The combination of these variables is better known as ‘six degrees of separation’. As far as we are aware there are no comparable studies of bank shareholders in the nineteenth century with which we can compare our findings in order to assess how typical they are. However, Davis et al. investigated the board members of American corporations in the twentieth century, with an average path length of 3.38 and 3.46 and a degree of 10.⁵⁵ Rubio-Mondéjar and Garrués-Irurzun studied various sectors in Spain and show a degree of 18.2 in the Spanish banking sector in 1917, while this decreases to 8.4 in 2009 – they, however, do not report on the path length.⁵⁶ These closest comparisons strongly indicate that the banking network of the Cape Colony was an extremely well-connected and strongly clustered network.

However, with the individuals, those described above are also found in the most central individuals. Table 6 shows the top 10 individuals who are identified by betweenness centrality. This can be represented graphically, as in Figure 1, which shows the network of shareholders and their betweenness, with individuals with

⁵³ Jackson, *Social and Economic Networks*, p.39

⁵⁴ D.J. Watts and S.H. Strogatz, ‘Collective dynamics of ‘small-world’ networks’, *Nature*, 393, 6684 (1998), p.440.

⁵⁵ G.F. Davis, M. Yoo, and W.E. Baker, ‘The small world of the American corporate elite, 1982-2001’, *Strategic organization*, 1, 3 (2003), pp.301-326.

⁵⁶ J.A. Rubio-Mondéjar and J. Garrués-Irurzun, ‘Economic and Social Power in Spain: corporate networks of banks, utilities and other large companies (1917–2009)’, *Business History*, 58, 6 (2016), pp.858-879.

higher degrees of betweenness represented by larger circles. Excluding the banks, which of course had the highest degrees of centrality or betweenness, the centrality measure leaves the highly-connected individuals described above as the most prominent and potentially the most powerful investors within this network of shareholders. Light grey lines are shareholders' connections to banks, while darker black lines are immediate and family connections where these can be recovered from the SAF database. Perhaps unsurprisingly, the most central and connected bank is the Commercial Bank of Port Elizabeth, by virtue of the large proportion of skilled and professional investors noted in the previous section.

[INSERT TABLE 6 HERE]

[INSERT FIGURE 1 HERE]

The importance of the few key figures noted above can be seen even more clearly in a gravity representation of banking shareholders with high betweenness, which ignores individuals only connected to banks and not to other individuals, highlighting well-connected individuals. The Force Atlas 2 algorithm moves low degree nodes (individuals) outward and move the better connected and higher degree individuals closer together. This not visually demonstrates not only the mixed ethnic character of these well-connected individuals, but also the strong evidence of national or ethnic concentrations in specific banks noted above. Light circles, representing Dutch names, can be seen to have clustered in the Cape Commerical Bank (67.4 per cent Dutch), the Swellendam Bank (79.5 per cent Dutch) and Beaufort West Bank (64.6 per cent Dutch). The darker circles representing British shareholders can be seen by contrast to have clustered in the Commercial Bank of Port Elizabeth (61.8 per cent British), and the British Kaffrarian Bank (84.3 per cent British). The South African Central Bank, serving a mixed population in an area heavily settled by Dutch farmers, has a relatively equal spread. The top ten individuals identified as the most connected within this network were likewise ethnically diverse, being almost equally divided between British and Dutch investors. As noted above, in the case of well-connected investors such as the Barrys, this reflected their ramified commercial networks which gave them opportunities to diversify their investments.

[INSERT FIGURE 2 HERE]

However, as noted above, groups of family connections were as important as individuals in coordinating patterns of investment, and the data from the SAF Register allows us to disaggregate these connections and examine their role. Taking those shareholders matched with entries in the database, we divide their connections into three categories of 'immediate connections', which are father/son/daughter connections or sibling connections; 'extended connections', which are cousins or uncle/nephew connections; and finally, what we call 'generational connections', where individuals share a common ancestor but not necessarily a close connection. This is shown in Table 7. One fifth of matched shareholder connections are immediate connections. Extended family connections make up 13.5% of the connections that we observe in the shareholder lists, while

22.3% had some connection like a common ancestor for example second or third cousins.

[INSERT TABLE 7 HERE]

A good example of these connections would have operated can be seen in the Barry family, which showed a high level of immediate and extended connections. As a result, even though the individuals in that family had only moderate connections with other shareholders – even Joseph Barry – the family group itself was strongly connected with other shareholders in Swellendam and beyond, enabling the Barrys as a family to gain superior access to information and thereby exercise a correspondingly disproportionate influence in the affairs of the Swellendam Bank.⁵⁷ Family connections therefore offered substantial advantages to groups seeking to maximize private benefit at the expense of the small shareholder through managerial influence and election of directors. Applying the gravity representation to this data makes it possible visually to identify and pick out key clusters of family connections not otherwise obvious, demonstrating the comparable importance of families such as the Marais, Moolman, Du Toit, Du Plessis, Fourie, Le Roux and Barry. Many of these groups were large families and connected to specific banks, such as the Marais and de Villiers with the Beaufort West Bank, and the du Plessis and Moolmans with the Swellendam Bank, where they too presumably used their superior access to information to maximise their own benefits and exercise influence over the bank.

CONCLUSION

The banks in South Africa in the 1850s were therefore marked by a strong degree of interconnectedness between shareholders, both within individual institutions but also across them. Shares were distributed among important clusters of related individuals, such as the Barrys in the Swellendam Bank, while several key people also held shares in multiple banks, often separated by a considerable distance. We argue that, as in the New England banks examined by Naomi Lamoreaux, this allowed the banks to overcome informational asymmetries and operate more effectively in what remained a risky and high speculative environment. It also gave considerable scope for individuals holding or controlling large clusters of shares to exercise a highly disproportionate influence over the activities of the bank, enabling them to target lending and financial accommodation in order to support economic development elsewhere. Profits were reinvested in local enterprises rather than being drawn from the rural districts into urban centres, or from Port Elizabeth and Cape Town back to the imperial centre in London. When imperial banks began to arrive in the 1860s they therefore encountered a distributed network of banking institutions that was already supporting economic development as the frontier expanded westwards and the colonial economy began to accelerate. The foundations of the mineral

⁵⁷ Buirski, 'The Barrys and the Overberg'.

revolution of the late nineteenth century were therefore laid in the middle of the century through a network of interconnected local banks and their shareholders.

However, this system of clustering and interlocking shareholders and investments also created patterns of behaviour and conduct which were inherited by the new imperial banks such as the London and South African Bank and the Standard Bank of South Africa and entrenched important underlying weaknesses. Much of the existing literature has emphasised the disruptive effects of capital influx and speculation on the stuttering economic growth of the 1860s, and has argued that local banks were forced into mergers or out of the market because they lacked the capital stock to compete with the new imperial banks.⁵⁸ The *Argus* of Port Elizabeth wrote, for example, that 'the origin of the failures is generally believed to be due to the sudden introduction of a large amount of British capital in a town already sufficiently supplied with capital for all legitimate purposes of business'.⁵⁹ Our analysis suggests that the problem was not that local banks were isolated and lacked the access to local or outside capital, but rather that that were too interconnected. When families such as the Barrys failed in the 1860s in the face of commercial competition, their disproportionate importance as shareholders meant that they weakened local banks.⁶⁰ Financial contagion resulted from the close links between individual banks and led to a domino effect which forced the banks either to amalgamate or go under, and which meant that those banks absorbed as branches by the incoming imperial banks possessed serious underlying fragilities. Banking on family therefore helped to develop South African banking during its initial stages but was also responsible for its long-term weakness.

⁵⁸ Arndt, *Banking and Currency Development*.

Mabin, 'Concentration and dispersion'.

Jones, 'The imperial banks'.

⁵⁹ Cited in Arndt, *Banking and Currency Development*

⁶⁰ Buirski, 'The Barrys and the Overberg'.

Table 1: Banks, shareholders and match rate to SAF

Bank Name	Year established	Number of shareholders	Shareholders in SAF	Match rate
Beaufort West Bank	1854	145	65	44.8%
Swellendam Bank	1852	157	75	47.2%
Cape Commercial Bank	1854	271	90	56.6%
British Kaffrarian Bank*	1857	160	30	18.8%
Commercial Bank of Port Elizabeth	1853	260	109	42.8%
South African Central Bank	1850	188	71	38.0%
Total		1,181	440	42.7%

*Due to low match, further investigation is still required and a brief discussion can be found in text.

Table 2: Ethnic profiles (by name) in shareholder lists

	Beaufort West Bank	British Kaffrarian Bank	Cape Commercial Bank	Commercial Bank of Port Elizabeth	South African Central Bank	Swellendam Bank	Overall
British	34.7	84.3	31.9	61.8	39.6	20.5	49.4
Dutch	64.6	14.5	67.4	19.7	54.0	79.5	45.2
Jewish	0.7	0.6	0.4	0.8	3.2	0.0	0.9
Unknown	0.0	0.6	0.4	17.8	3.2	0.0	4.5
Total	100	100	100	100	100	100	100

Table 3: Gender of bank shareholders in nineteenth century South Africa

	Beaufort West Bank	British Kaffrarian Bank	Cape Commercial Bank	Commercial Bank of Port Elizabeth	South African Central Bank	Swellendam Bank	Overall
Male	93.5	96.6	82.6	91.7	83.9	85.9	87.8
Female	6.5	3.4	16.4	8.3	16.1	14.1	12.2
Total	100	100	100	100	100	100	100

Table 4: Age profile of bank shareholders in nineteenth century South Africa

	Beaufort West Bank	British Kaffrarian Bank	Cape Commercial Bank	Commercial Bank of Port Elizabeth	South African Central Bank	Swellendam Bank
	Rural	Rural	Urban	Urban	Rural	Rural
	Midland	Eastern	Western	Midland	Midland	Midland
0-20 years	11.1	0	10.8	6.3	0	13.0
20-29 years	35.6	100	30.4	25.0	50.0	30.4
30-39 years	31.1	0	32.4	37.5	25.0	29.0
40-49 years	15.6	0	12.8	25.0	25.0	15.9
50-59 years	4.4	0	5.9	6.3	0	8.7
60+ years	2.2	0	7.8	0	0	2.9
Total	100	100	100	100	100.0	100

Table 5: Occupations by HISCO class of bank shareholders in nineteenth century South Africa

	Beaufort West Bank	Cape Commercial Bank	Commercial Bank of Port Elizabeth	South African Central Bank	Swellendam Bank	Overall HISCO classes of shareholders	Overall HISCO of population in 1850
	Rural	Urban	Urban	Rural	Rural	-	-
	Midland	Western	Eastern	Midland	Midland	-	-
Professional	21.4	33.3	25.0	66.7	33.3	31.1	9.7
Skilled workers	21.4	16.7	50.0	33.3	25.0	24.4	10.7
Semi-skilled workers	0	16.7	0	0	8.3	6.7	21.5
Farmers and fishermen	57.1	33.3	25.0	0	8.3	31.1	49.5
Low and unskilled workers	0	0	0	0	25.0	6.7	8.6
Total	100	100	100	100	100	100	100

Table 6: Top ten individuals identified by betweenness centrality

Ranking	Surname	Initials	Origin	Matched between shareholder list and SAF?
1	Keytel	JF	Dutch	No
2	Benjamin	M	British	No
3	De Villiers	DA	Dutch	Yes
4	Simpson	H	British	Yes
5	Solomon	S	Jewish	Yes
6	Barry	R	British	No
7	Maynard	H	British	No
8	Le Sueur	JA	Dutch	Yes
9	Dunell	HJ	British	No
10	Berg	W	Dutch	No
Match rate for top ten				40%

Table 7: What connections are observed in bank shareholders

Connection type	Number	%
Immediate connections	91	21.2%
Extended connections	58	13.5%
Generational connections	96	22.3%
Total	245	57.0%

Figure 1: Individual connections with betweenness centrality

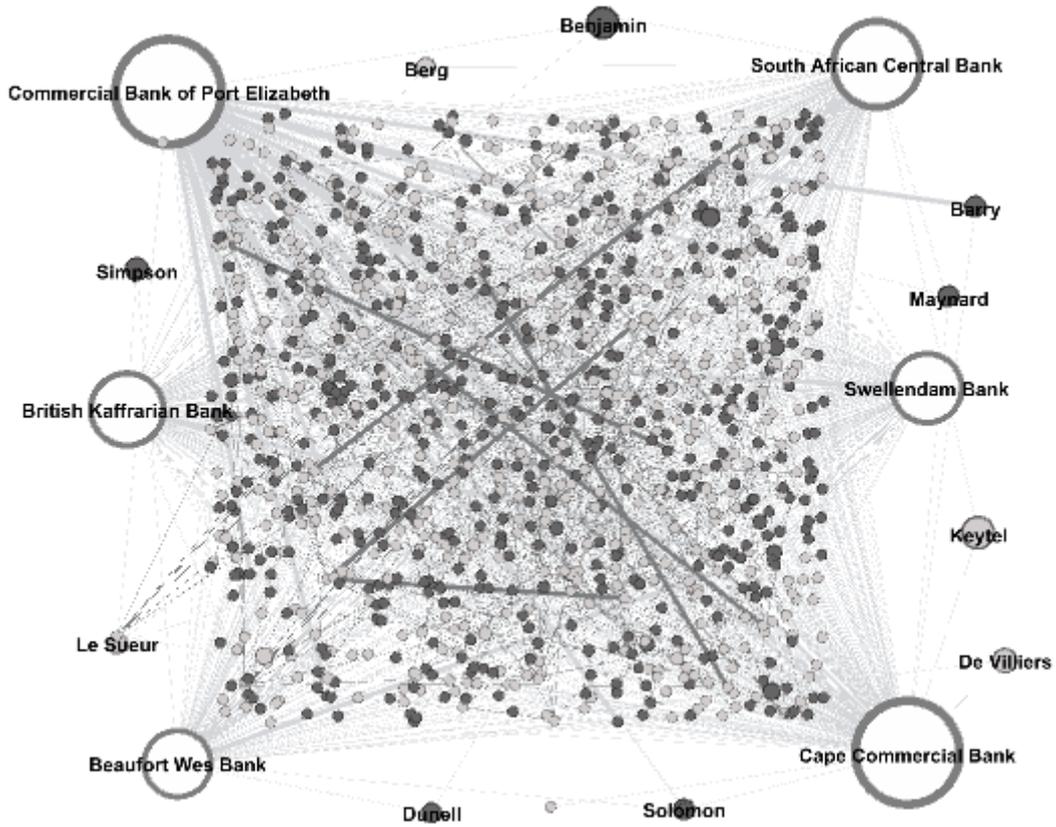


Figure 2: Gravity model of banking shareholders with high betweenness centrality individuals.

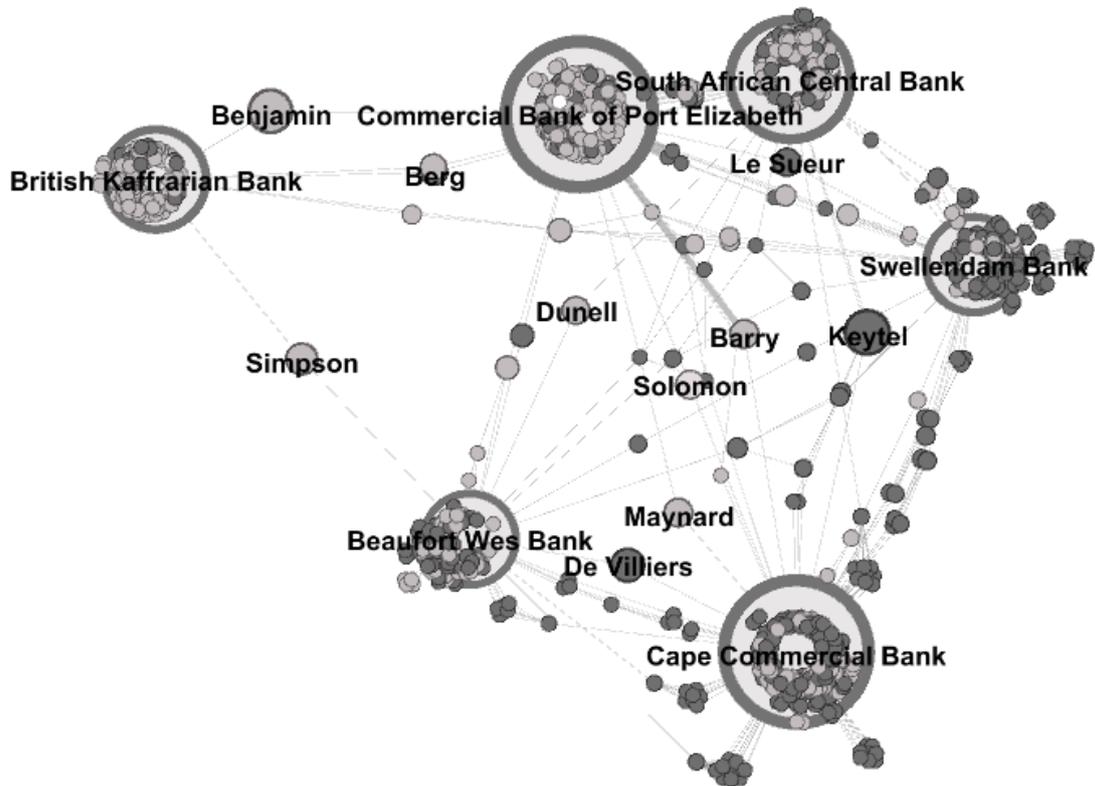


Figure 3: A gravity model of shareholders, family and banks

