

# AN ANALYSIS OF DIRECTOR INTERLOCKS ON THE JSE – WITH REFERENCE TO THE TOP 40 LISTED COMPANIES

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Winner : Managerial Accounting and Finance  
Best Paper Award

# CONTENTS

- Background
- Context
- Results
- Key Findings
- Future Research

# BACKGROUND

- Presentation based on MBA dissertation
  - An analysis of director interlocks on the JSE - with reference to the top 40 listed companies
- Covers 1 of 5 research questions
  1. *The interlocking director network of the JSE top 40 companies compares more closely to that of the UK than that of Germany in terms of network density and average path lengths.*
  2. *There is majority of NEDs on boards in the Top 40 listed companies on the JSE.*
  3. *There is a majority of independent directors amongst the NEDs on boards in the Top 40 listed companies on the JSE.*
  4. *There is a majority of unaffiliated non-executives amongst the independent directors on boards in the Top 40 listed companies on the JSE.*
  5. *The majority of Top 40 listed companies on the JSE have independent non-executive directors as Chairman of the board*

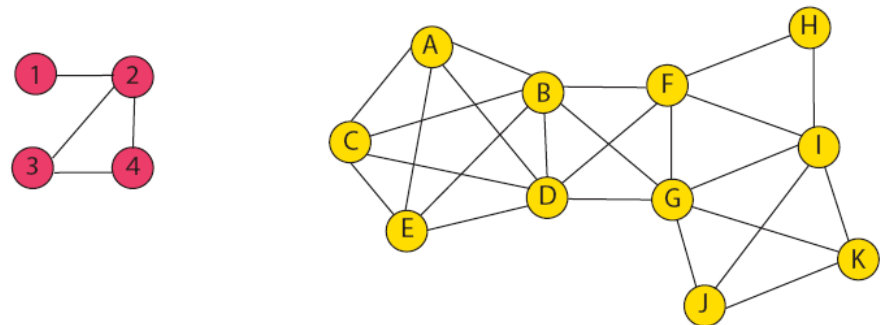
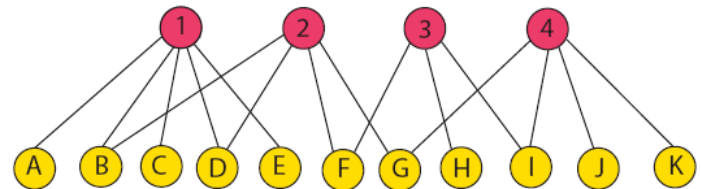
Only research question 1 is covered in this presentation

# CONTEXT

- Old Boys' Club - Small world Theory
- Directorship Data help by CIPRO (now CIPC)
- Research by Santella, Drago, Polo and Gagliardi
- Extend research to cover SA

# CONTEXT: SMALL WORLD THEORY

- Originally dated to 1920's and 1930's
  - Work of Moreno on friendship patterns
- Newman and Conyon (2003)
  - Applied to companies and directors
  - A special case of social network, a “small world”
    - High networks clustering i.e. companies being connected
    - Short distances i.e. small number of steps between companies
- Board networks **are** small worlds,  
little benefit re-confirming this
  - Conyon & Muldoon (2006)



- The Corporate Board
  - Conyon & Muldoon (2006, p.3)

# CONTEXT: DIRECTORSHIP DATA CIPRO (CIPC)

- Downloaded CIPRO data from McGregors BFA Feb 2009
- Data integrity problems
  - Appointment and termination dates missing
  - Different names / initials for same directors
  - Missing and invalid identity numbers
  - Comparison of sample board to AFS confirmed problem
- Decision
  - Restrict to smaller sample of companies
  - JSE top 40 (by market capitalization)
  - Manually collect data from published AFS

# CONTEXT: RESEARCH - SANTELLA ET AL

“A comparison of the director networks of the main listed companies in France, Germany, Italy, the United Kingdom, and the United States” 2008

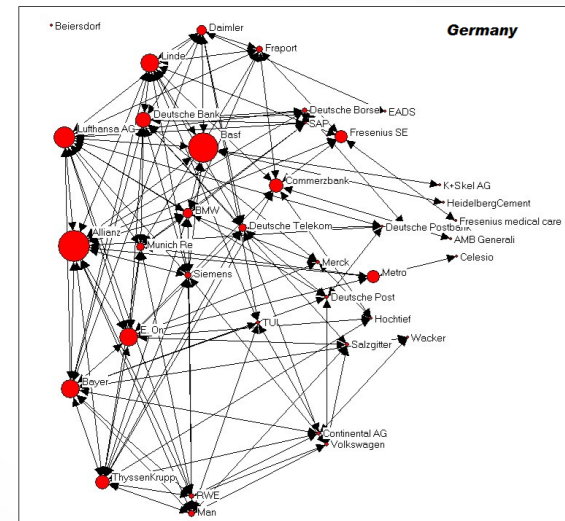
- Santella, Drago, Polo and Gagliardi

- Comparison : Network statistics

- Size of largest component
- Network Density
- Normalised betweenness centrality

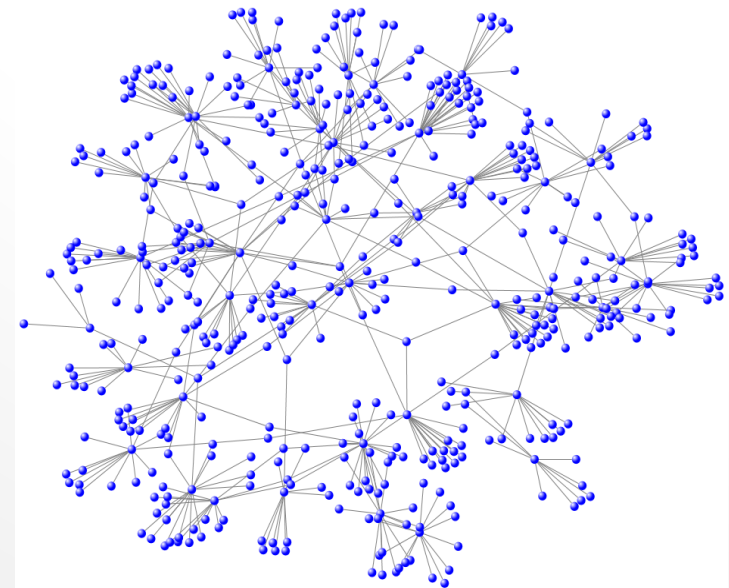
- Comparison : General

- Number of directors
- Number of directorships
- Directorships / company
- Directorships / director



# CONTEXT : RESEARCH TO COVER SA

- Data
  - Santella et al used dates between 31 Dec 2007-2 Sep 2008
  - Used JSE top 40 board compositions as at 1 October 2008
- Tools
  - NodeXL
    - Initial visualisations of director/company network
  - Excel
    - create company-director matrix
  - Ucinet
    - Transform matrix to a company matrix
    - Calculate key network statistics
  - NetDraw
    - Visualise the network in comparable manner





# RESULTS : RE

Existence of network

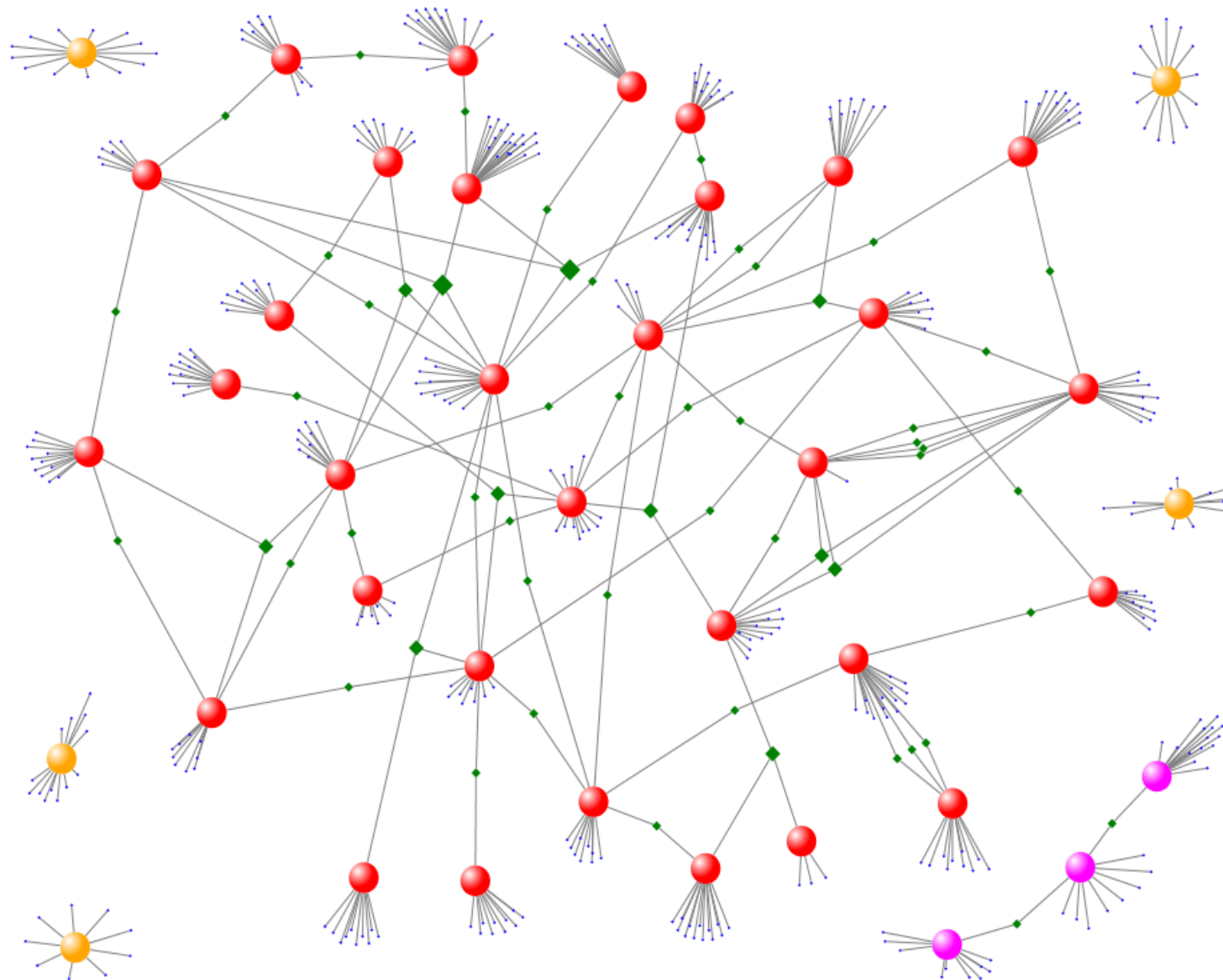
- Collusion
- Co-optation and r
- Provision of legitim
- Advancement of c
- The network in Ge  
whereas the Britain  
and Beyer (1996)
- Decline in share p  
interlocks (Devos, I
- Clayton Act of 191  
deemed to be co

## Hot Seat at the Table

Several companies have had a spotlight shined on them due to the Clayton Act, which bars "interlocking directorships" in order to preserve competition

INDIVIDUAL	POTENTIAL CONFLICT
<b>William C. Crowley</b>	Will quit <b>Sears</b> board in May because he is also on boards on <b>AutoNation</b> and <b>AutoZone</b>
<b>Edward S. Lampert</b>	Barred from <b>Sears</b> board chats about automotive business because he has stakes in <b>AutoNation</b> and <b>AutoZone</b> .
<b>Ann N. Reese</b>	Barred from <b>Sears</b> board chats about women's apparel and footwear because she is a board member of <b>Jones Apparel</b> .
<b>Alex Denner</b>	Proposed director of <b>Genzyme</b> but already on board of <b>Biogen Idec</b> .
<b>Richard Mulligan</b>	Proposed director of <b>Genzyme</b> but already on board of <b>Biogen Idec</b> .
<b>Arthur Levinson</b>	Quit <b>Google</b> board in Oct. 2009 because he's on the board of <b>Apple</b> .
<b>Eric Schmidt</b>	Quit <b>Apple</b> board in Aug. 2009 because he is CEO and board member of <b>Google</b> .

# RESULTS : NODEXL : SA NETWORK



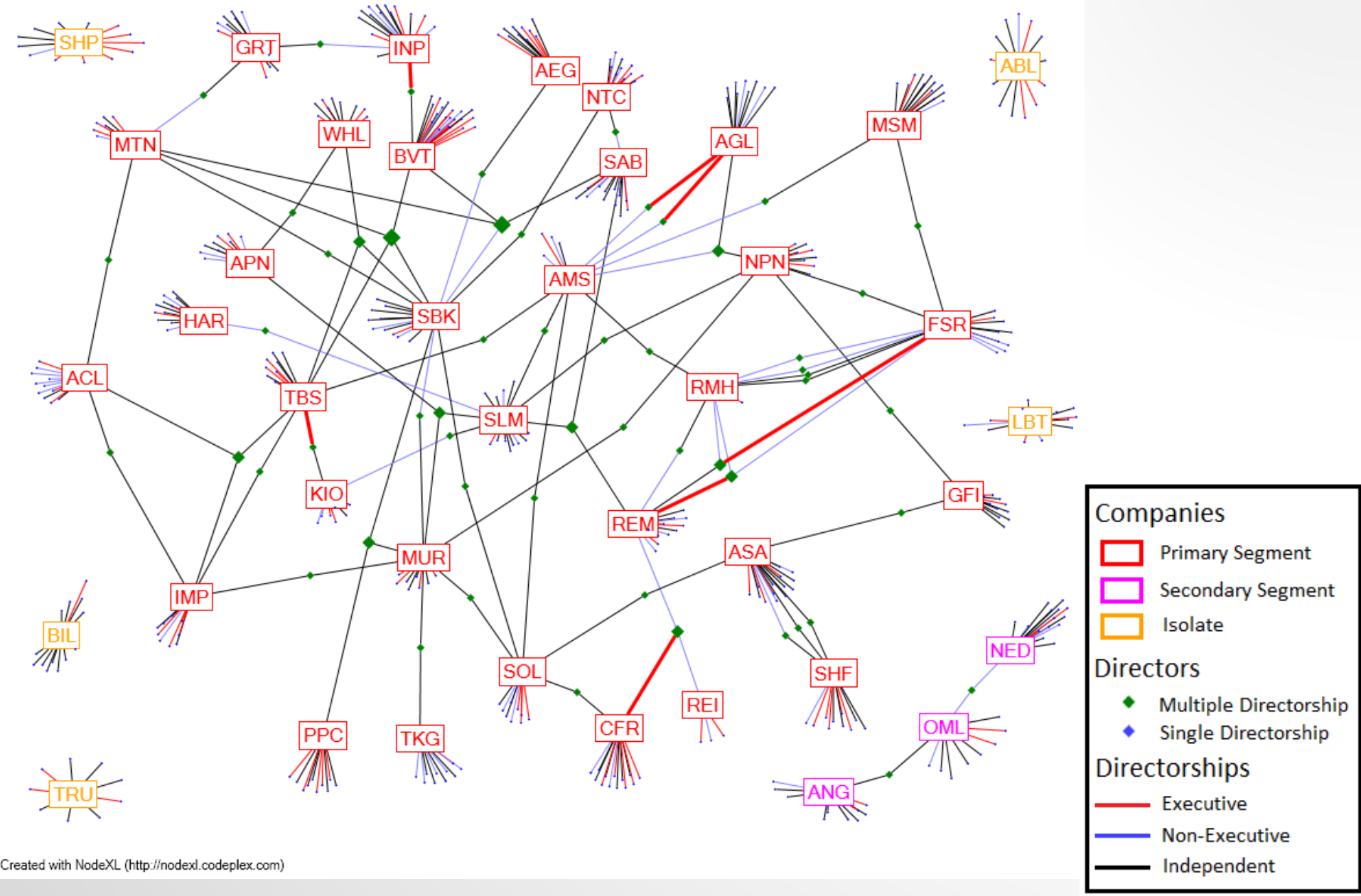
## Companies

- Primary Segment
- Secondary Segment
- Isolate

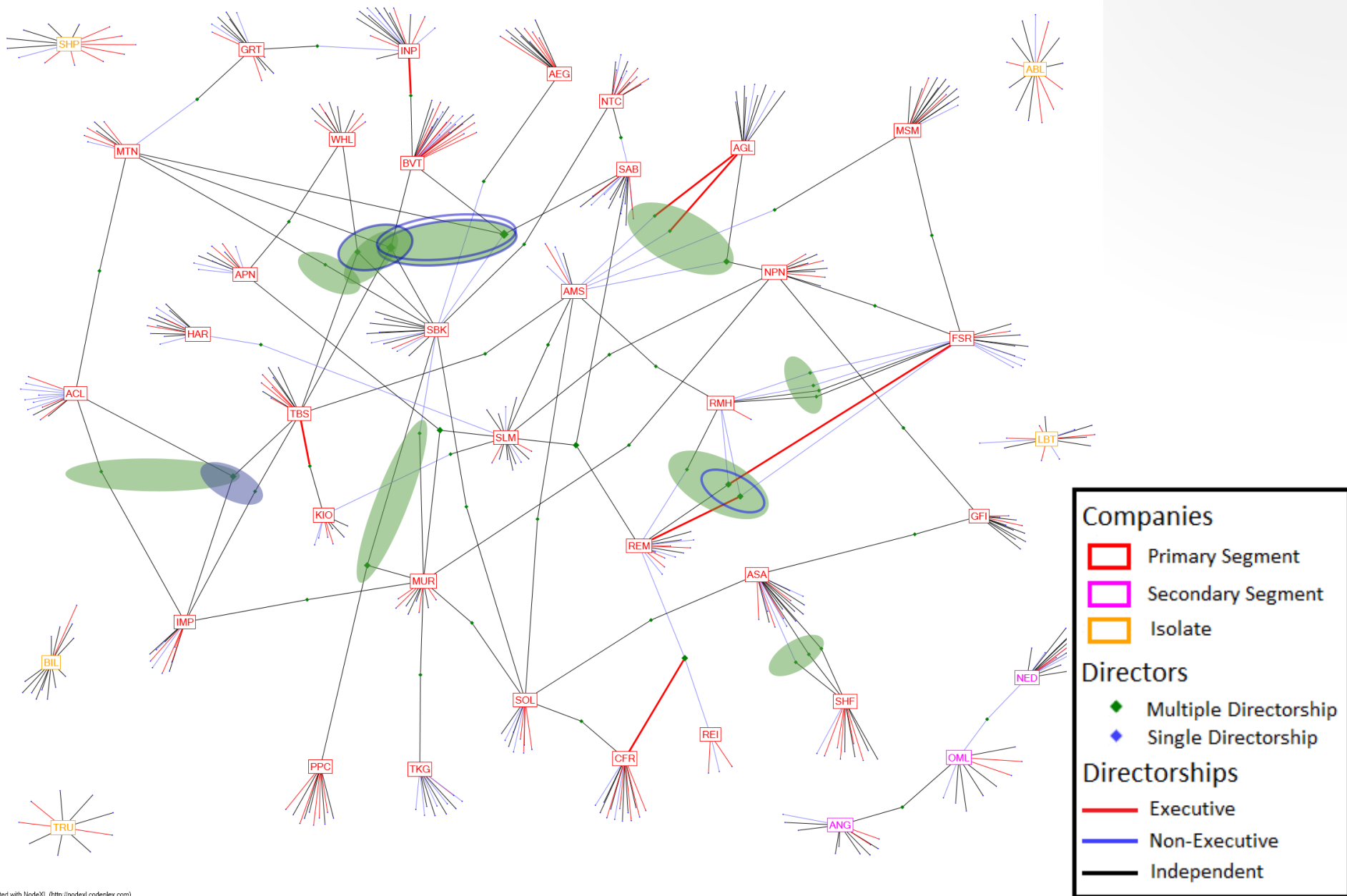
## Directors

- Multiple Directorship
- Single Directorship

# RESULTS : NODEXL : SA NETWORK



# RESULTS : NODEXL : SA NETWORK: DIRECTORS



# RESULTS : KEY DIRECTORS



RAMAPHOSA MC (CYRIL)

**Standard Bank (SBK)**

**MTN Holdings (MTN)**

**Bidvest (BVT)**

**SAB Miller (SAB)**



BAND DDB (DOUG)

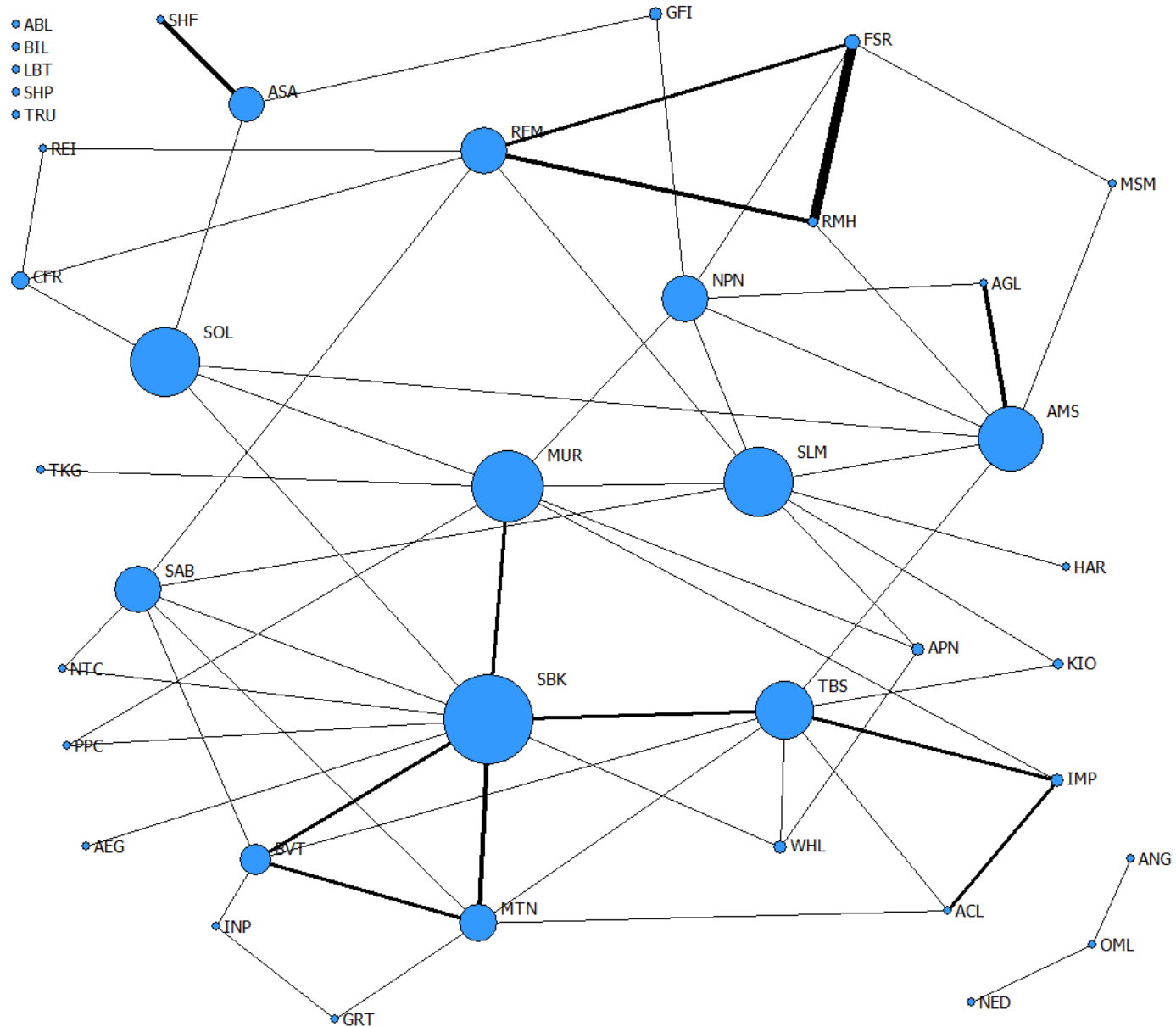
**Standard Bank (SBK)**

**MTN Holdings (MTN)**

**Bidvest (BVT)**











**Tiger Brands (TBS)**

# RESULTS : NETDRAW : SA NETWORK





# RESULTS : KEY COMPANIES

Company		Normalised Betweenness
Standard Bank Group Limited (SBK)		14.383
Murray and Roberts Holdings Limited (MUR)		11.312
Sanlam Limited (SLM)		10.632
Sasol Limited (SOL)		10.623
Anglo Platinum Limited (AMS)		9.965
Tiger Brands Limited (TBS)		8.601
SABMiller PLC (SAB)		6.929
Naspers Limited (NPN)		6.642
Remgro Limited (REM)		6.631
MTN Group Limited (MTN)		5.057



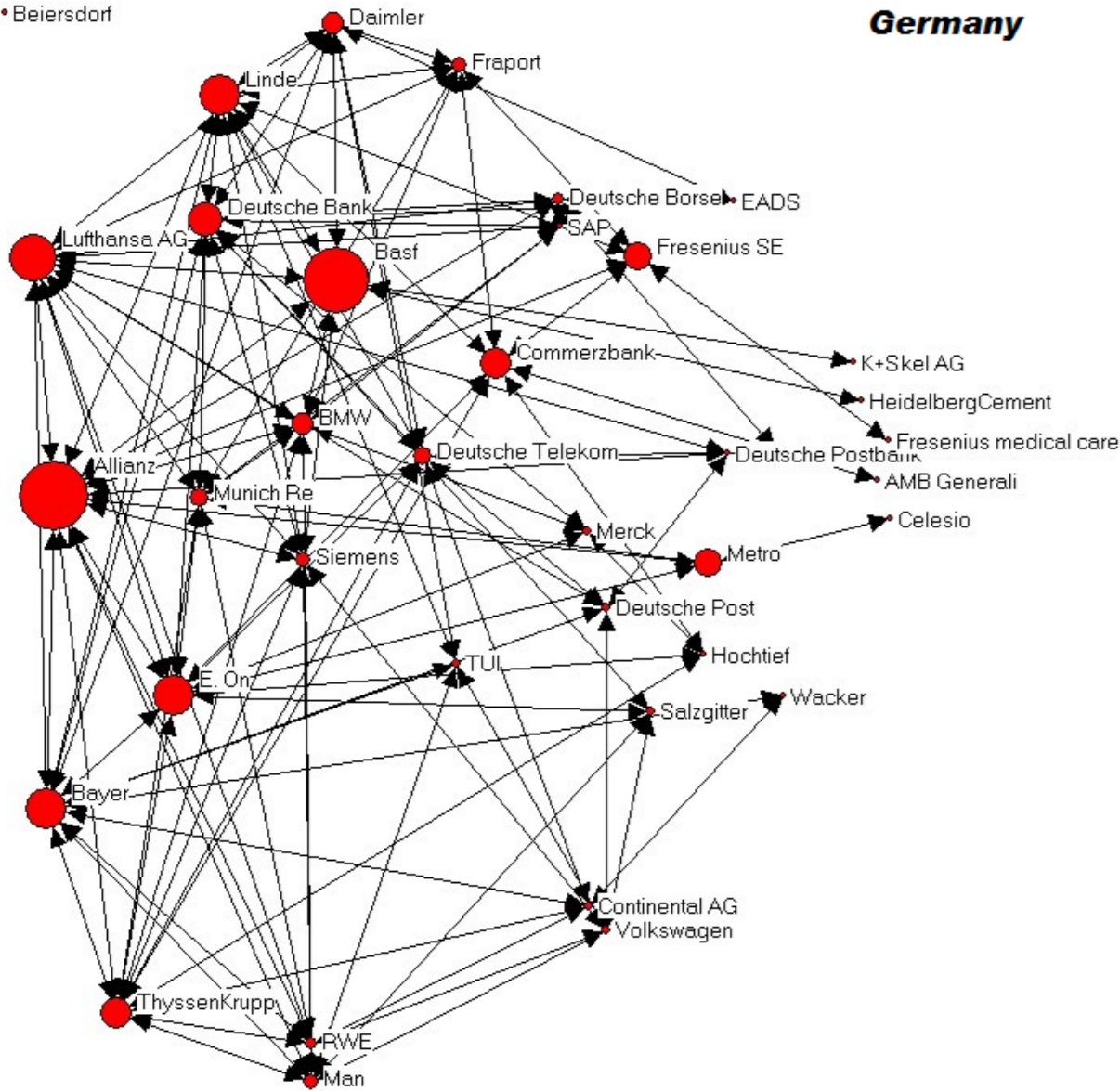


# RESULTS : GERMANY

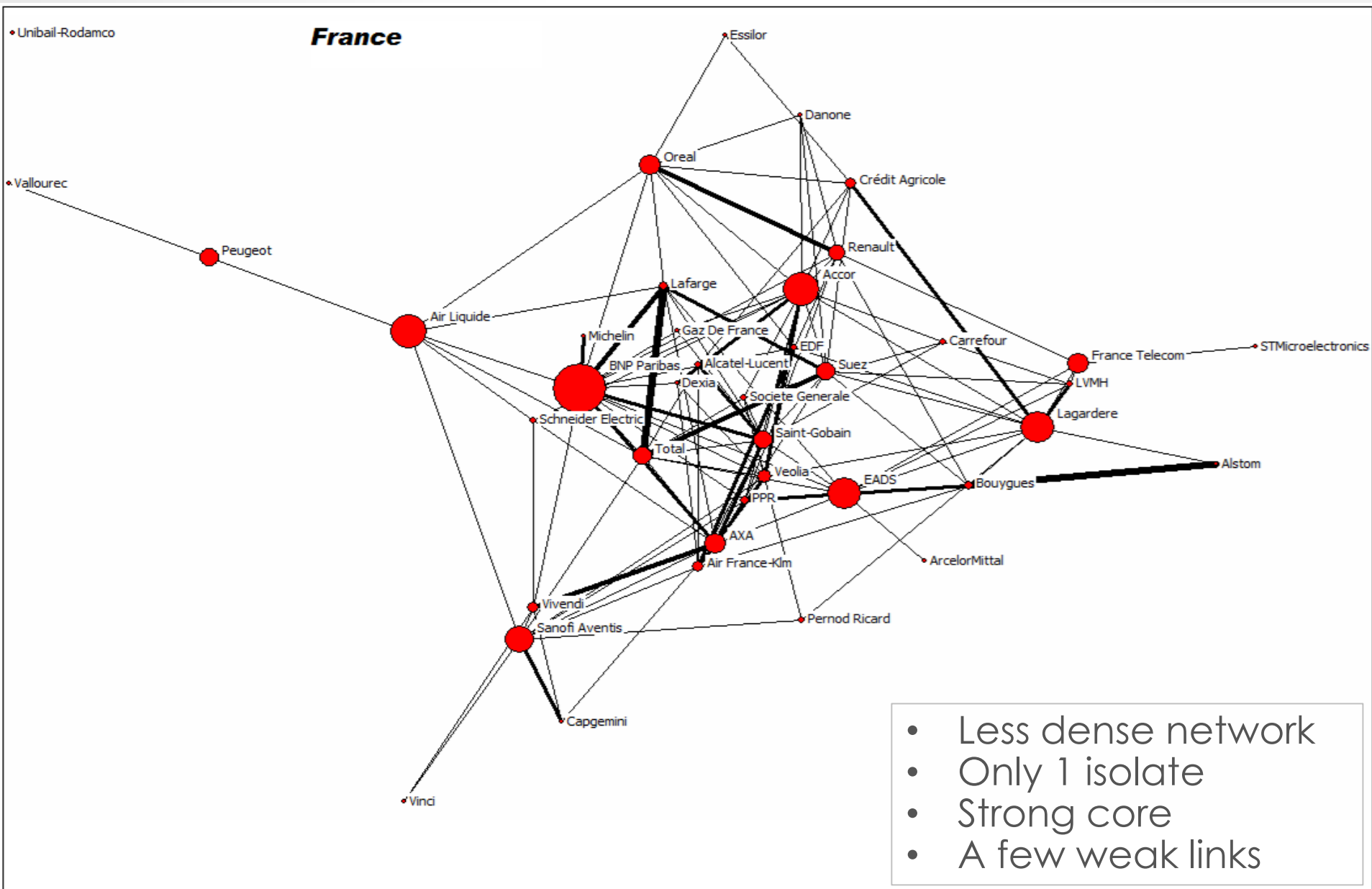
• Beiersdorf

**Germany**

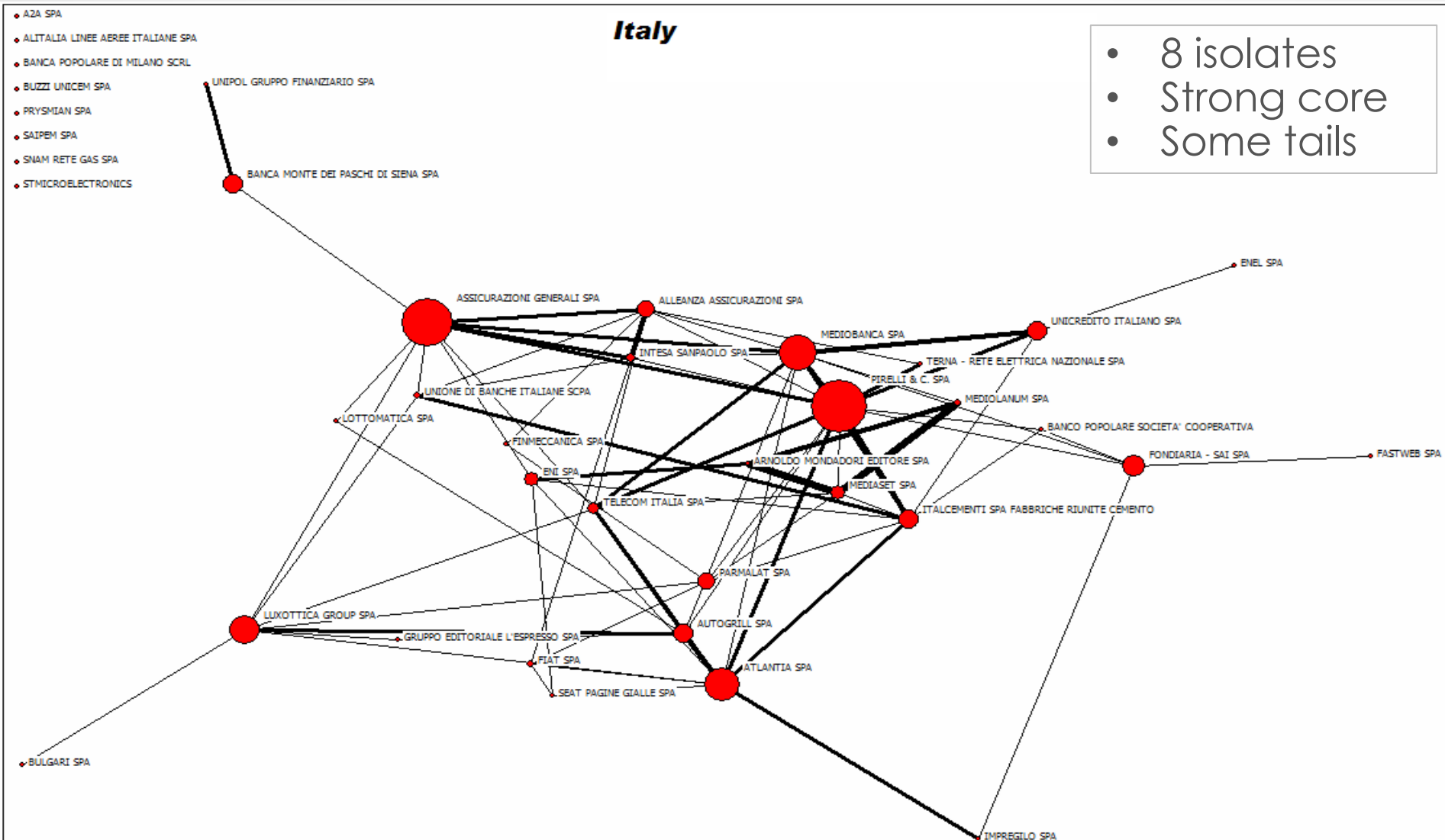
- Dense network
- Only 1 isolate
- Limited weak links



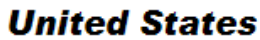
# RESULTS : FRANCE



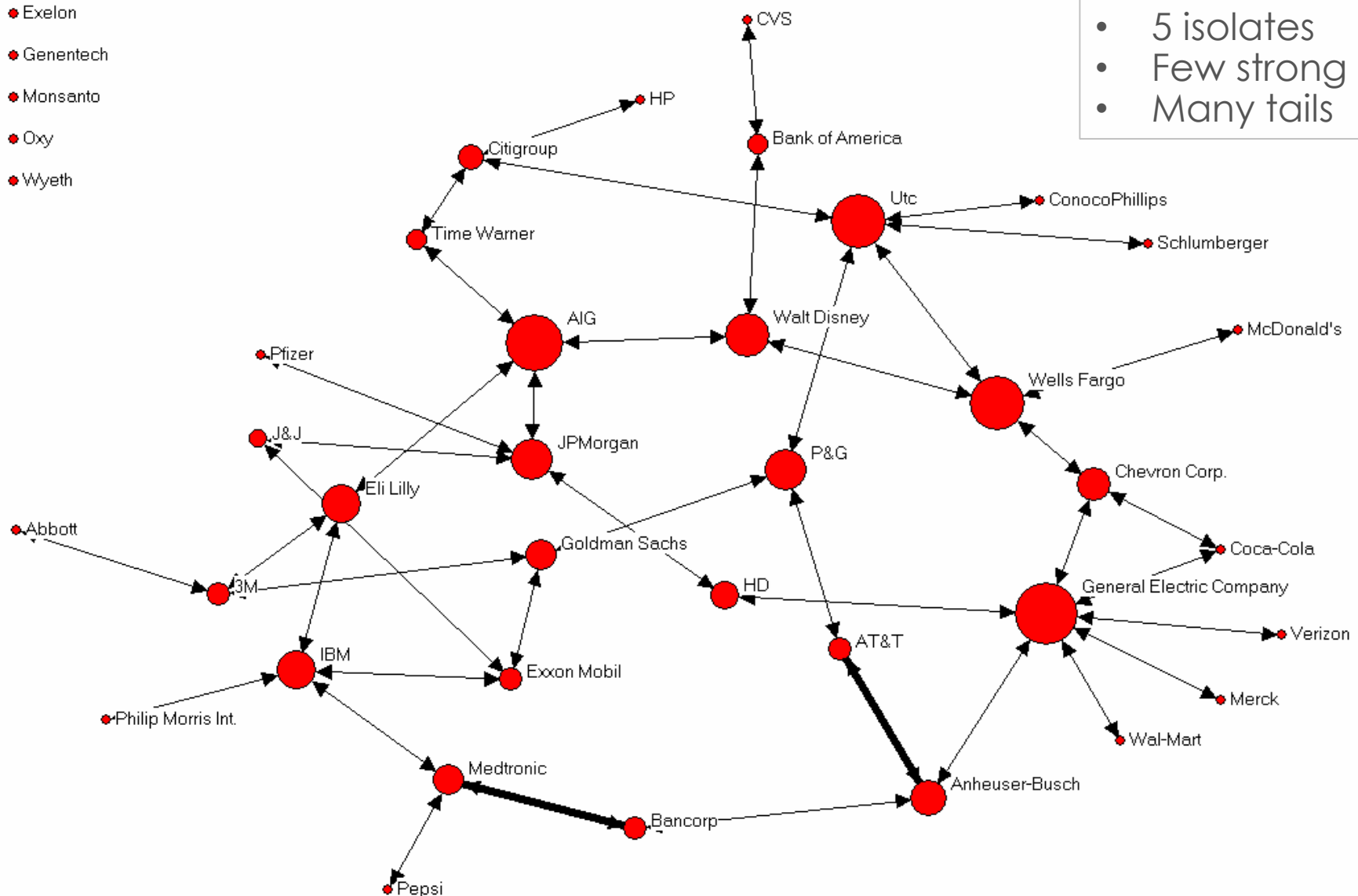
## RESULTS : ITALY



## RESULTS : UNITED STATES



- Much less dense
- 5 isolates
- Few strong links
- Many tails



# RESULTS : UNITED KINGDOM

## **United Kingdom**

• Anglo American

• HBOS

• HSBC

• Imperial Tobacco

• Kazakhmys

• Lloyds TSB

• Man Group

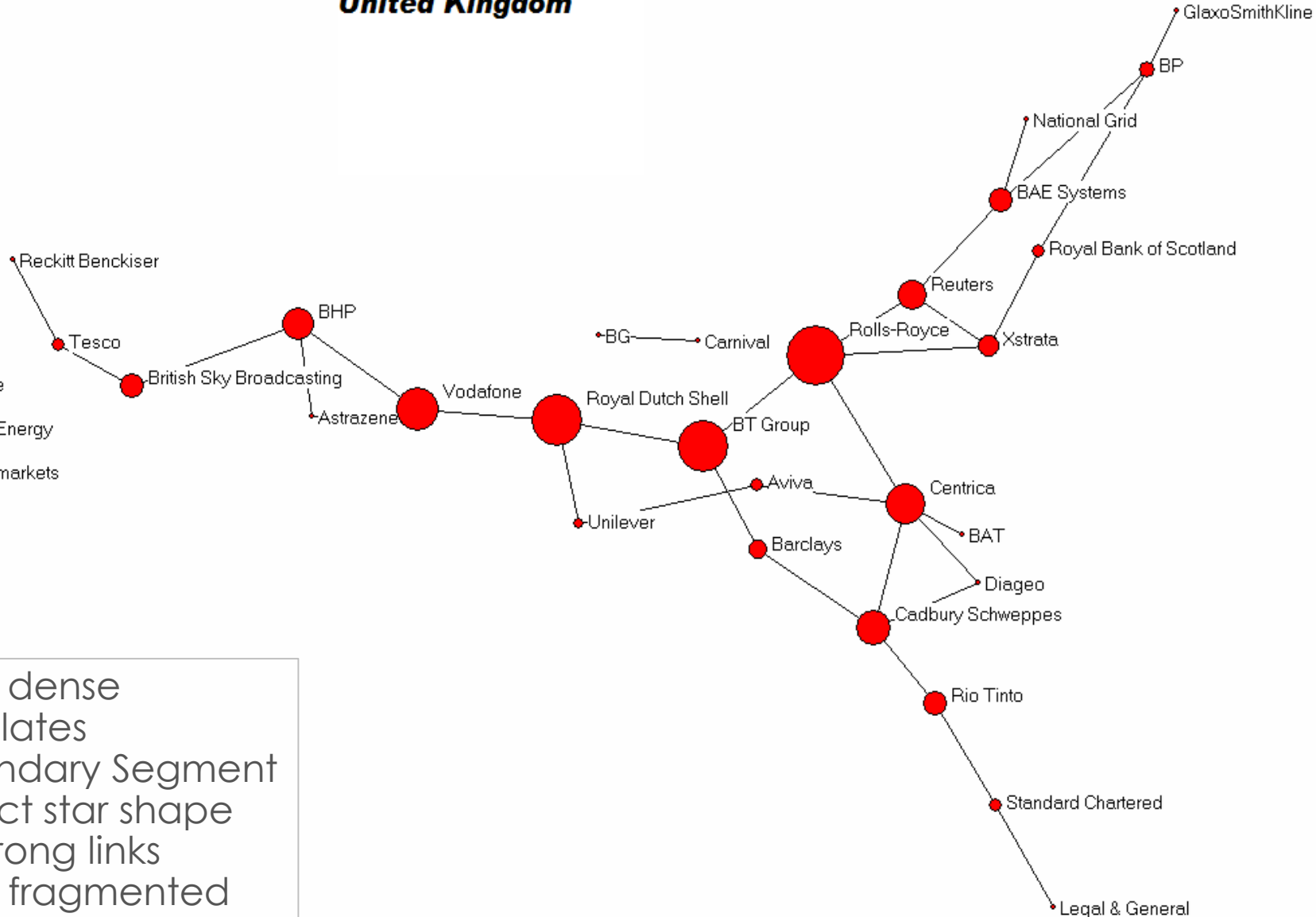
• Prudential

• SabMiller

• Scottish & Newcastle

• Scottish & Southern Energy

• WM Morrison Supermarkets

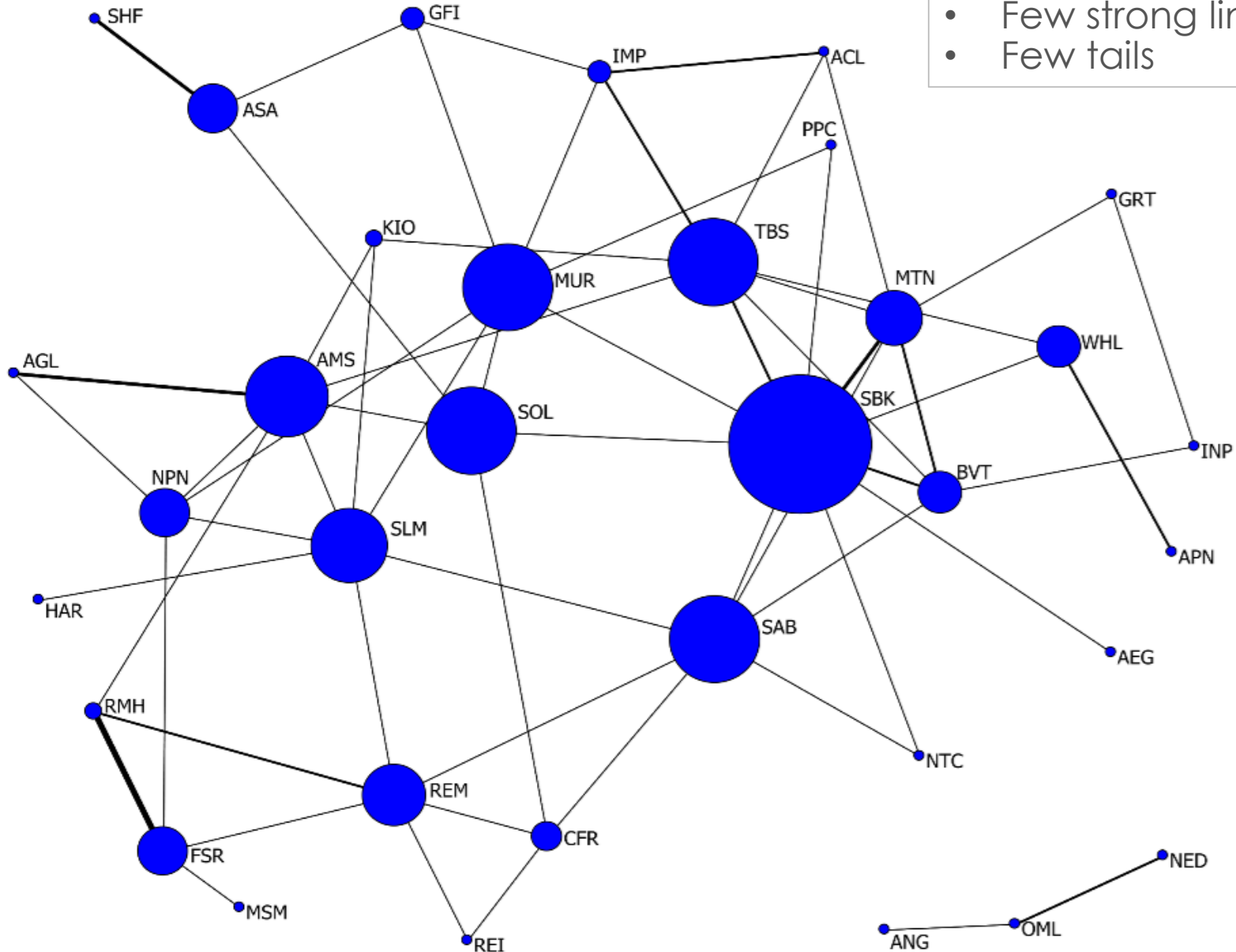


- Least dense
- 12 isolates
- Secondary Segment
- Distinct star shape
- No strong links
- Easily fragmented

# RESULTS : SOUTH AFRICA

- 6 isolates
- Secondary segment
- Medium density
- Few strong links
- Few tails

• ABL  
• BIL  
• LBT  
• SHP  
• TKG  
• TRU



# RESULTS : DESCRIPTIVE STATISTICS

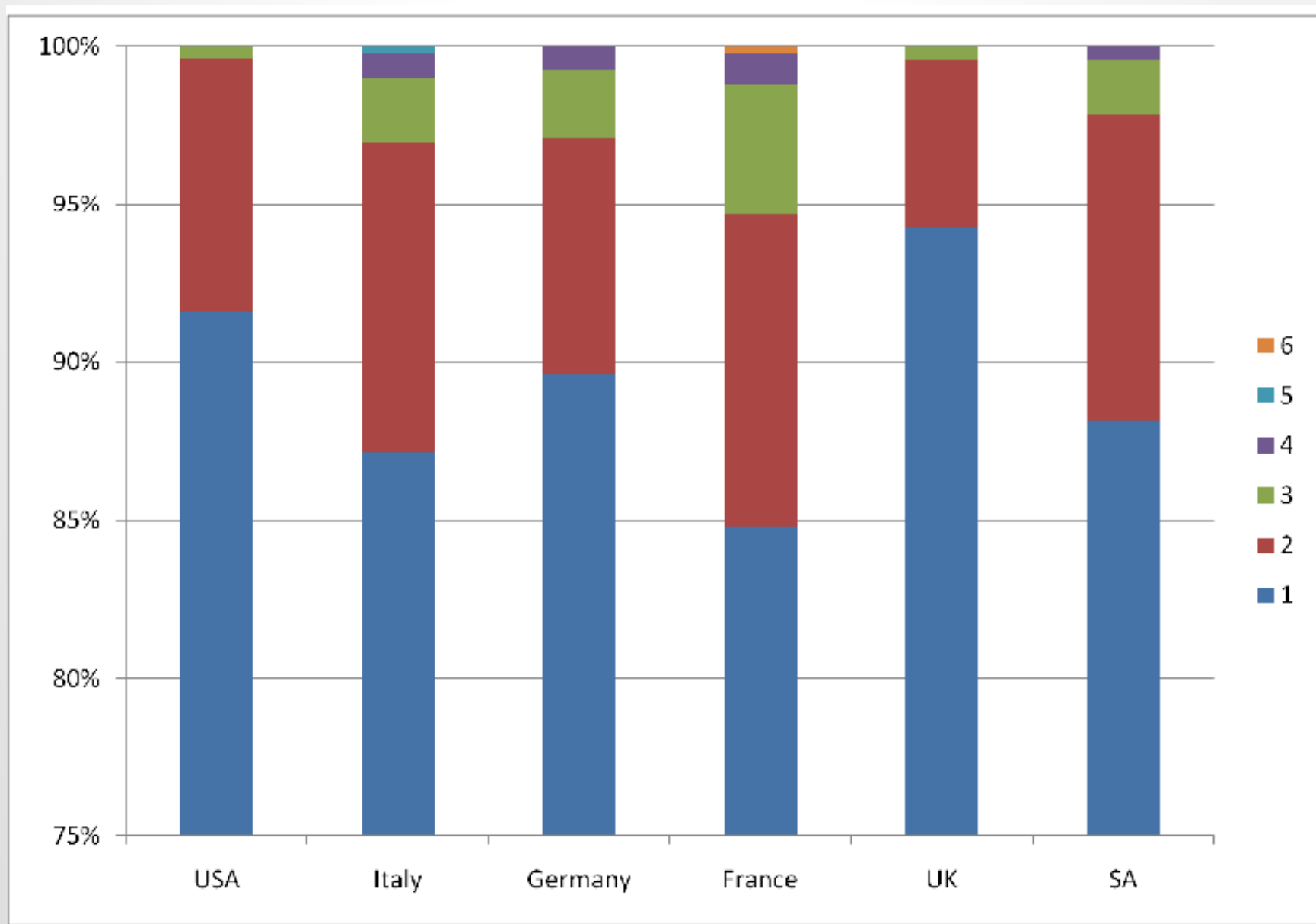
A	B	C	D	E	F	G	H	I	J
Country	Companies	Network Components	Companies in 1 <sup>st</sup> component	Isolates	Network density	Dir's	D'ships	D'ships / Company	D'ships / Dir
Italy	40	9	31	8	0.1039	491	575	14.375	1.171
France	40	2	39	1	0.1551	487	595	14.875	1.222
UK	40	14	26	12	0.0410	485	515	12.875	1.062
Germany	39	2	38	1	0.1984	795	908	23.282	1.142
United States	40	6	35	6	0.0564	489	532	13.300	1.088
South Africa	40	7	32	5	0.1064	458	526	13.150	1.148

# RESULTS : INTERCOMPANY LINKS

#	Country	Intercompany Links	#	Country	Intercompany Links
1	UK	30	4	Italy	84
2	USA	43	5	France	108
3	SA	68	6	Germany	112



# RESULTS : DIRECTOR DISTRIBUTION



# CONCLUSIONS

There is a clear network in SA

- 32 of top 40 connected

The SA network is not as dense as France & Germany

- 0.1 vs 0.16 vs 0.2

SA has some similarities with Italy

- Network density, size of primary segment, number of strong links between companies

Closer to UK & US

- Number of links between companies, sizes of boards

SA not in same position as UK & US

- Density (0.04 vs 0.06 vs 0.1), multiple directorships

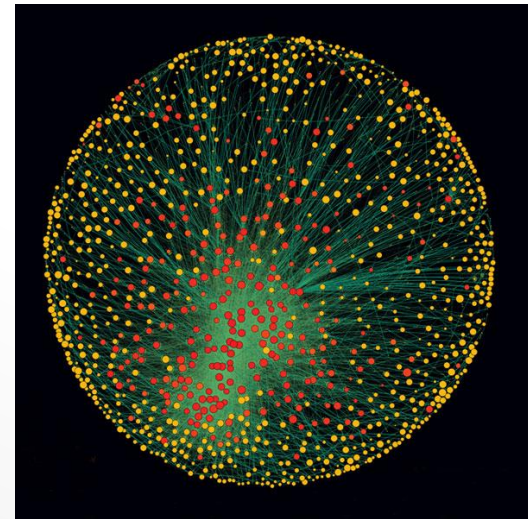
# FUTURE RESEARCH

## South Africa

- Extend time horizon of research to track changes over time
  - Pre and post 1994
  - Impact of King III
  - Keep research current
- Extend research outside of the Top 40

## Global : Consider global mega-network

- CFR (Compagnie Financiere Richemont SA)
  - 2 of 15 directors are South African
  - Simon Murray (UK) sits on board of Vodafone Group (UK)
  - Links UK and SA networks
- Dual Listings
  - OML (Old Mutual)
  - AGL (Anglo American)
  - SAB (SAB Miller)
- What about the rest?



The 147 companies that control everything  
Forbes.com 22/10/2011

# DISCUSSION

- ?

## **Contacts**

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# JSE SHORT CODES FOR TOP 40

JSE Code	Company Name	Year End	Registration Number
ASA	ABSA Group Limited	Dec	1986/003934/06
ABL	African Bank Investments Ltd	Sep	1946/021193/06
AGL	Anglo American Plc	Dec	
AMS	Anglo Platinum Ltd	Dec	1946/022452/06
ANG	Anglogold Ashanti Limited	Dec	1944/017354/06
ACL	Arcelormittal Sa Ltd	Dec	1989/002164/06
APN	Aspen Pharmacare Holdings Limited	Jun	1985/002935/06
AEG	Aveng Ltd	Jun	1944/018119/06
BIL	Bhp Billiton Plc	Jun	
CFR	Compagnie Fin Richemont	Mar	
FSR	Firststrand Limited	Jun	1966/010753/06
GFI	Gold Fields Limited	Jun	1968/004880/06
GRT	Growthpoint Properties Limited	Jun	1987/004988/06
HAR	Harmony Gold Mining Company Limited	Jun	1950/038232/06
IMP	Impala Platinum Holdings Limited	Jun	1957/001979/06
INP	Investec Plc	Mar	2001/001426/10
KIO	Kumba Iron Ore Limited	Dec	2005/015852/06
LBT	Liberty International Plc	Dec	1999/012910/10
MSM	Massmart Holdings Limited	Jun	1940/014066/06
MTN	Mtn Group Limited	Dec	1994/009584/06

JSE Code	Company Name	Year End	Registration Number
MUR	Murray And Roberts Holdings Limited	Jun	1948/029826/06
NPN	Naspers Limited	Mar	1925/001431/06
NED	Nedbank Group Limited	Dec	1966/010630/06
NTC	Netcare Limited	Sep	1996/008242/06
OML	Old Mutual Plc	Dec	
PPC	Pretoria Portland Cement Company Ltd	Sep	1892/000667/06
REI	Reinet Investments Manager S.A.		
REM	Remgro Limited	Mar	1968/006415/06
RMH	Rmb Holdings Limited	Jun	1987/005115/06
SAB	SabMiller Plc	Mar	
SLM	Sanlam Limited	Dec	1959/001562/06
SOL	Sasol Limited	Jun	1979/003231/06
SHP	Shoprite Holdings Limited	Jun	1936/007721/06
SBK	Standard Bank Group Ltd	Dec	1969/017128/06
SHF	Steinhoff International Holdings Ltd	Jun	1998/003951/06
TKG	Telkom Sa Limited	Mar	1991/005476/06
BVT	The Bidvest Group Limited	Jun	1946/021180/06
TBS	Tiger Brands Limited	Sep	1944/017881/06
TRU	Truworths International Limited	Jun	1944/017491/06
WHL	Woolworths Holdings Limited	Jun	1929/001986/06