The economic performance of South African cities and regions

The role of space, sector and skills

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Public Sector Economist Forum Kimberly 2019

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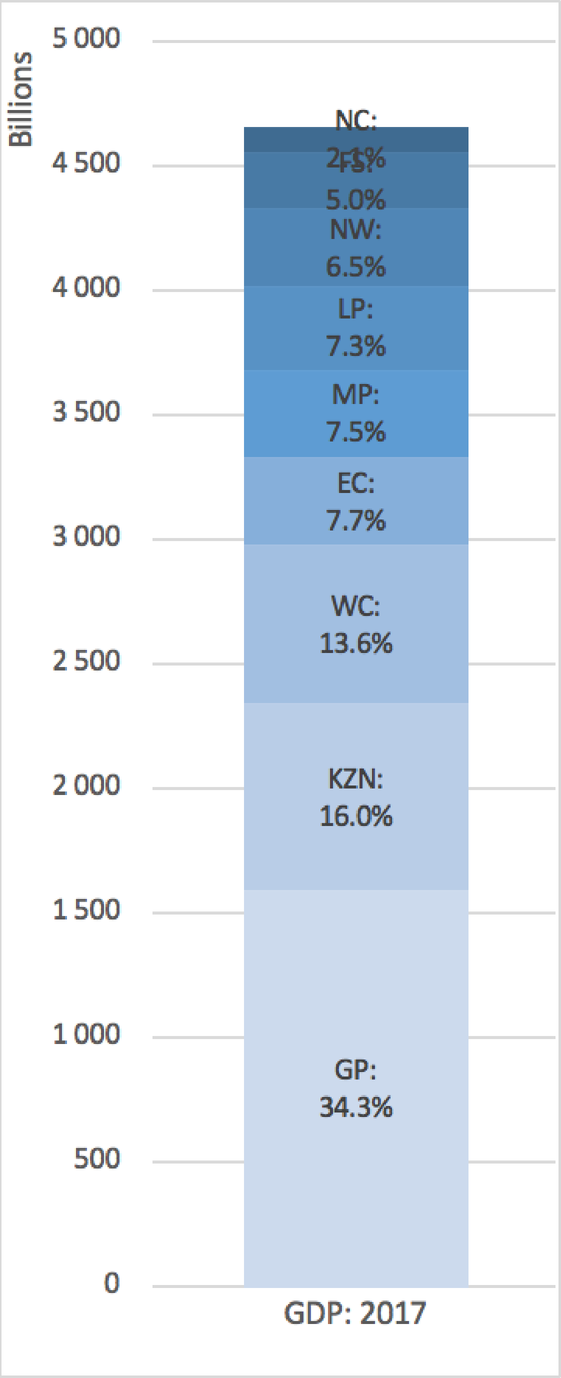
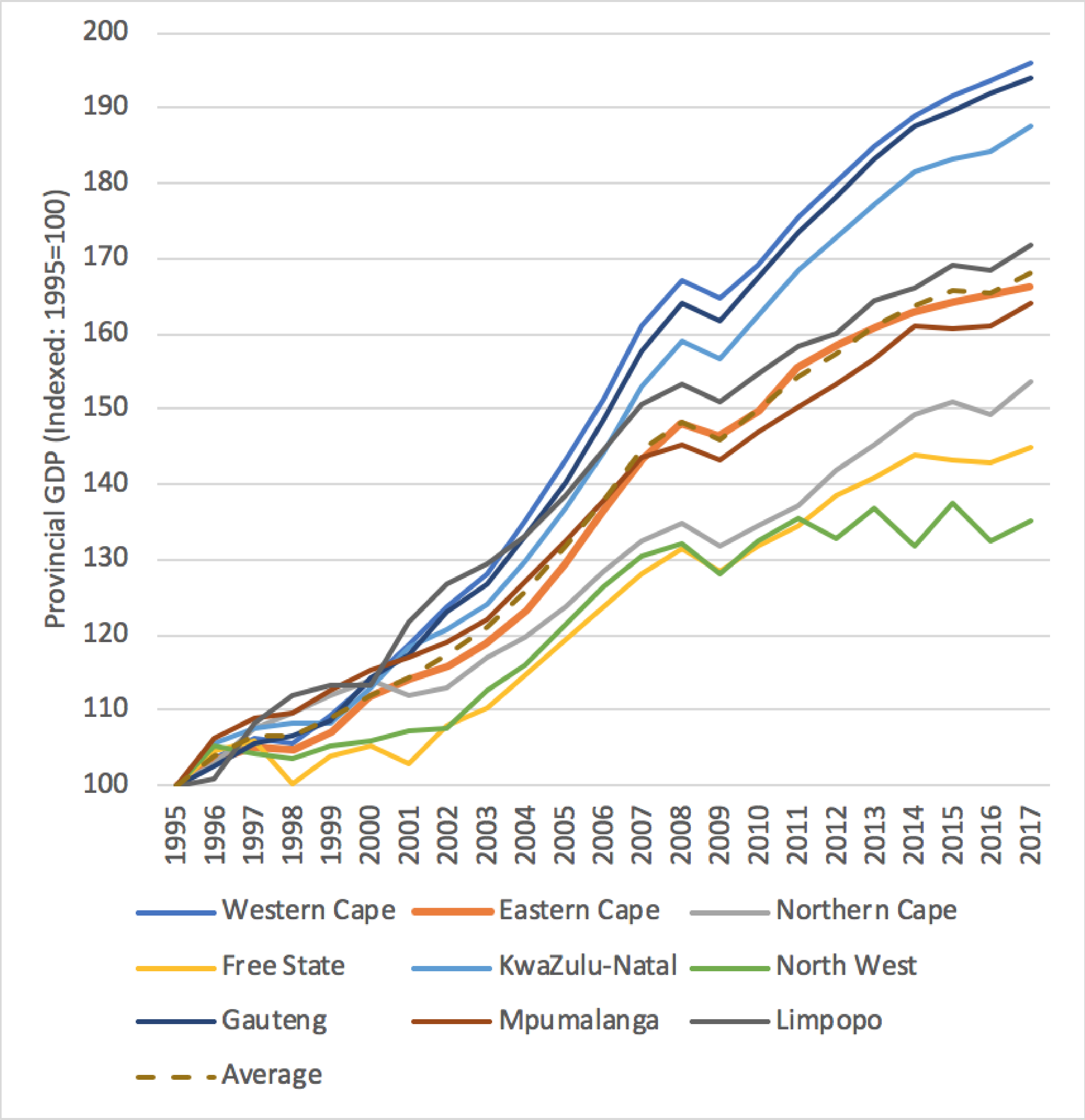




Source: StatsSA 2019: P0441

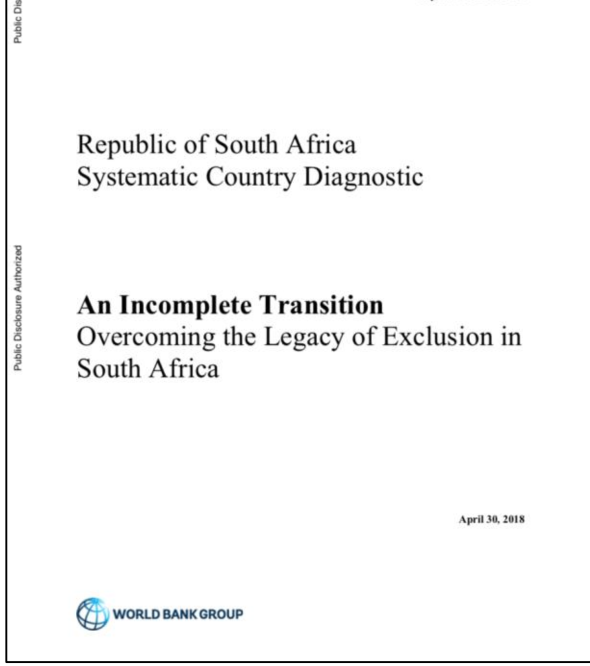
Percentage point change of industry share within each province, 1995 - 2017

	WC	EC	NC	FS	KZN	NW	GP	MP	LP
Agriculture	-2.3	-1.3	1.8	1.2	-2.1	-0.9	-0.5	-2.4	-1.1
Mining	-0.3	0.0	-3.6	-4.5	0.1	9.6	-1.0	3.3	9.1
Manufacturing	-7.4	-7.0	-1.1	-1.6	-9.0	-3.8	-9.5	-7.1	-2.3
Electricity & water	0.5	0.5	-0.3	0.2	0.4	0.4	0.1	0.7	0.4
Construction	0.8	1.5	0.7	-0.5	0.5	-0.4	0.3	0.2	-0.4
Trade	2.1	3.0	-0.2	0.8	0.8	-2.7	-1.1	2.2	-0.8
Transport & comms	1.3	0.0	-0.2	0.4	-0.1	-2.8	2.0	-1.8	-2.4
Finance & business	2.0	2.0	0.8	2.6	3.8	0.8	7.4	2.5	-2.7
Personal	1.7	-1.8	-2.5	-2.2	0.3	-0.6	1.0	-1.1	-1.3
Government	-0.4	1.5	3.7	2.1	3.0	-1.4	-0.8	2.2	0.4

Key research questions

- How have South African cities and regions performed since transition? Who are the winners and losers?
- Do growth differences reflect differences in endowments?
    - Structure of industry?
    - Availability of skills?
- What makes some places more productive then others? Role of agglomeration?

Structural change since 1994



Public Disclosure Authorized

Republic of South Africa
Systematic Country Diagnostic

An Incomplete Transition
Overcoming the Legacy of Exclusion in South Africa

April 30, 2018

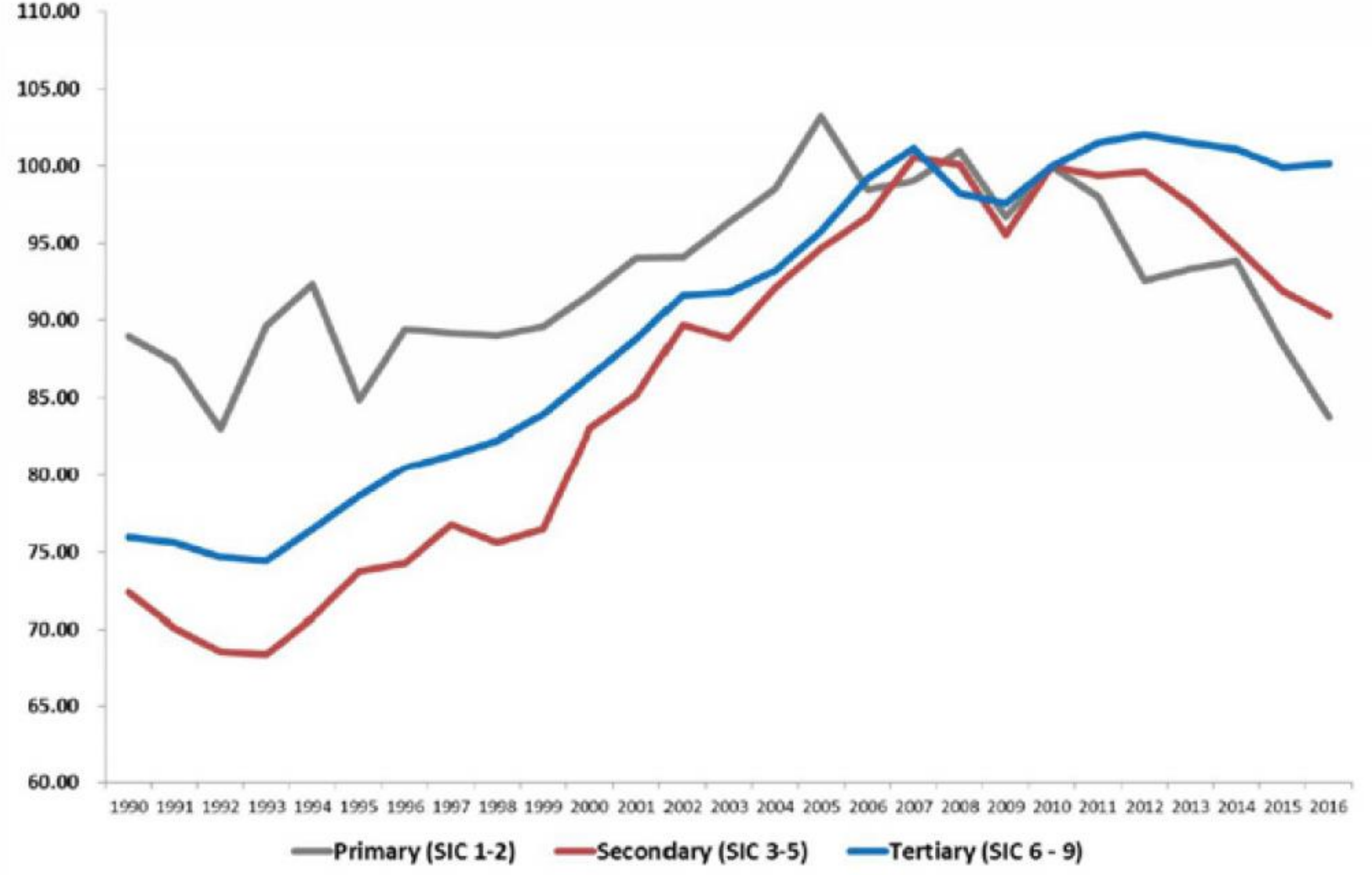
WORLD BANK GROUP

"Manufacturing, which has traditionally been a key contributor to low-skilled job creation elsewhere, currently holds only limited potential for jobs in South Africa"

World Bank 2018 – An Incomplete Transition

- The structure of industry and employment in South Africa has been changing over the last two decades.
- Manufacturing jobs increasingly skill and capital-intensive
- Mining sector and related heavy industry – vulnerable to labour and energy costs pressures – volatile global commodity prices – environmental sustainability?
- Rise of service economy – heterogeneous
  - Non-tradable component worrying – public sector wage bill / consumer indebtedness
  - Tradable service economy: higher-order finance and business services into Africa? Inter-linkages?
  - Disruptive technologies and shifting patterns of global trade

Figure 2: Multifactor productivity by sector
(Index 2010=100)



Source: Dadam, Hanusch, and Viegi (2019).

Methods: Space, sector and skills

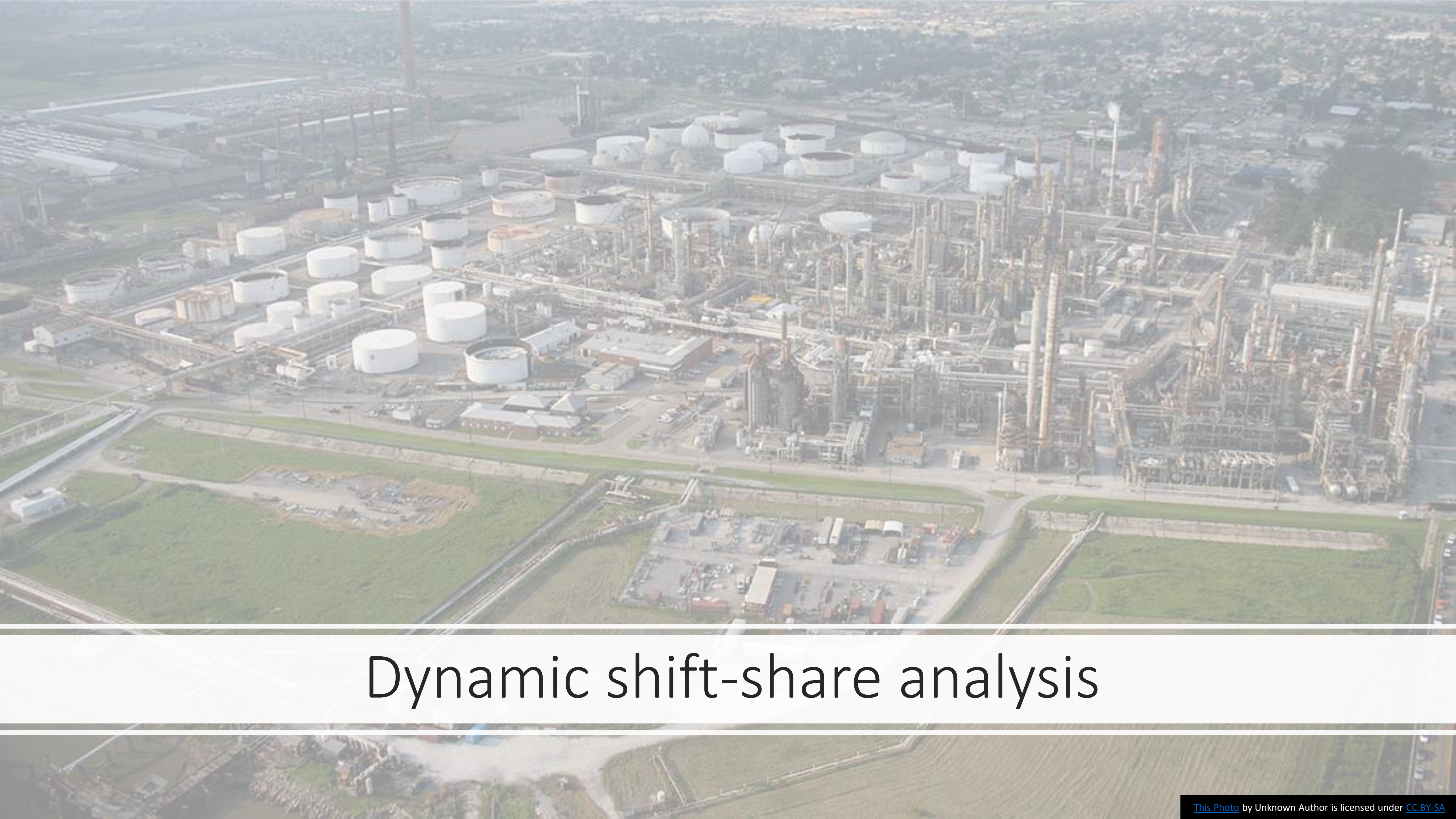
- Three key ‘factors’ or determinants of economic performance:
  - ‘Industry effects’ refer to the structure of industry - the rise of financial services versus stagnation in manufacturing.
  - ‘Occupational effects’ refer to skills in the workforce - higher levels of education, professional expertise and experience.
  - ‘Local effects’ refer to place-based advantages - size of economy and population, settlement structure and density, the features of infrastructure, geographic location, weather.

Methods: Space, sector and skills

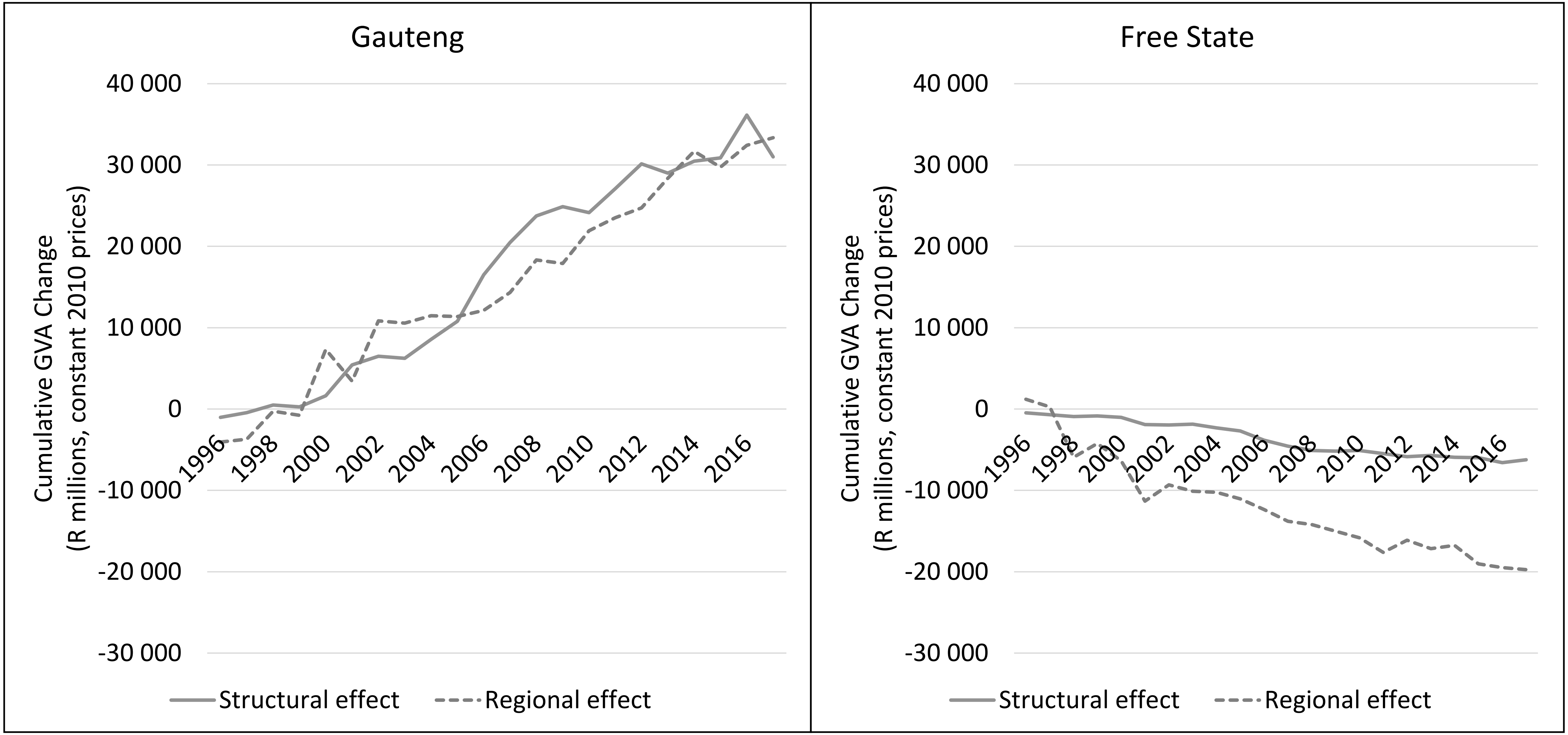
- Dynamic shift-share analysis: Each regional change is decomposed into three components:
  - *National growth effect* is the portion of the change attributed to the total growth of the national economy. It equals the theoretical change in the regional variable had it increased by the same percentage as the national economy.
  - *Industry mix effect* is the portion of the change attributed to the performance of the specific economic industry. It equals the theoretical change in the regional variable had it increased by the same percentage as the industry nationwide, minus the national growth effect.
  - *Local share effect* is the portion of the change attributed to regional influences, and is the component of primary concern to regional analysts. It equals the actual change in the regional variable, minus the previous two effects.

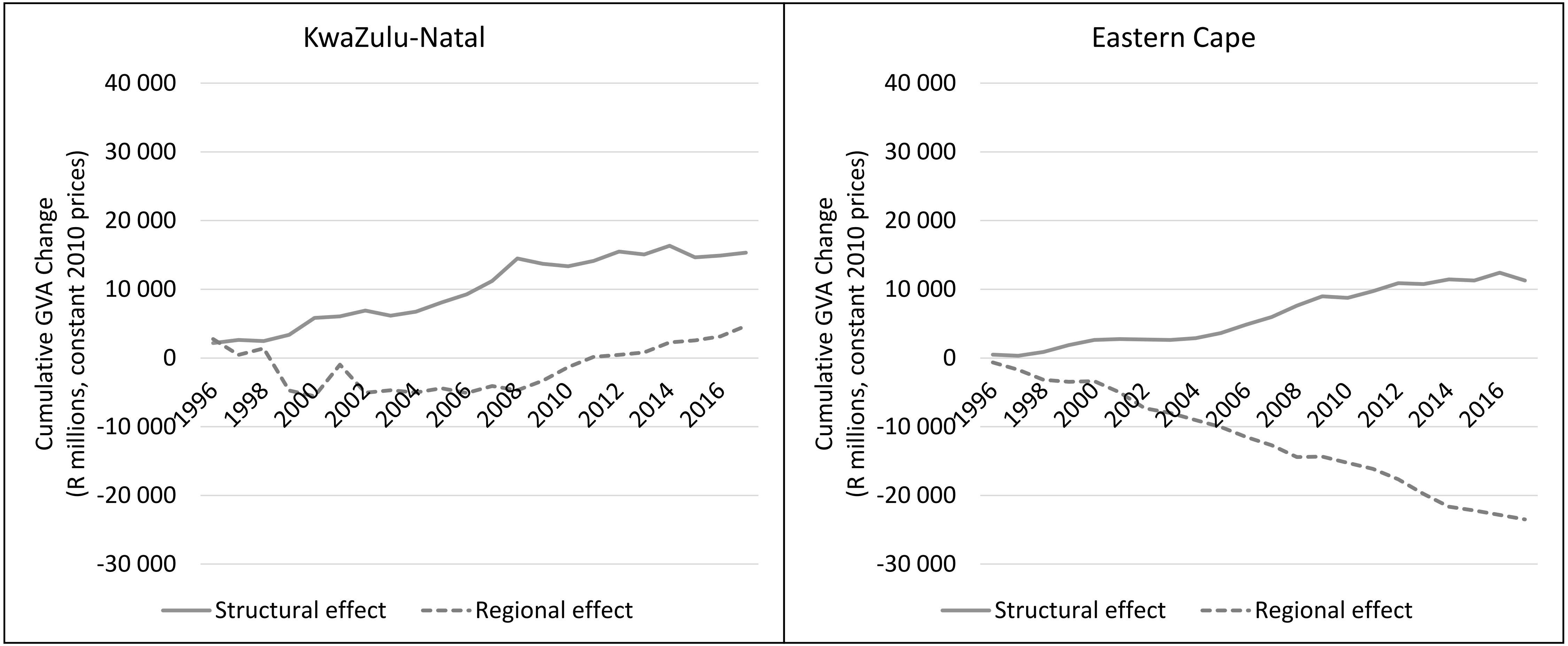
Serious data challenges!

- Regional/sub-national economic evidence-base weak
  - Dependence on commercial sources which lack transparency (are they reliable?) (i.e. IHS regional explorer / Quantec)
- Province: StatsSA Provincial GDP Series: P0441
- Metro: Labour Market Dynamics in South Africa 2008 - 2017
  - **Representative metro samples since 2008**
  - Pooled quarterly cross-sections: significantly boosts the sample size!!

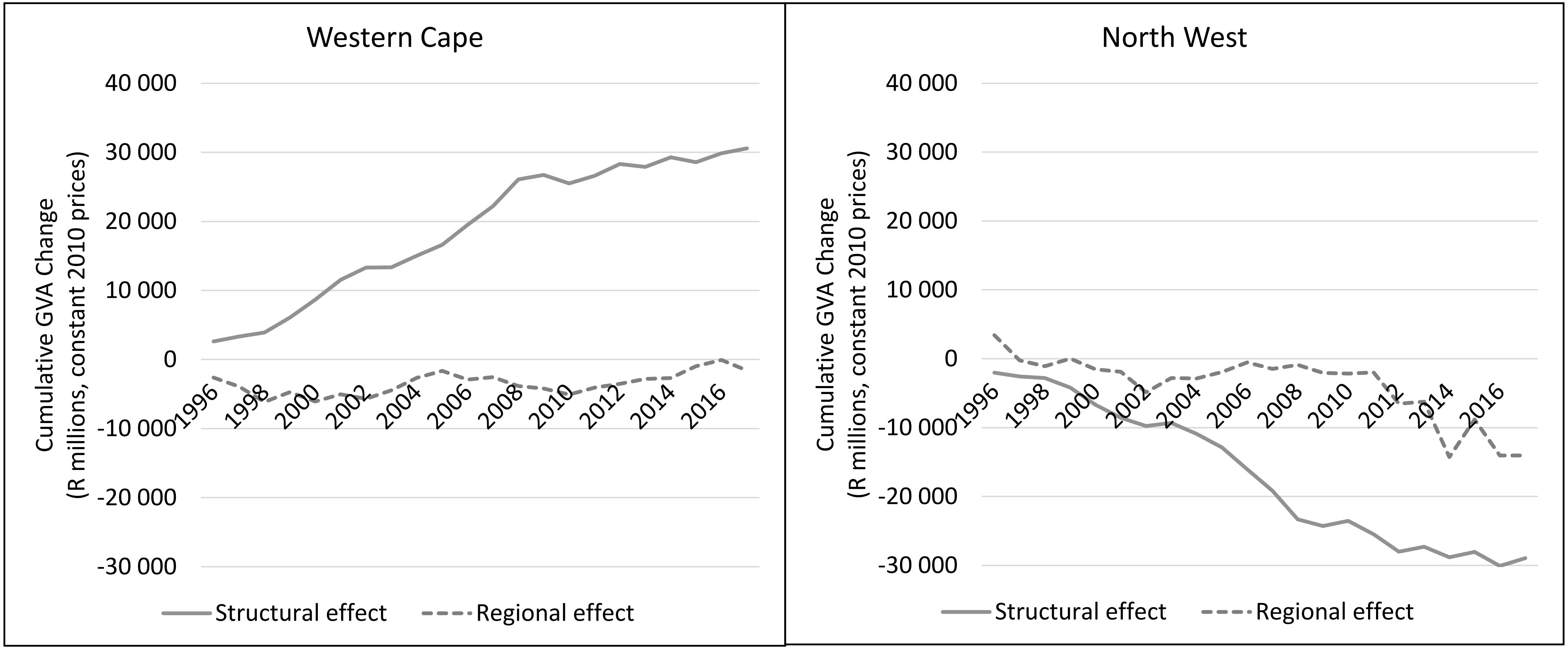


Dynamic shift-share analysis

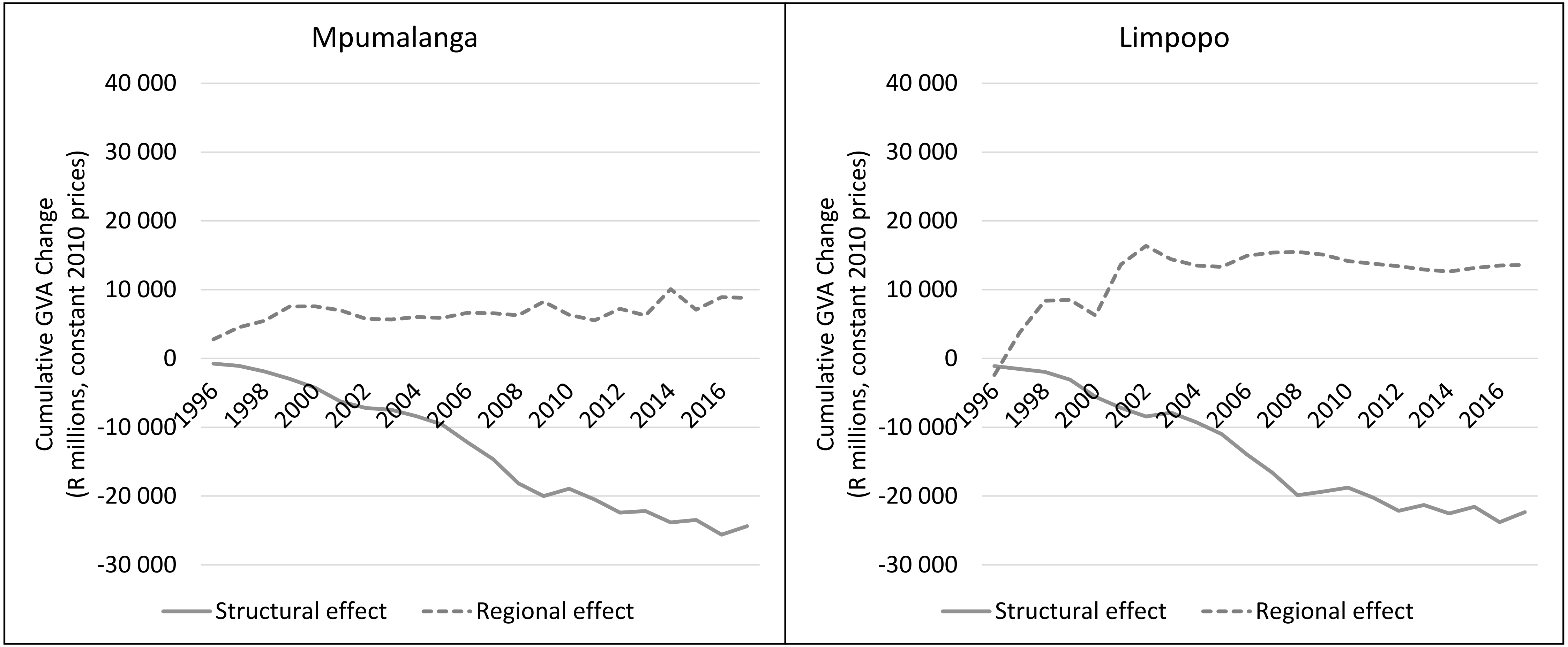

Gauteng
Free State
Cumulative GVA Change
(R millions, constant 2010 prices)
40 000
30 000
20 000
10 000
0
-10 000
-20 000
-30 000
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
2016
Structural effect
Regional effect



KwaZulu-Natal
Eastern Cape
40 000
30 000
20 000
10 000
0
-10 000
-20 000
-30 000
Cumulative GVA Change
(R millions, constant 2010 prices)
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
2016
Structural effect
Regional effect



Western Cape
40 000
30 000
20 000
10 000
0
-10 000
-20 000
-30 000
Cumulative GVA Change
(R millions, constant 2010 prices)
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
2016
Structural effect
Regional effect
North West
40 000
30 000
20 000
10 000
0
-10 000
-20 000
-30 000
Cumulative GVA Change
(R millions, constant 2010 prices)
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
2016
Structural effect
Regional effect

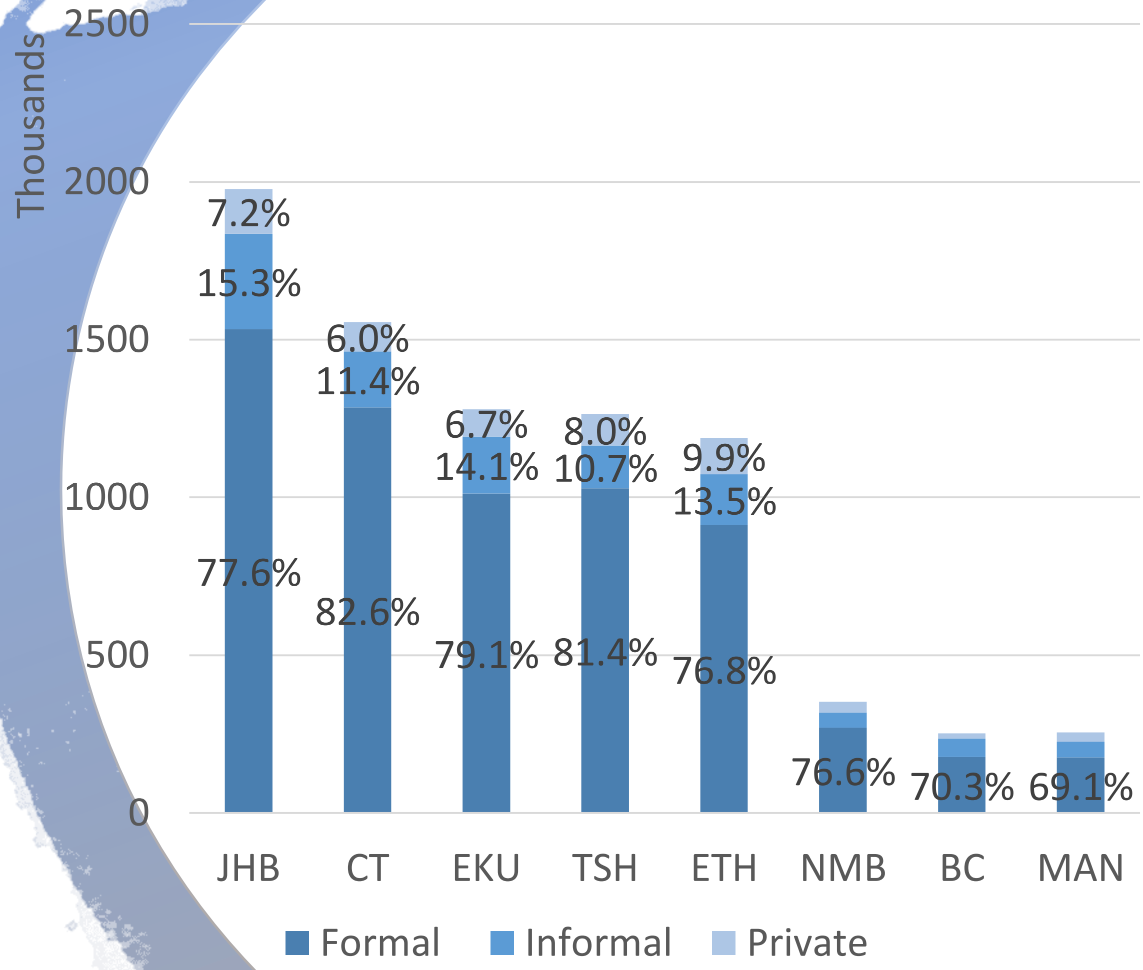


Mpumalanga
Limpopo
40 000
30 000
20 000
10 000
0
-10 000
-20 000
-30 000
Cumulative GVA Change
(R millions, constant 2010 prices)
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
2016
Structural effect
Regional effect

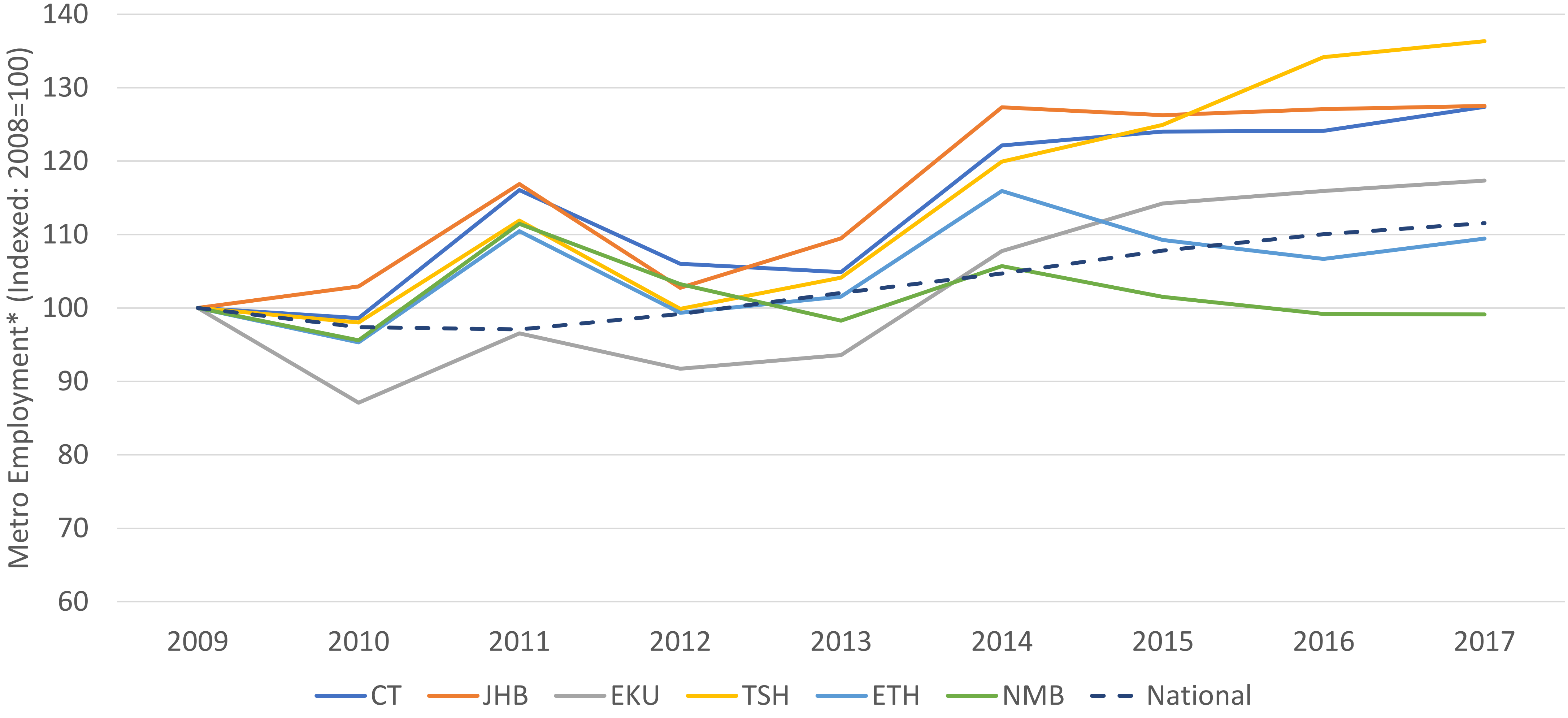
Key message

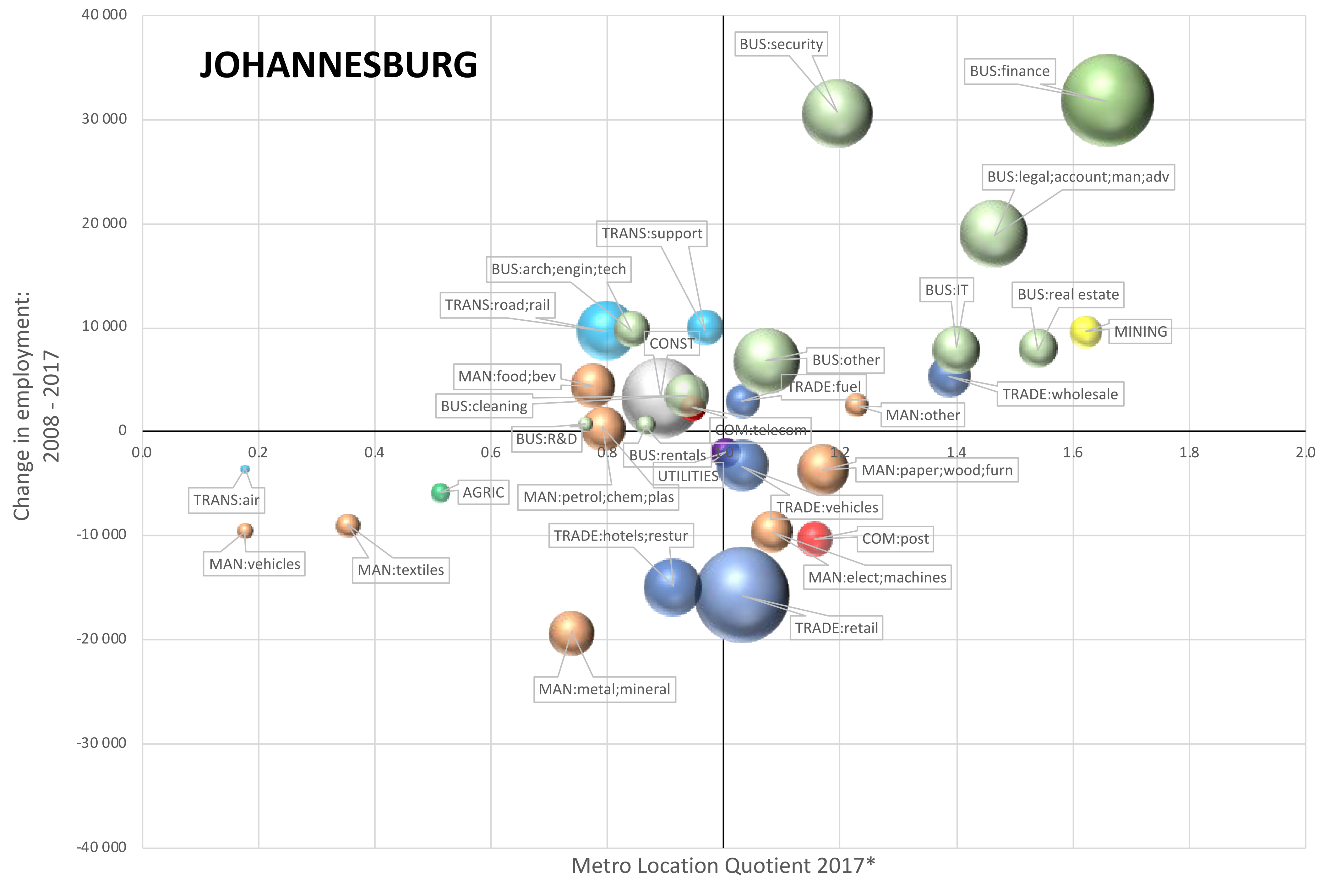
- We need a deeper understanding of the regional dynamics of the SA economy:
  - Provinces each have a unique industrial mix – where are the competitive advantages?
  - Impact of structural change: deindustrialisation – rise of tertiary sectors – 4IR
  - Why are firms more productive in certain places – role of agglomeration? How do you support place-based advantages?

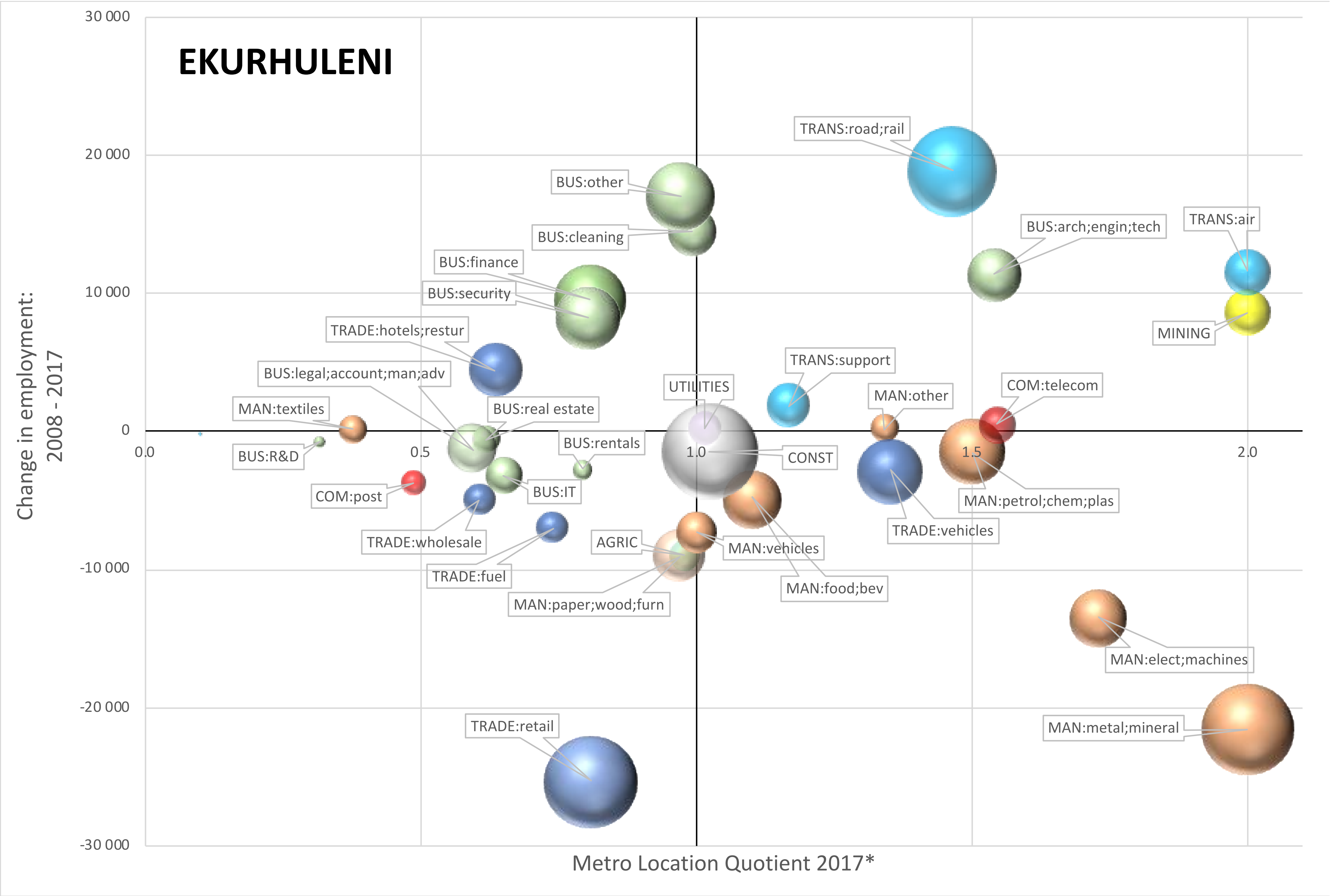
Deeper understanding of our metros: LMDS 2008 - 2017

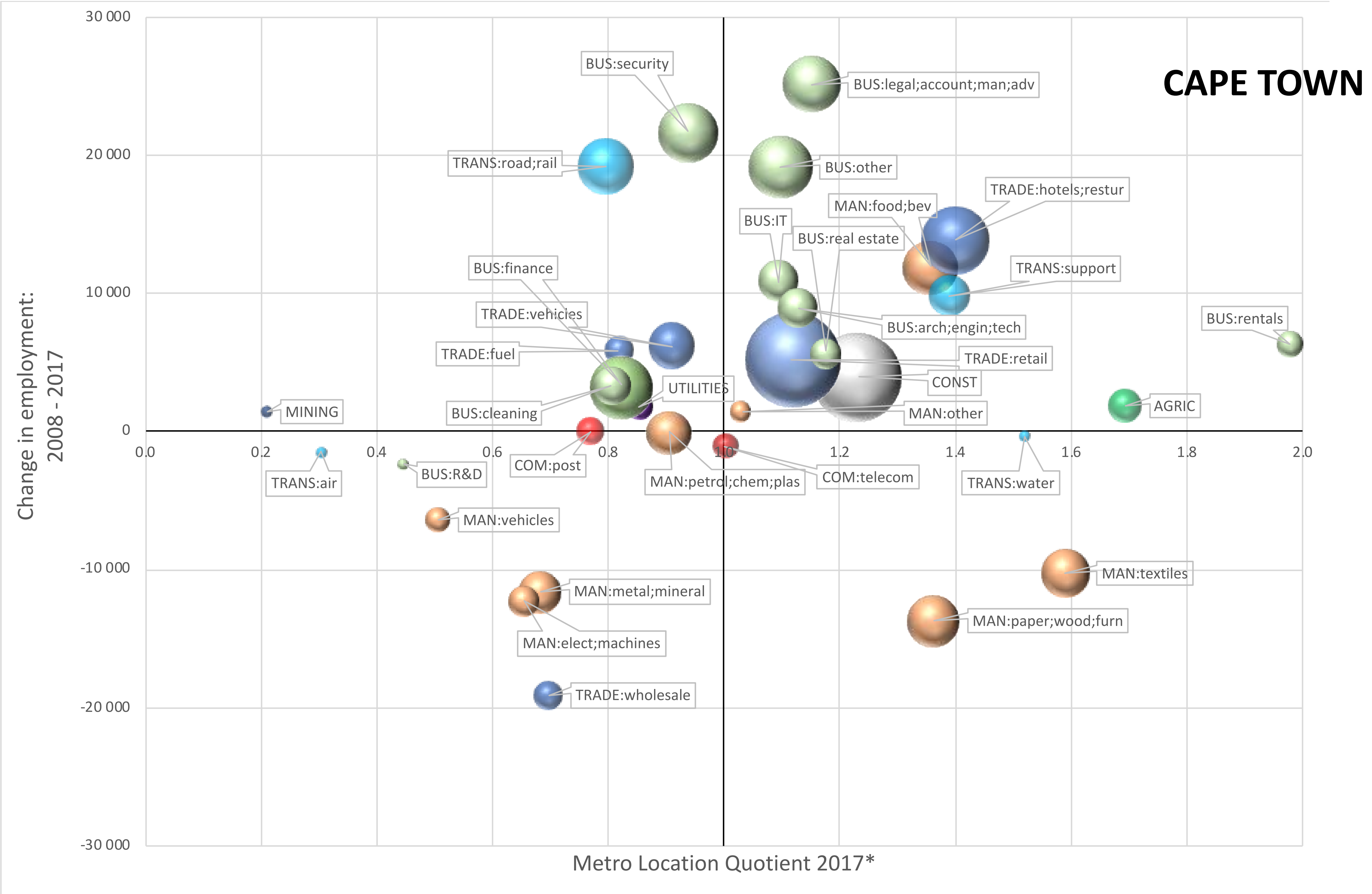


Distinct metro economic trajectories




JOHANNESBURG
Change in employment: 2008 - 2017
Metro Location Quotient 2017*
40 000
30 000
20 000
10 000
0
-10 000
-20 000
-30 000
-40 000
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
2.0
BUS:security
BUS:finance
BUS:legal;account;man;adv
TRANS:support
BUS:arch;engin;tech
TRANS:road;rail
BUS:IT
BUS:real estate
MINING
CONST
BUS:other
MAN:food;bev
TRADE:fuel
TRADE:wholesale
BUS:cleaning
MAN:other
COM:telecom
BUS:R&D
BUS:rentals
UTILITIES
MAN:paper;wood;furn
TRANS:air
AGRIC
MAN:petrol;chem;plas
TRADE:vehicles
COM:post
TRADE:hotels;restur
MAN:vehicles
MAN:textiles
MAN:elect;machines
TRADE:retail
MAN:metal;mineral


EKURHULENI
Change in employment: 2008 - 2017
Metro Location Quotient 2017*
30 000
20 000
10 000
0
-10 000
-20 000
-30 000
0.0
0.5
1.0
1.5
2.0
TRANS:road;rail
BUS:other
BUS:cleaning
BUS:arch;engin;tech
TRANS:air
MINING
BUS:finance
BUS:security
TRADE:hotels;restur
BUS:legal;account;man;adv
TRANS:support
UTILITIES
MAN:other
COM:telecom
MAN:textiles
BUS:real estate
BUS:R&D
BUS:rentals
CONST
COM:post
BUS:IT
MAN:petrol;chem;plas
TRADE:vehicles
TRADE:wholesale
AGRIC
MAN:vehicles
TRADE:fuel
MAN:food;bev
MAN:paper;wood;furn
MAN:elect;machines
MAN:metal;mineral
TRADE:retail

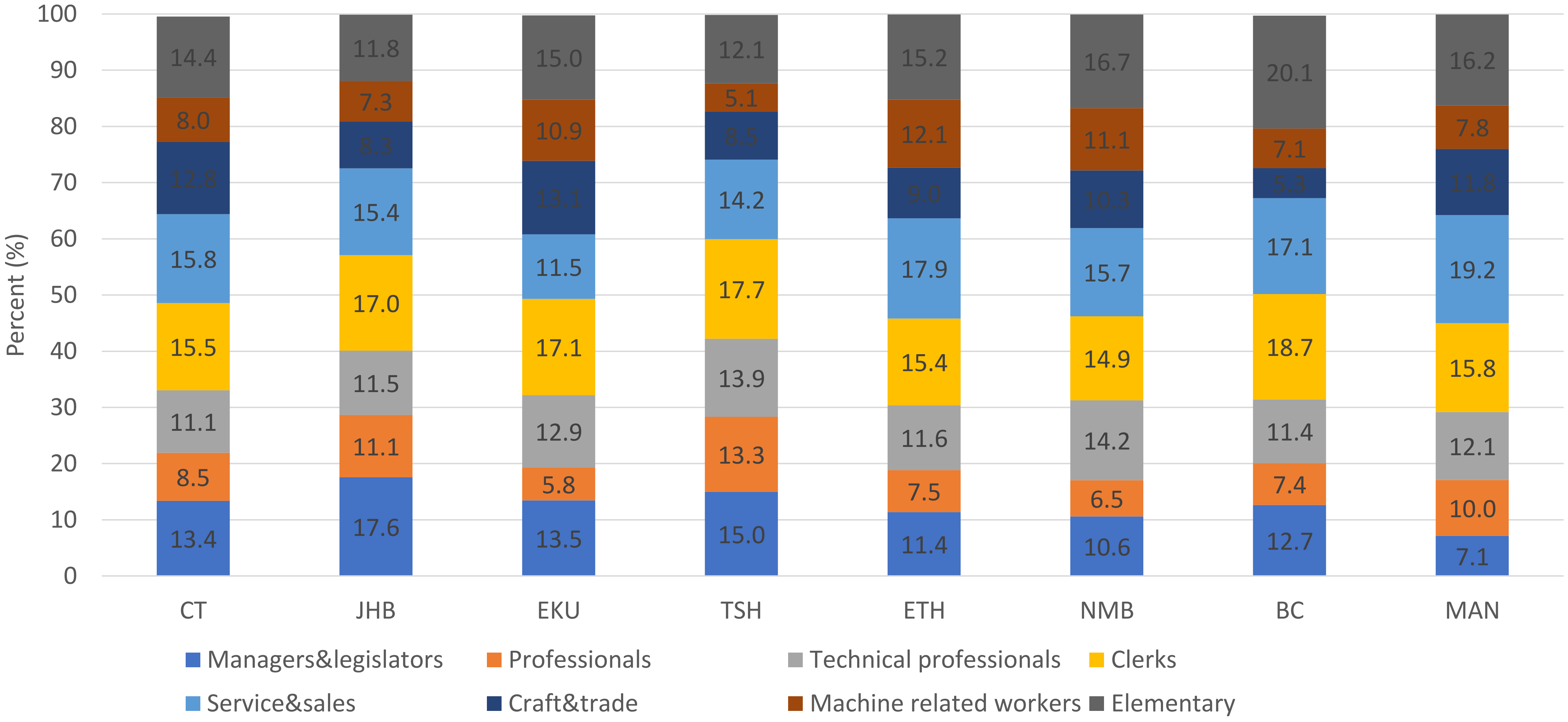


CAPE TOWN
Change in employment: 2008 - 2017
Metro Location Quotient 2017*
30 000
20 000
10 000
0
-10 000
-20 000
-30 000
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
2.0
BUS:security
BUS:legal;account;man;adv
TRANS:road;rail
BUS:other
TRADE:hotels;restur
MAN:food;bev
BUS:IT
BUS:real estate
BUS:finance
TRANS:support
TRADE:vehicles
BUS:arch;engin;tech
BUS:rentals
TRADE:fuel
TRADE:retail
CONST
UTILITIES
MINING
BUS:cleaning
MAN:other
AGRIC
COM:post
COM:telecom
TRANS:air
BUS:R&D
MAN:petrol;chem;plas
TRANS:water
MAN:vehicles
MAN:textiles
MAN:metal;mineral
MAN:paper;wood;furn
MAN:elect;machines
TRADE:wholesale

Distinct city character

- **Johannesburg:** emerging finance and selected business services
- **Ekurhuleni:** airport-related logistics
- **Tshwane:** recession-proof government functions
- **Cape Town:** tourism and diversity but lacking distinctive strengths
- **eThekwini** – seaport-related logistics
- **Nelson Mandela Bay** – automotive giant in decline

Distinct metro skillsets



	Change empl '08-'17						
	CT	JHB	EKU	TSH	ETH	NMB	Total Change
GOVT/NPO:Senior officials	-107	-8 399	-710	-4 694	-4 074	-1 074	-19 058
MAN:Cheif exec	6 356	20 530	-3 191	4 861	3 642	1 209	33 407
MAN:prod/line/ops	35 533	70 945	1 998	29 276	21 870	7 135	166 757
MAN:general	8 048	14 131	-2 312	6 595	4 524	-13 410	17 576
PROF:natural science	-89	-743	-3 683	-1 510	-727	-759	-7 511
PROF:IT	-1 571	-5 600	-1 144	844	752	-71	-6 790
PROF:engineer/prod	-5 159	-2 201	-7 071	7 007	333	-2 591	-9 682
PROF:health/social	16	-102	920	1 657	-644	-458	1 389
PROF:teaching	320	592	-128	317	-143	0	958
PROF:finance/business	-5 059	2 565	-11 797	2 995	-10 365	394	-21 267
PROF:legal	3 314	3 504	-497	5 780	-887	-435	10 779
PROF:arts/culture/religious	1 044	3 002	70	-892	-633	82	2 673
TECH:natural science	-1 708	-2 212	-1 149	-624	1 695	400	-3 598
TECH:engineer/trans	959	-7 444	2 992	4 916	-7 732	109	-6 200
TECH:IT	4 172	6 228	2 084	5 319	1 301	338	19 442
TECH:health/social	-915	2 635	795	-1 572	3 053	563	4 559
TECH:teaching	-91	-152	-949	-232	-363	0	-1 787
TECH:finance/business	-1 388	-4 593	-2 648	-238	-155	596	-8 426
TECH:sales/agents	5 234	-5 885	-6 911	14 793	4 173	-2 237	9 167
TECH:legal/admin	652	-2 559	-1 748	-314	-264	93	-4 140
TECH:govt	5 103	3 294	1 713	-324	334	-464	9 656
TECH:design	691	-3 606	-176	4 328	-1 124	-1 373	-1 260
TECH:arts/culture/religious	-1 485	-43	-1 242	1 655	-555	-105	-1 775

	Change empl '08-'17						
	CT	JHB	EKU	TSH	ETH	NMB	Total Change
CLERK:secret	8 235	19 149	-6 714	5 012	5 138	-1 778	29 042
CLERK:accounts	974	-4 371	-2 674	6 140	-3 627	-1 322	-4 880
CLERK:stock;prod	-9 700	-8 061	2 839	-2 250	-7 465	-386	-25 023
CLERK:other office	319	337	12 919	5 965	5 728	-5 413	19 855
CLERK:cash;teller	8 403	9 988	-583	1 721	4 422	1 664	25 615
CLERK:other customer	1 319	-787	-126	0	189	-398	197
SERVICE:travel;entert	13 841	-9 021	2 343	1 603	-1 513	1 919	9 172
SERVICE:personal	1 854	821	1 201	791	200	-212	4 655
SERVICE:public security	-1 858	-2 194	-3 104	-2 240	-3 742	-329	-13 467
SERVICE:private security	18 305	26 495	8 279	8 213	17 060	-2 217	76 135
SALES	9 129	18 300	-3 456	4 562	12 344	1 387	42 266
SKILLED AGRIC	-1 077	-2 213	-1 424	1 401	-2 529	-176	-6 018
CRAFT:mining	-1 684	1 468	-1 468	-3 012	-1 691	-964	-7 351
CRAFT:building	-2 089	-9 340	110	2 322	-23 328	-1 388	-33 713
CRAFT:metal;mach	-12 328	-18 624	-6 394	-2 170	-1 726	-3 347	-44 589
CRAFT:vehicles	1 969	-11 270	-4 214	-4 879	758	-3 015	-20 651
CRAFT:electrical	4 568	-2 990	4 424	3 761	-5 073	1 383	6 073
CRAFT:handicraft	-2 332	-56	-3 445	-34	-5 559	753	-10 673
CRAFT:food	-245	-3 724	3 576	1 443	300	-3 107	-1 757
CRAFT:wood	2 048	-1 355	133	-862	-211	-205	-452
CRAFT:textiles	376	-6 314	66	-4 024	-5 649	-234	-15 779
MACH:mining;metal;glass	2 069	-1 683	-3 958	-71	-978	287	-4 334
MACH:wood;paper	-3 855	739	-292	-1 371	1 395	-610	-3 994

	Change empl '08-'17						
	CT	JHB	EKU	TSH	ETH	NMB	Total Change
MACH:mining;metal;glass	2 069	-1 683	-3 958	-71	-978	287	-4 334
MACH:wood;paper	-3 855	739	-292	-1 371	1 395	-610	-3 994
MACH:gen ind	-8 362	-8 820	1 116	-1 794	-11 876	2 898	-26 838
MACH:textiles	-915	-2 576	-1 180	-2 770	-3 760	-233	-11 434
MACH:agri	541	-235	-596	-21	3 286	-1 292	1 683
ASSEMBLERS	2 813	-718	-2 956	-217	70	-685	-1 693
DRIVERS:vehicle	8 368	-2 713	3 440	-2 104	2 776	-1 228	8 539
DRIVERS:plant	1 984	2 321	-791	-29	-6 388	-635	-3 538
ELEM:street sales/services	-1 617	-3 946	-2 340	-4 162	-2 725	-1 331	-16 121
ELEM:helpers;cleaners	8 687	6 903	6 323	-2 612	-884	5 212	23 629
ELEM:sweepers;garbage	383	-788	1 168	930	-1 111	-3 382	-2 800
ELEM:agri labour	3 999	2 973	-2 317	3 514	-5 353	3 101	5 917
ELEM:mining labour	0	1 180	-161	0	0	-108	911
ELEM:const labour	-10 779	-1 796	-3 561	501	-7 338	-3 109	-26 082
ELEM:man labour	4 837	-9 467	21 275	15 830	4 551	-21 654	15 372
ELEM:freight	4 829	-154	3 760	3 175	1 693	802	14 105
TOTAL	**106 877**	**61 344**	**-13 564**	**112 203**	**-28 608**	**-51 414**	**186 838**

Key policy implications

- South African cities and regions are experiencing significant changes which are poorly understood
  - Deindustrialisation
  - Uneven pattern of service-based growth
- Demand for skills evolving but place-based
  - hallowing out through the loss of semi-skilled blue-collar workers.
  - little sign of boom in professional and technical skills.
- How do we improve competitiveness of each region? Where is there potential and how do we support it?
- City-region economies under-researched and needs to be prioritised and sustained over the long-term.

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Human Sciences Research Council

Siyabonga
Enkosi
Ke a leboha
Ndza nkhensa
Dankie!