Edged Out

Spatial Mismatch and Spatial Justice in South Africa's Main Urban Areas

Research Dissemination Conference

30 August 2017

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Outline

- Research questions and motivation
- What is spatial mismatch, why might it be important in South Africa?
- Methodology of our investigation
- Results
- Understanding the resilience of Apartheid cities
- Policy implications
- Implications for understanding Spatial Justice
- Conclusion

Research questions

- How important is housing location for people's employment prospects in SA's main urban areas?
- What are the implications for housing policy which aims to address poverty?
- What are the implications for how we understand spatial justice in South Africa's cities?

Research motivation

- SA cities have particular Apartheid spatial form
- Much of post-Apartheid housing delivery has focused on unit delivery, with consequences of entrenching peripheral development
- Popular and academic recognition of importance of housing location, increasingly in govt policy
- In particular there is now assumption about Spatial Mismatch Hypothesis
- But very little work seeking to investigate or quantify Spatial Mismatch and its impact

Context

1. South African cities characterised by Apartheid-era spatial forms
   - Extreme racial and class segregation; black and working class people live in peripheral and poorly-serviced areas
   - Apartheid city density patterns are dysfunctional and regressive
   - This spatial form is the result of deliberate Apartheid policy
2. South Africa has widespread poverty and extreme inequality
   - Dysfunctional labour market is main cause of high poverty and inequality
     - Low wages (except at the top) and high unemployment
   - Poverty and labour market outcomes are highly racialised
   - People stuck in inter-generational poverty due to variety of “poverty traps”

The Spatial Mismatch Hypothesis

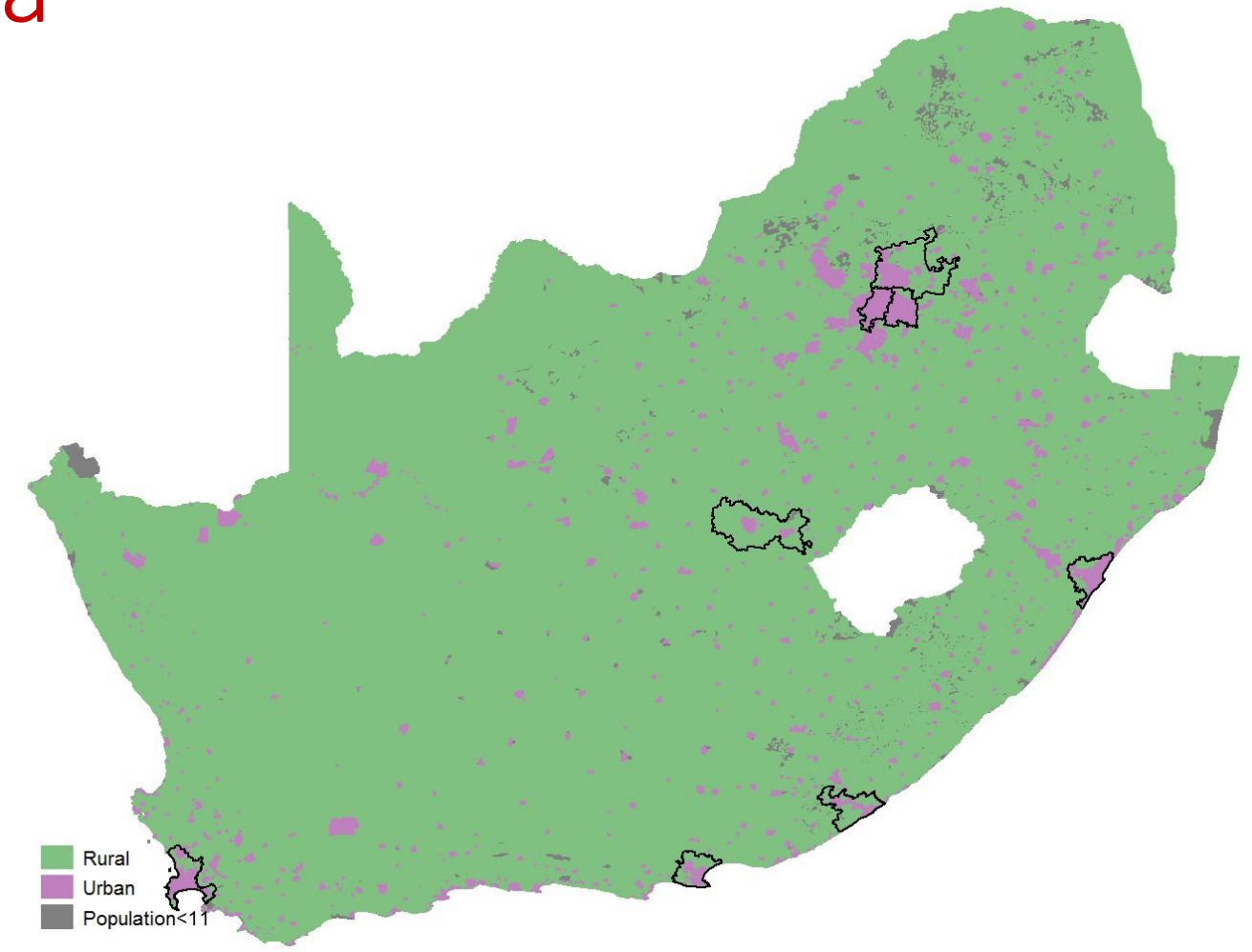
- The SMH provides one theoretical link between city structure and high unemployment (and poverty)
  SMH: living far away from jobs makes it difficult for people to find Employment
- Statistical methods for testing for Spatial Mismatch developed in USA
- SM determines whether areas/people far from jobs have higher unemployment rates
  - While controlling for the effects of other factors unrelated to distance
- Spatial mismatch has political, policy and economic implications – its how the poor stay poor

Spatial Mismatch in South Africa's cities

- Spatial mismatch exists in narratives
- Strong qualitative and descriptive work shows poor people live far from jobs
- But only 2 studies statistically investigate whether there is a relationship between housing location and unemployment:
  - Rospade and Selod (2006) provide evidence for spatial mismatch in CPT
  - Naude (2008) provides evidence of spatial mismatch in SA's metros as a whole
- However some drawbacks for policy and political purposes:
  - No discussion of **size** of spatial mismatch effect
  - Limited geographic scope
  - Somewhat dated
- This motivated the research

Rsearch scope and data

- 8 metropolitan municipalities
- And two larger areas: Gauteng Province and “Johannesburg-Ekurhuleni-Tshwane” (JET)
- Two data sources:
  - Census data (unemployment rates and demographic characteristics)
  - Jobs location data (from the CSIR)



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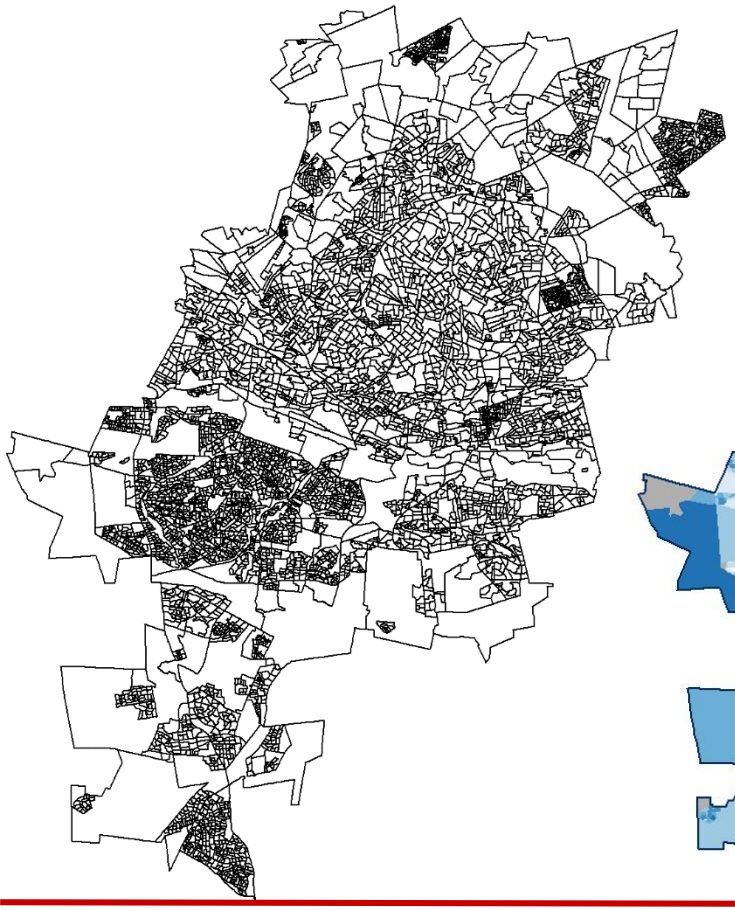
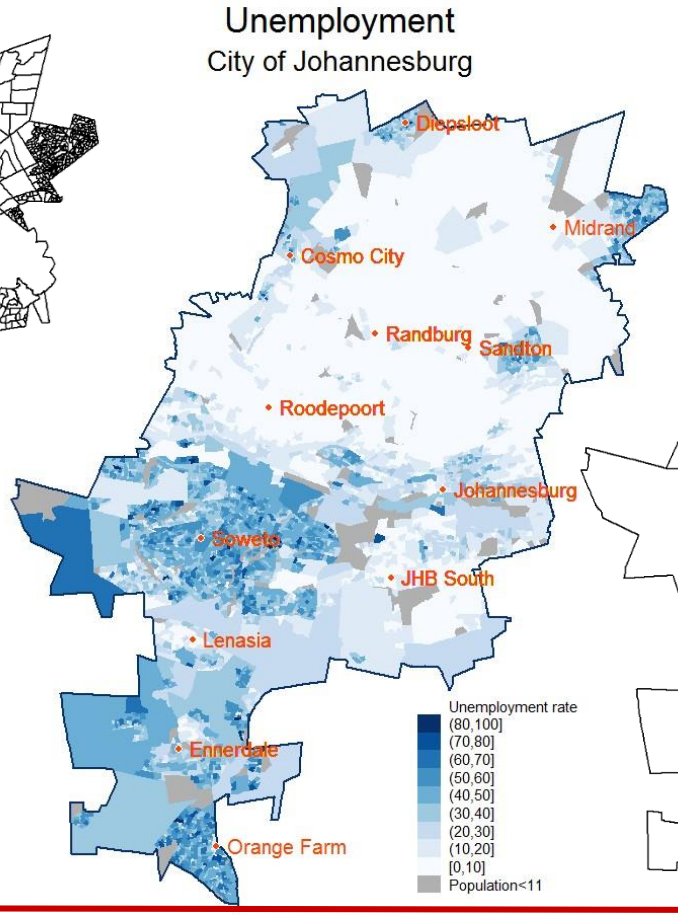
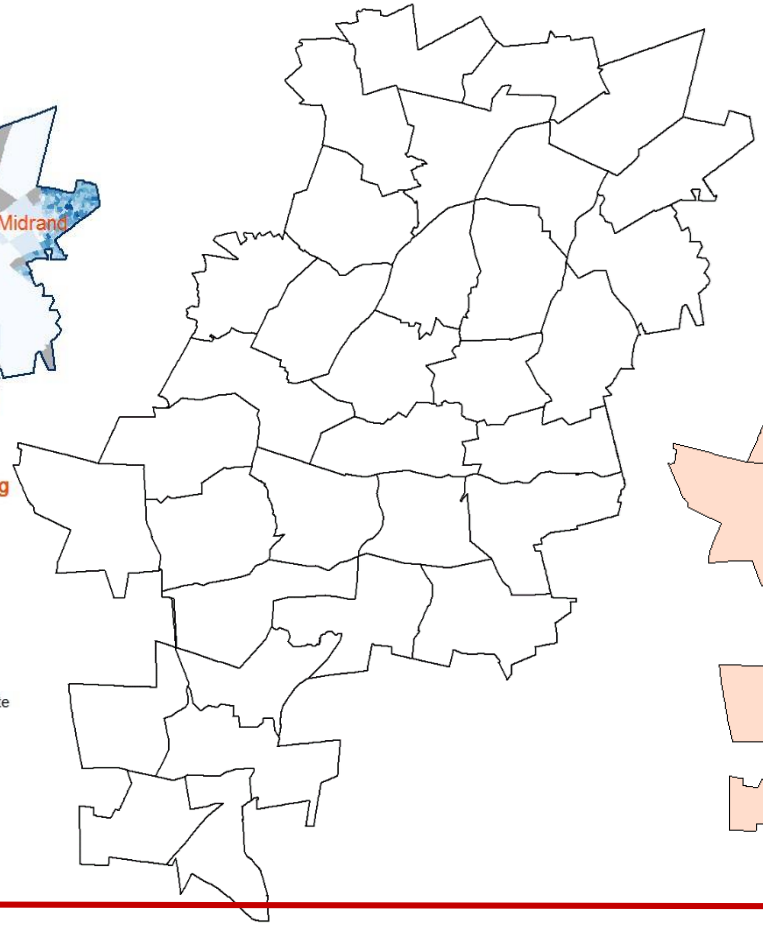
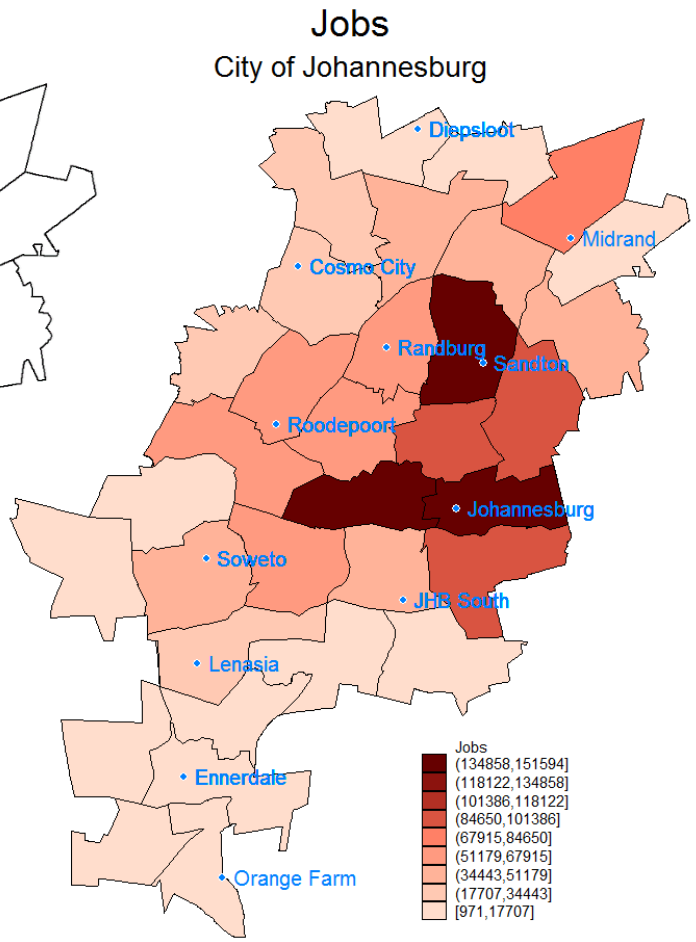
What does the data look like?









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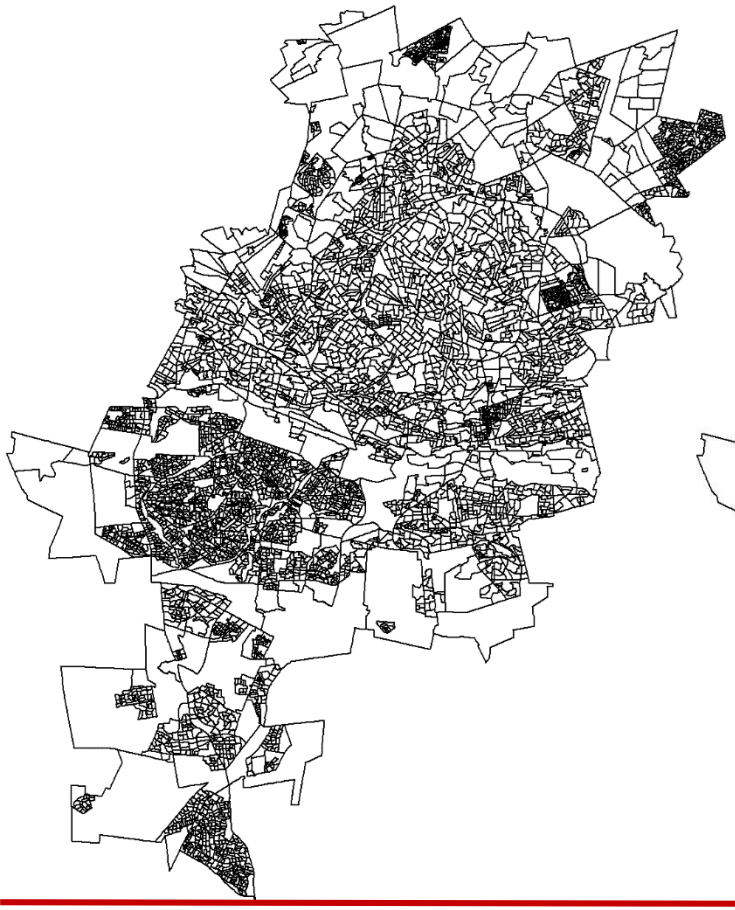
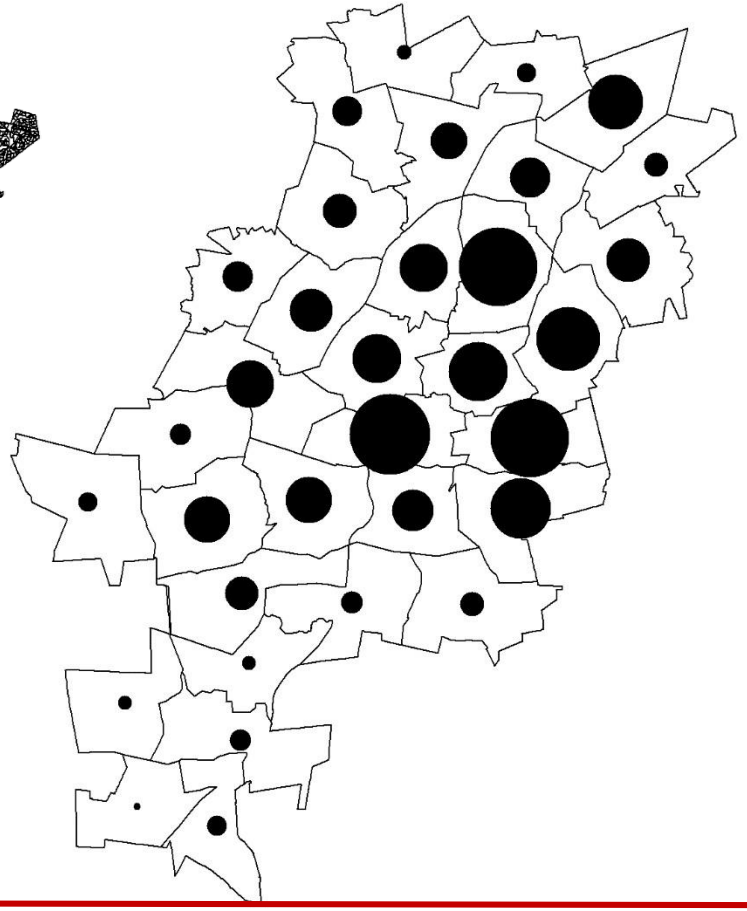
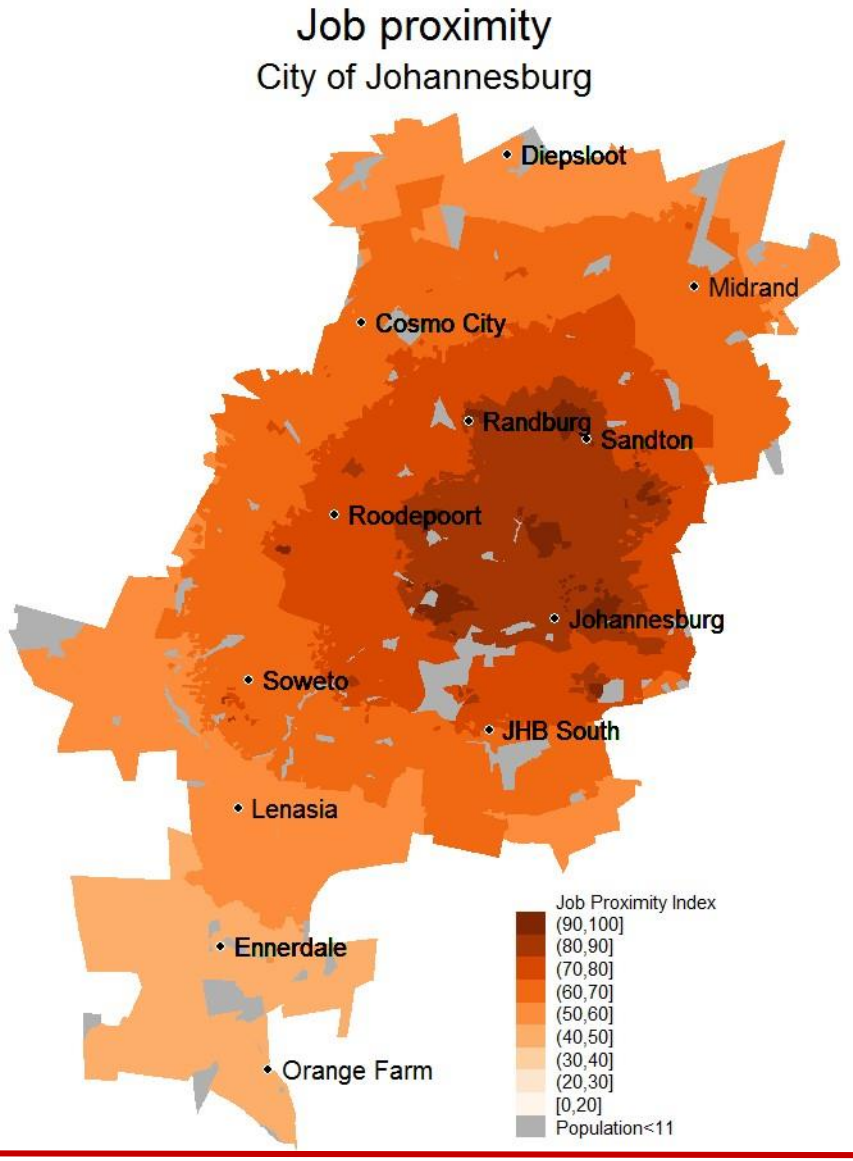
A proximity to jobs index







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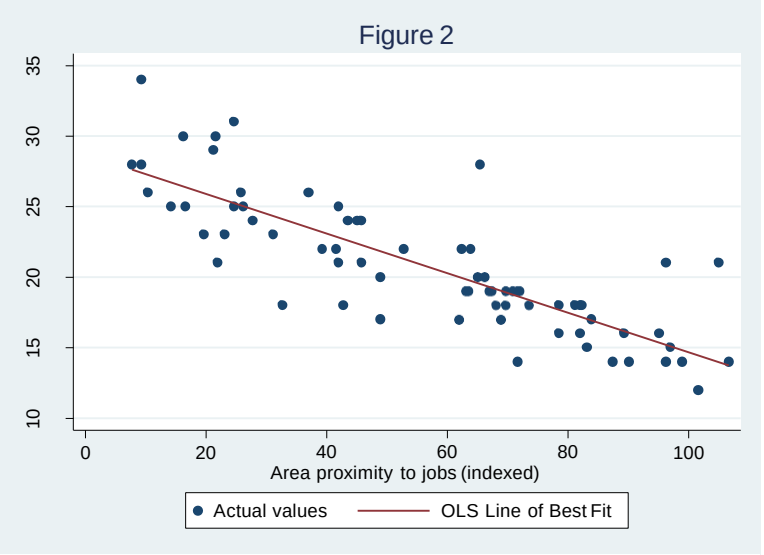
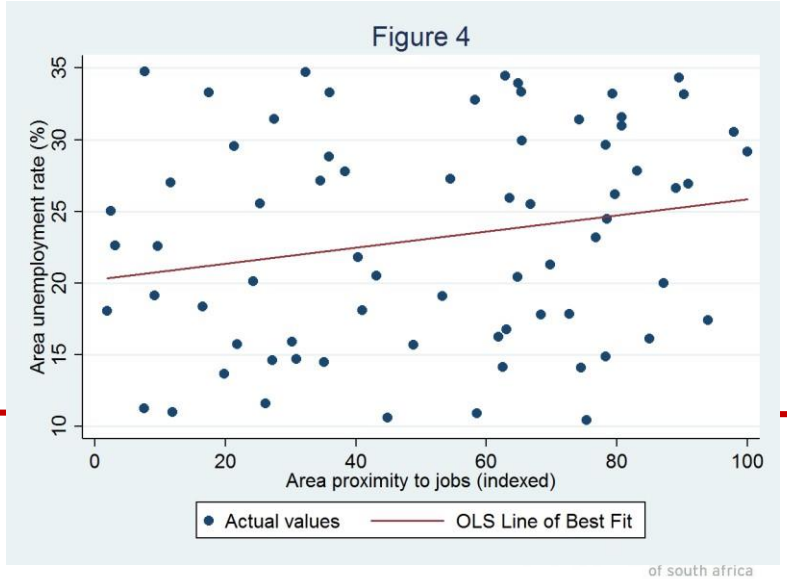
Regression analysis..

- Method for quantifying statistically the observed relationship between phenomena
- Basically draws a line-of-best-fit through our data, so we can see an overall relationship
- Real power of regression analysis is when we have many variables (*multiple regression)*
  - We can control for “confounding factors”
  - Changes interpretation of our estimates
- Line-of-best-fit relationships not always *statistically significant*!
  - Unreliable data/small sample/very small effect





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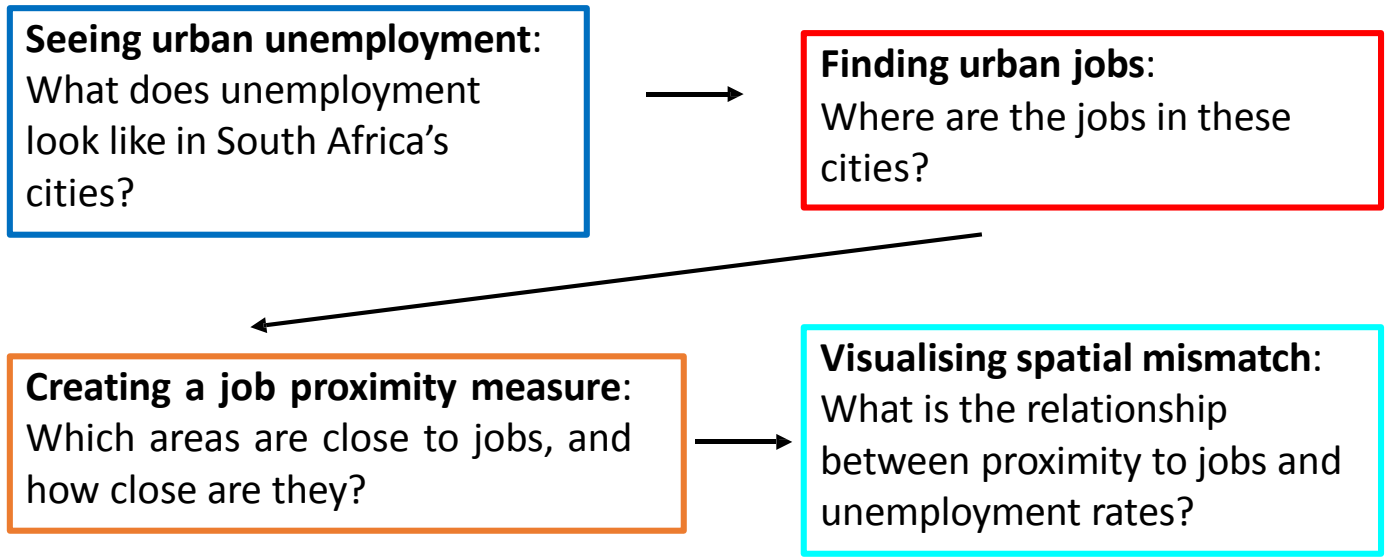
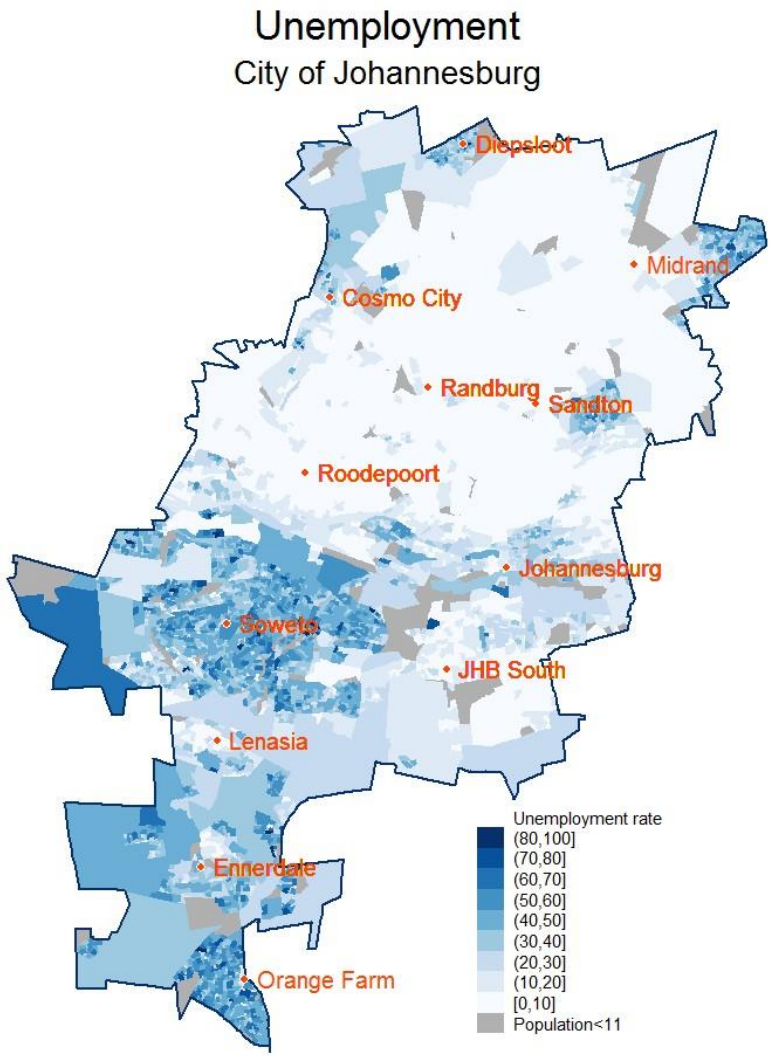
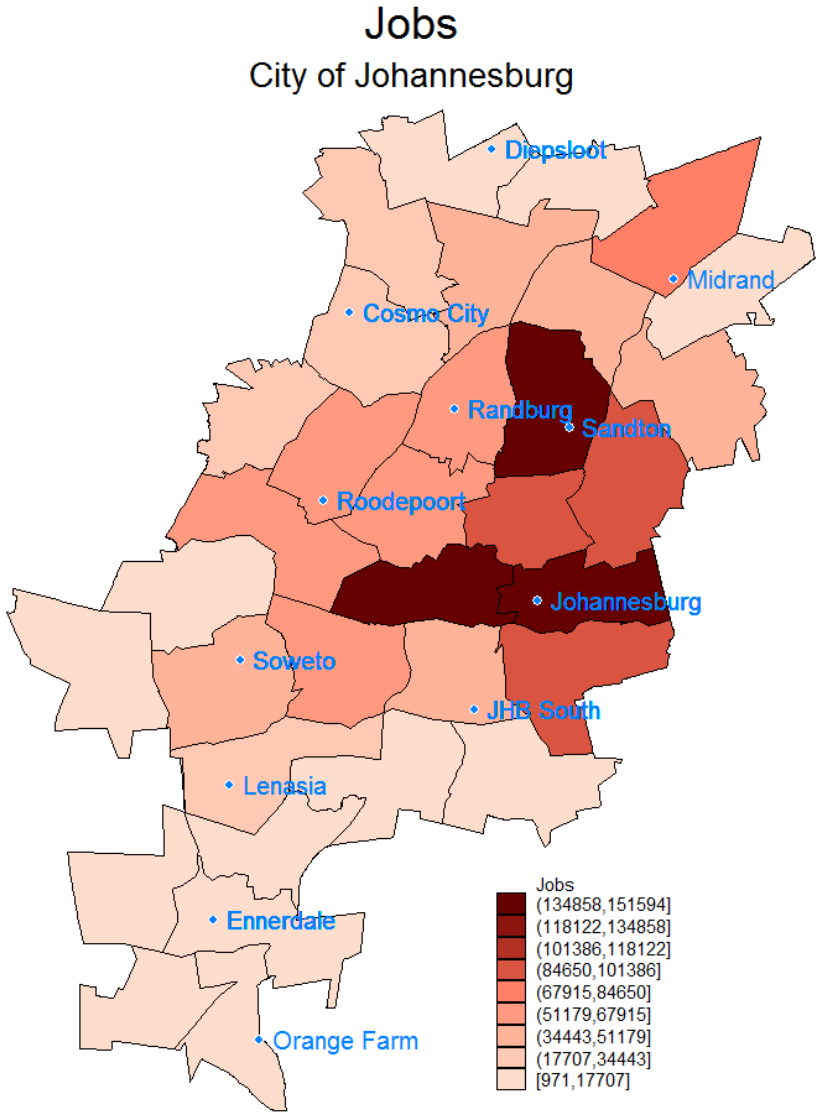
Looking for spatial mismatch



- We regress small area unemployment rates on "proximity to jobs" scores
  - While controlling for (at small area level): % white, % female, % urban, mean age, mean age squared, and total small-area population

City of Johannesburg





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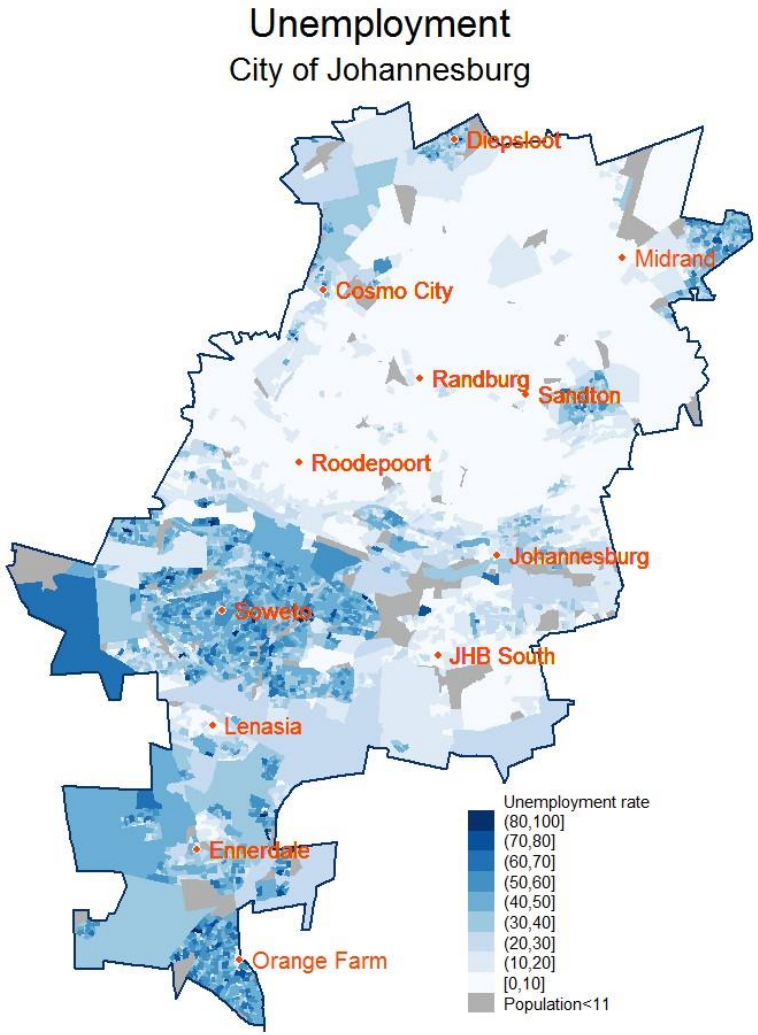
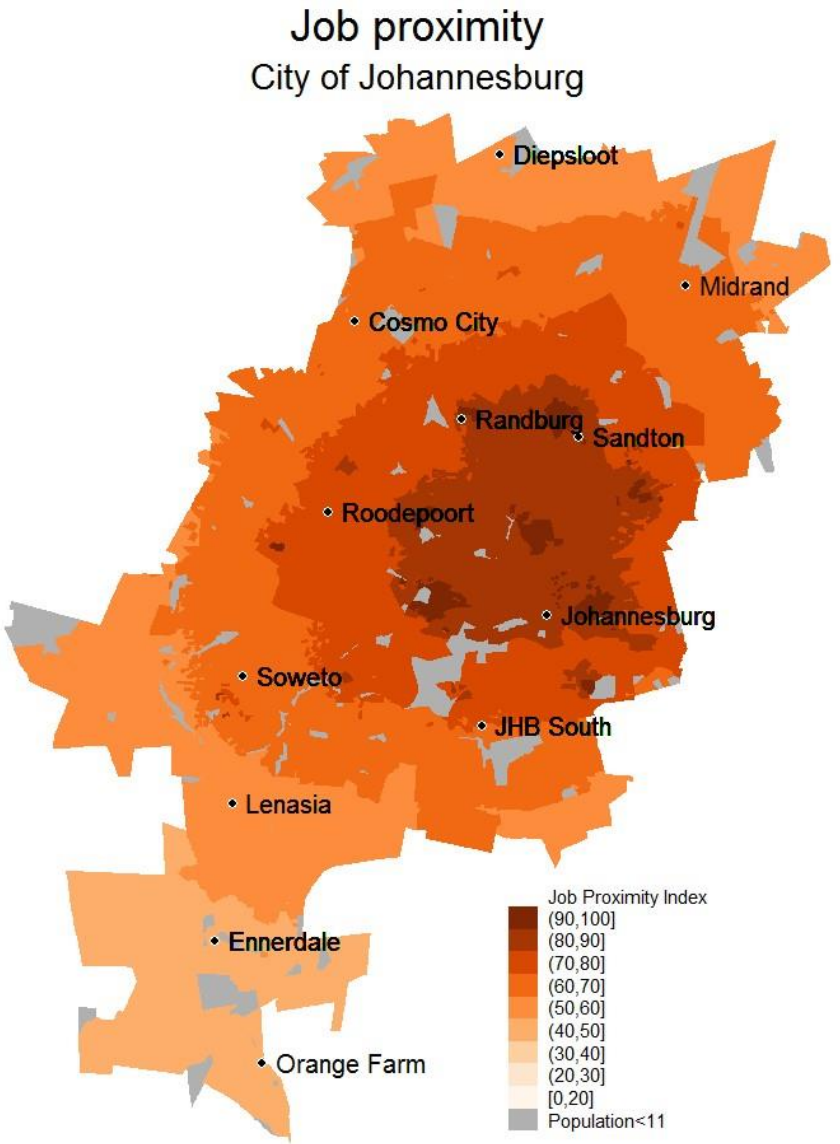
City of Johannesburg





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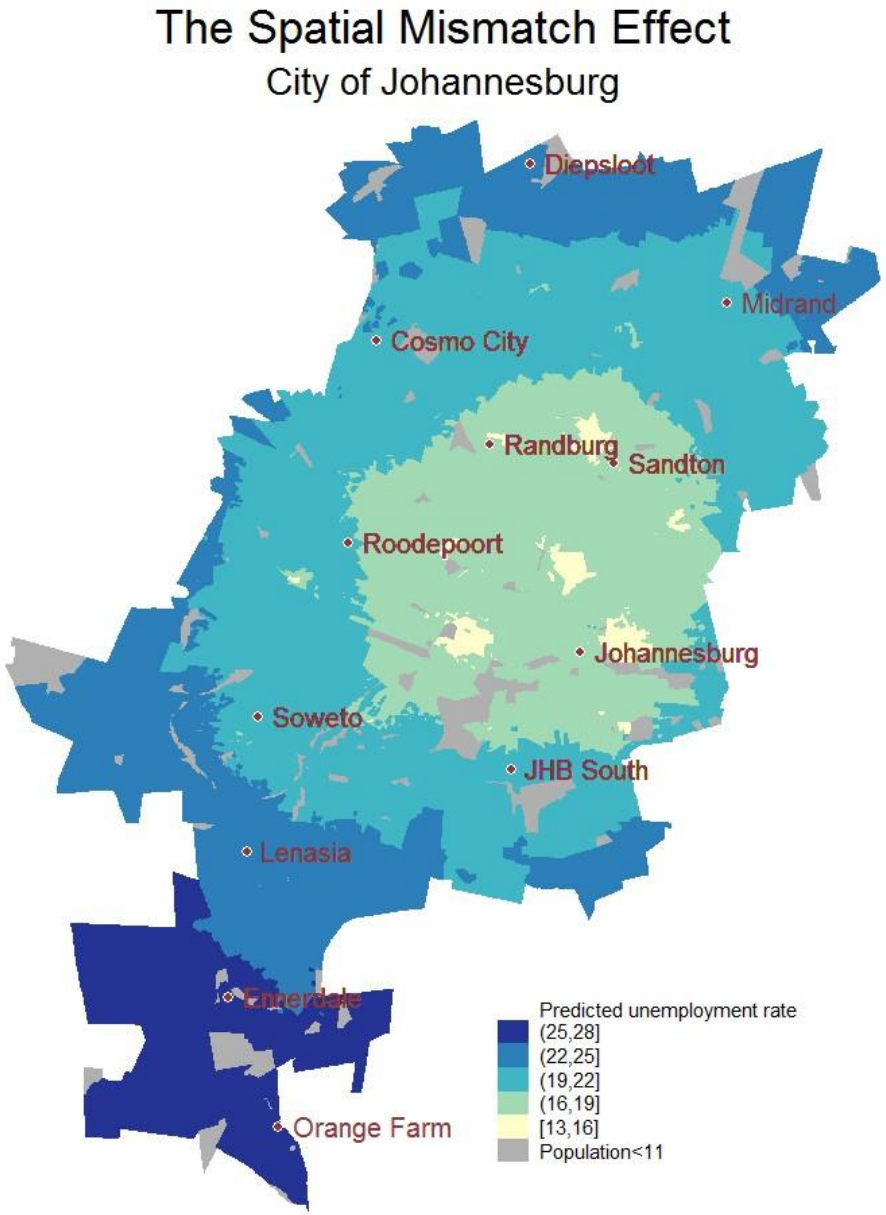
City of Johannesburg

City of Johannesburg

	(Spec. 1) GLM unit changes UNEMPLOYMENT RATE	(Spec. 2) GLM % changes UNEMPLOYMENT RATE
Proximity to jobs (index)	-0.238***	-0.771***
	(0.0153)	(0.0496)
Observations	5,791	5,791

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Control covariates not shown



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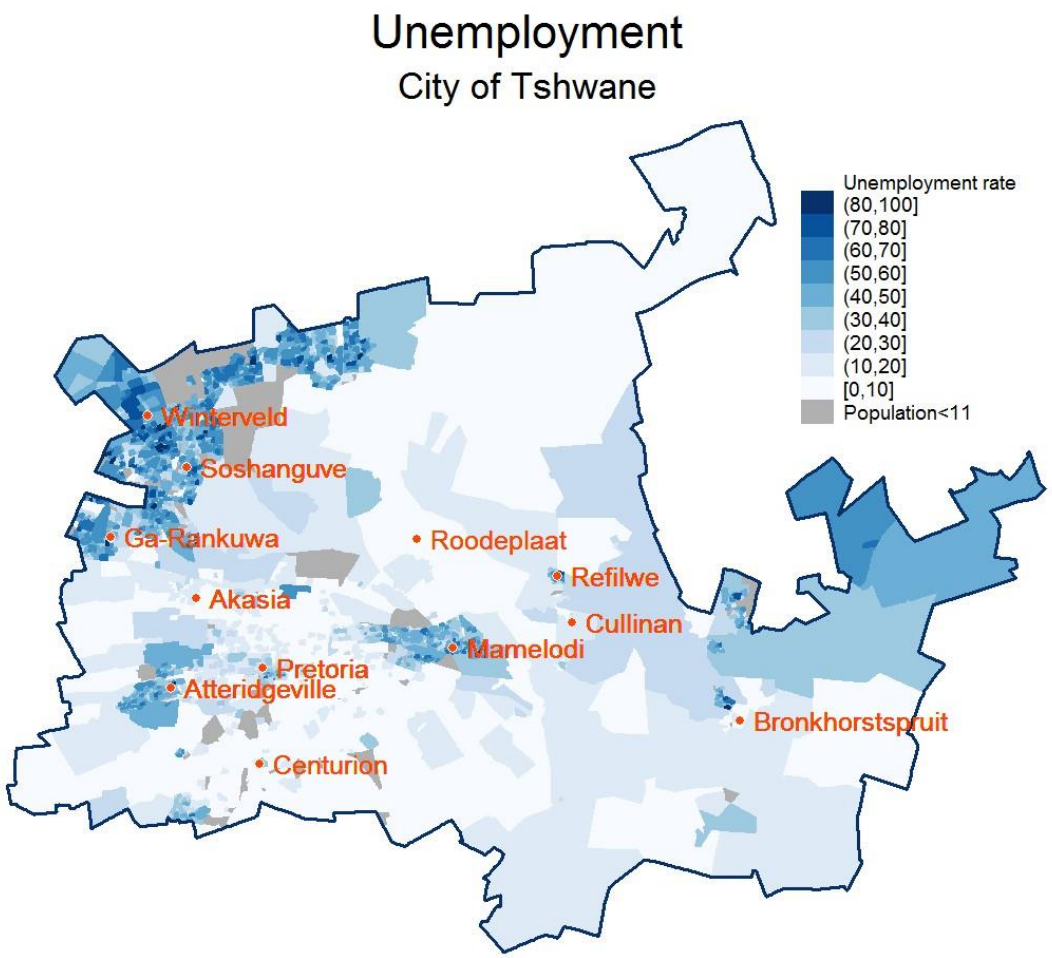
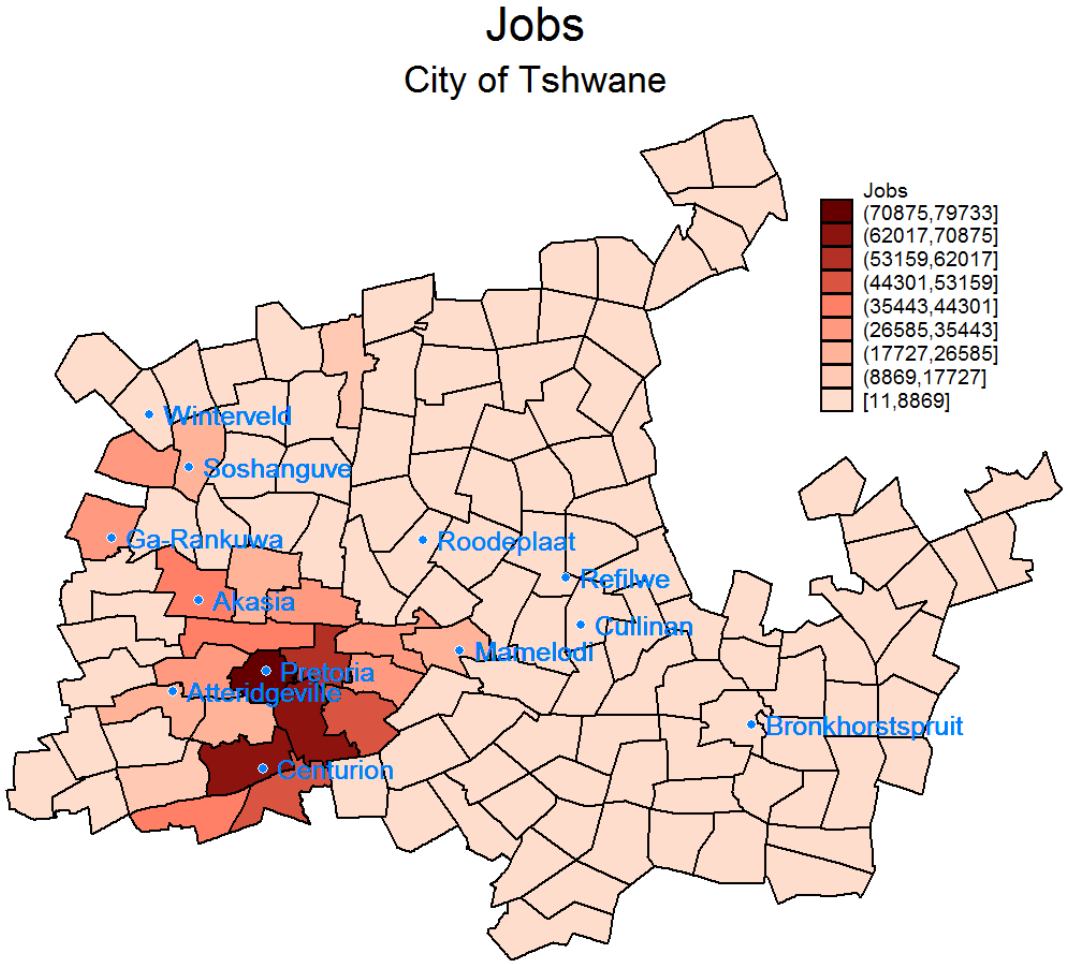
City of Tshwane





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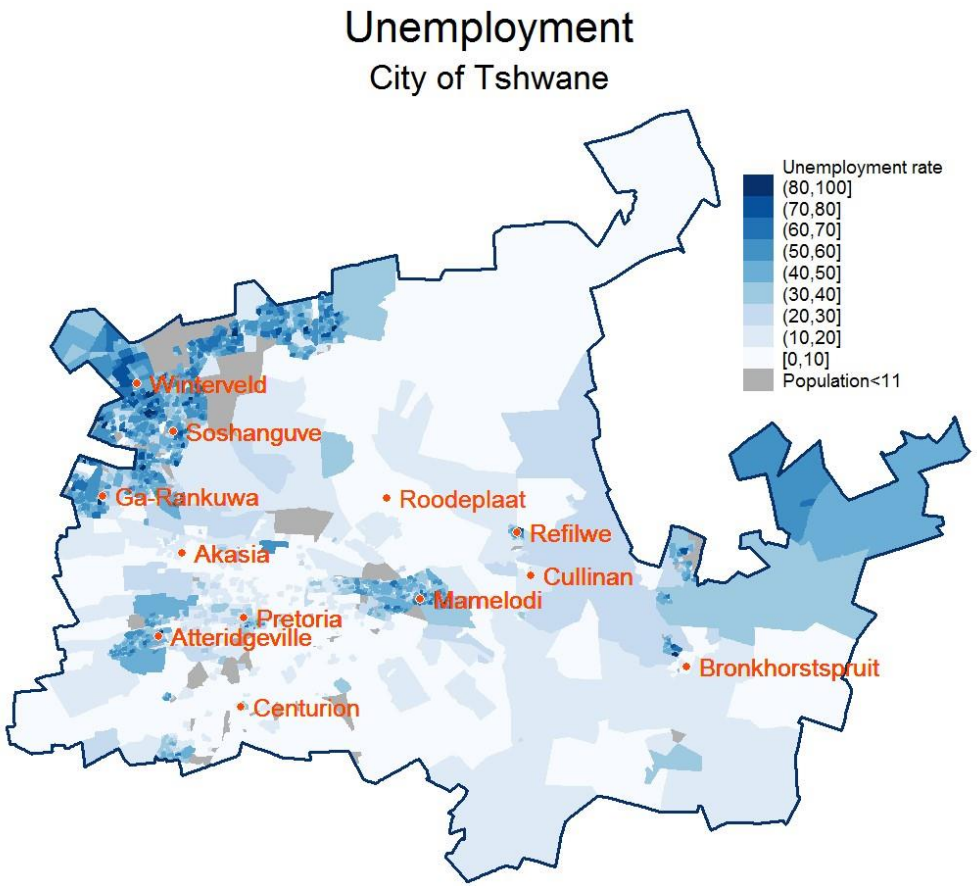
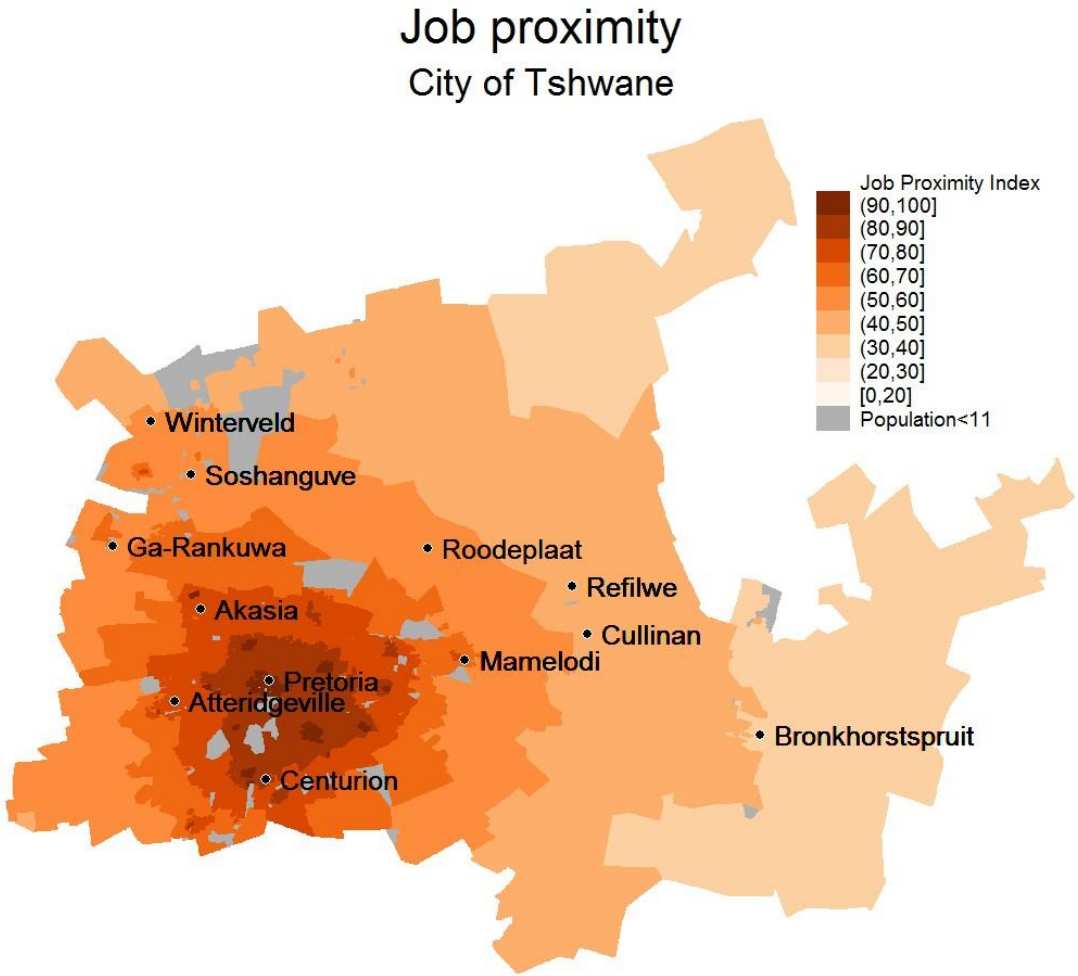
City of Tshwane





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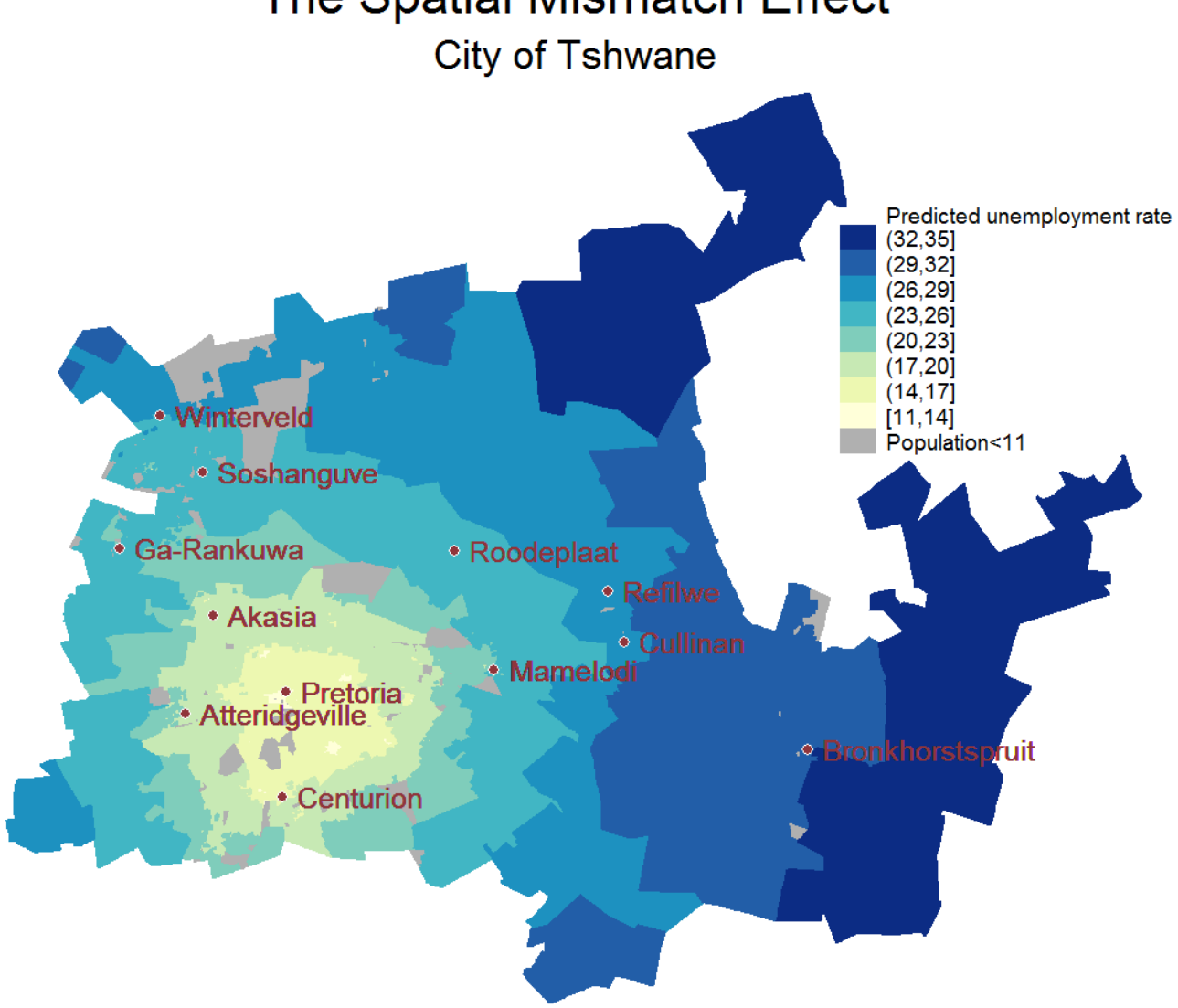
City of Tshwane

City of Tshwane

	(Spec. 1) GLM unit changes UNEMPLOYMENT RATE	(Spec. 2) GLM % changes UNEMPLOYMENT RATE
Proximity to jobs (index)	-0.320***	-0.995***
	(0.0172)	(0.0530)
Observations	4,513	4,513

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Control covariates not shown



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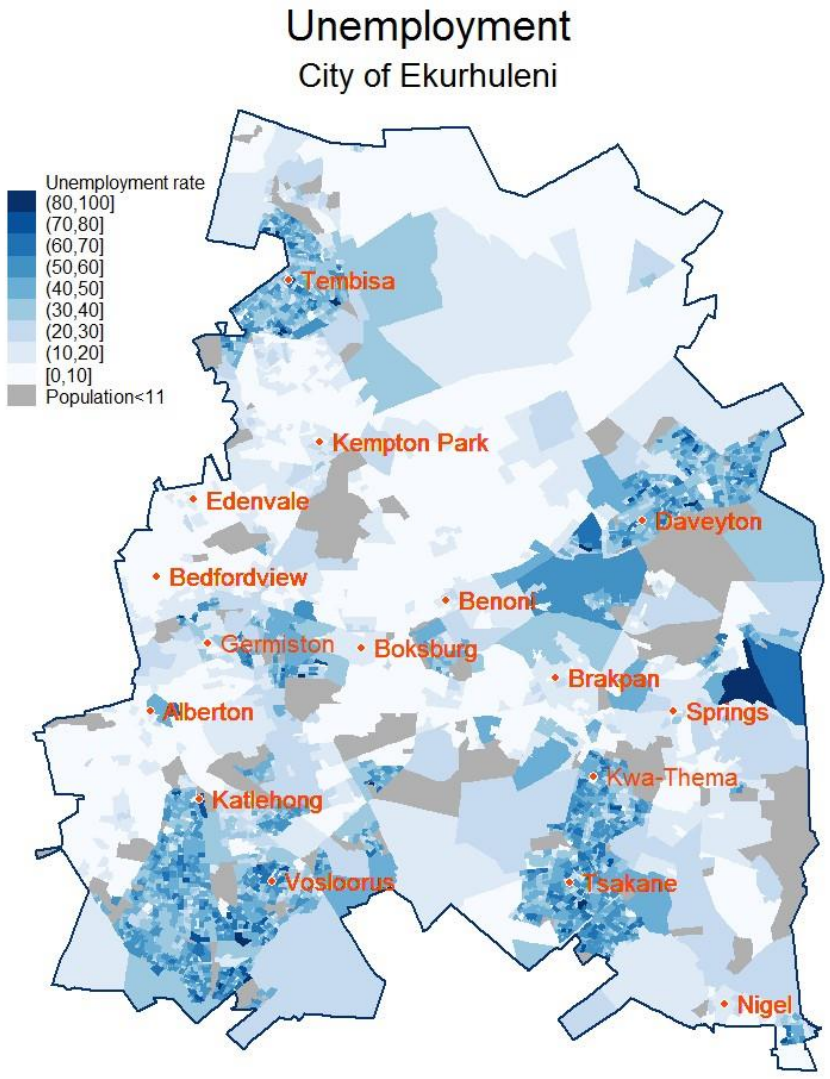
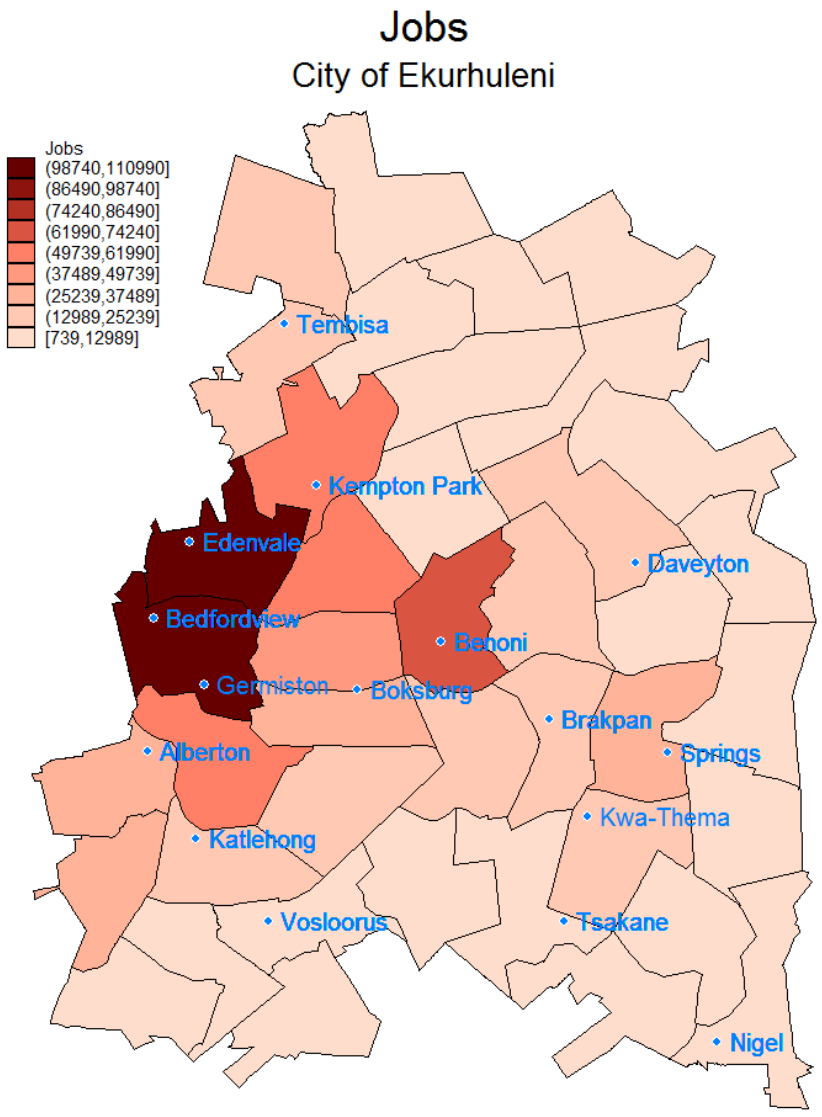
Ekurhuleni





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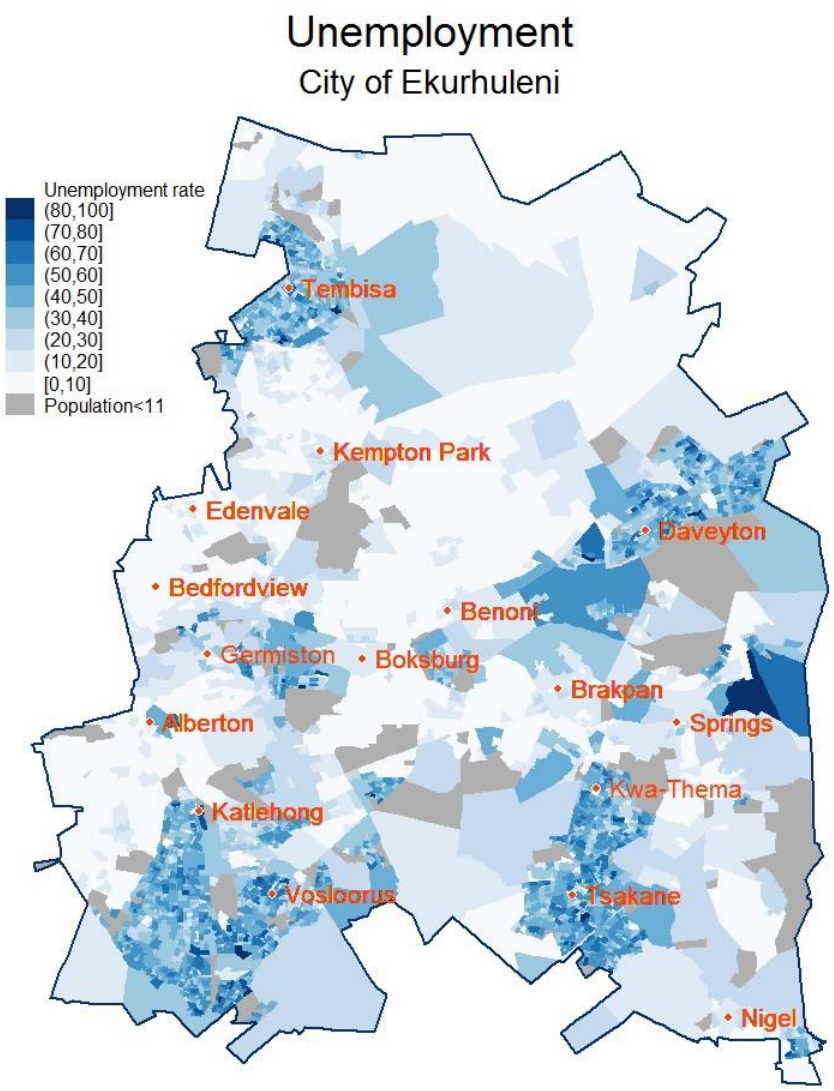
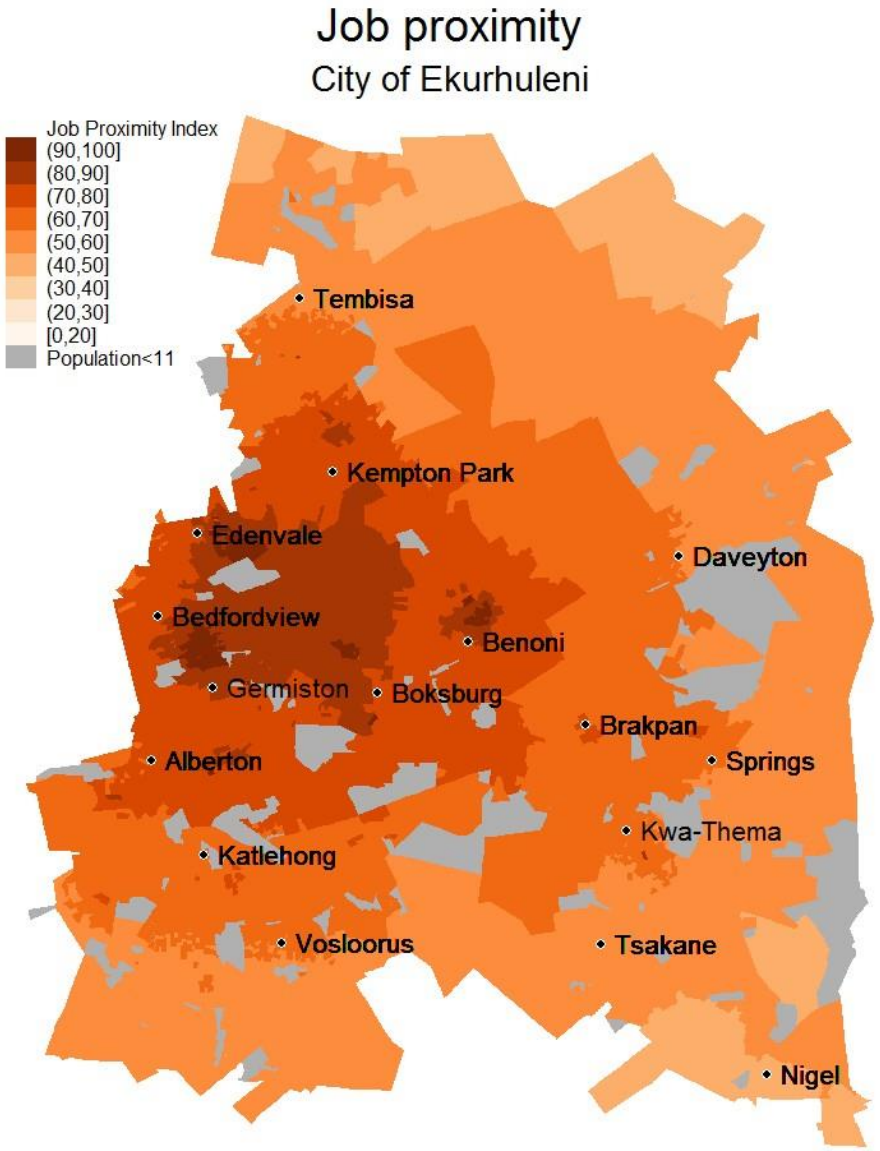
Ekurhuleni





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Ekurhuleni

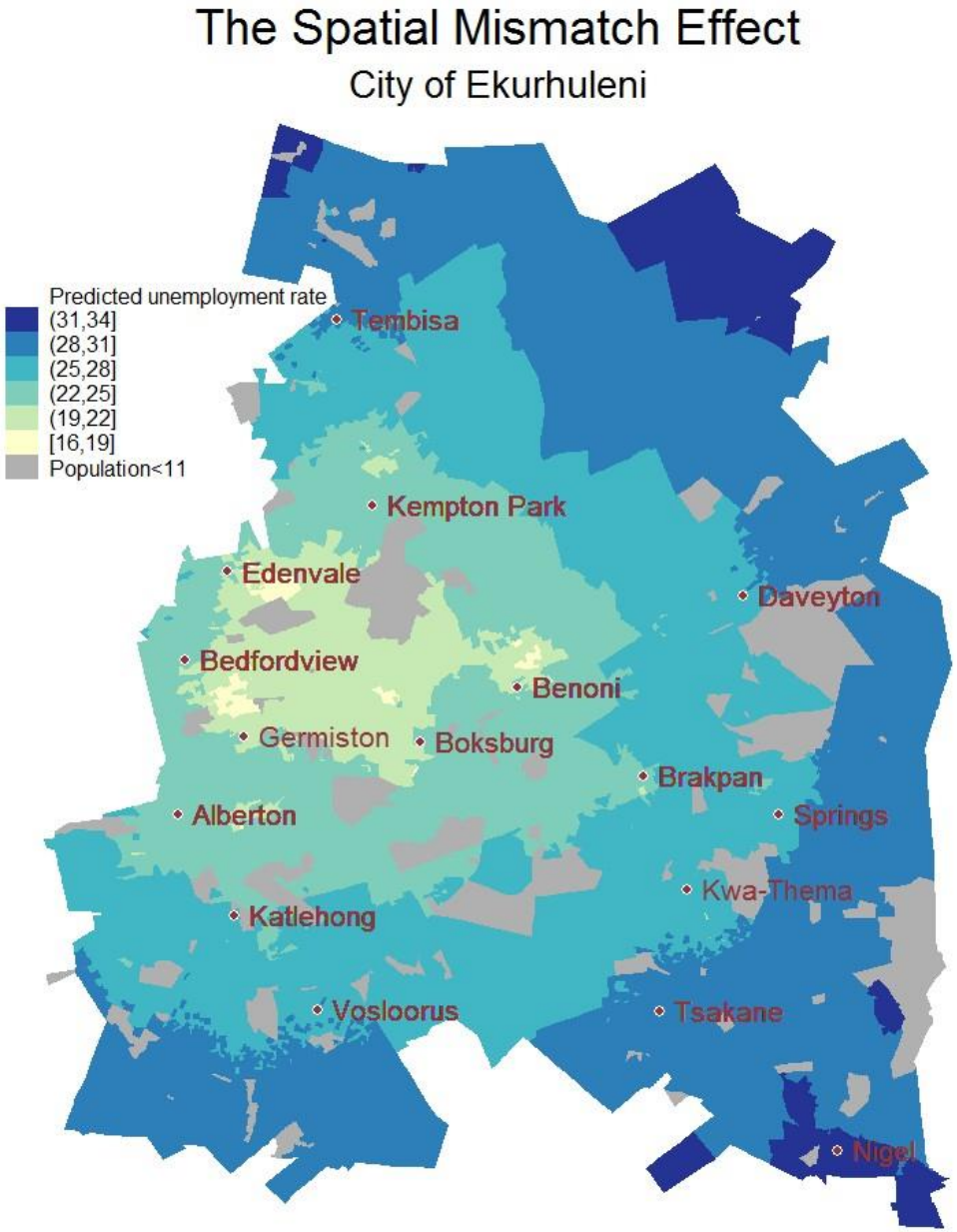
City of Ekurhuleni

	(Spec. 1) GLM unit changes UNEMPLOYMENT RATE	(Spec. 2) GLM % changes UNEMPLOYMENT RATE
Proximity to jobs (index)	-0.303***	-0.735***
	(0.0268)	(0.0651)
Observations	4,603	4,603

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Control covariates not shown



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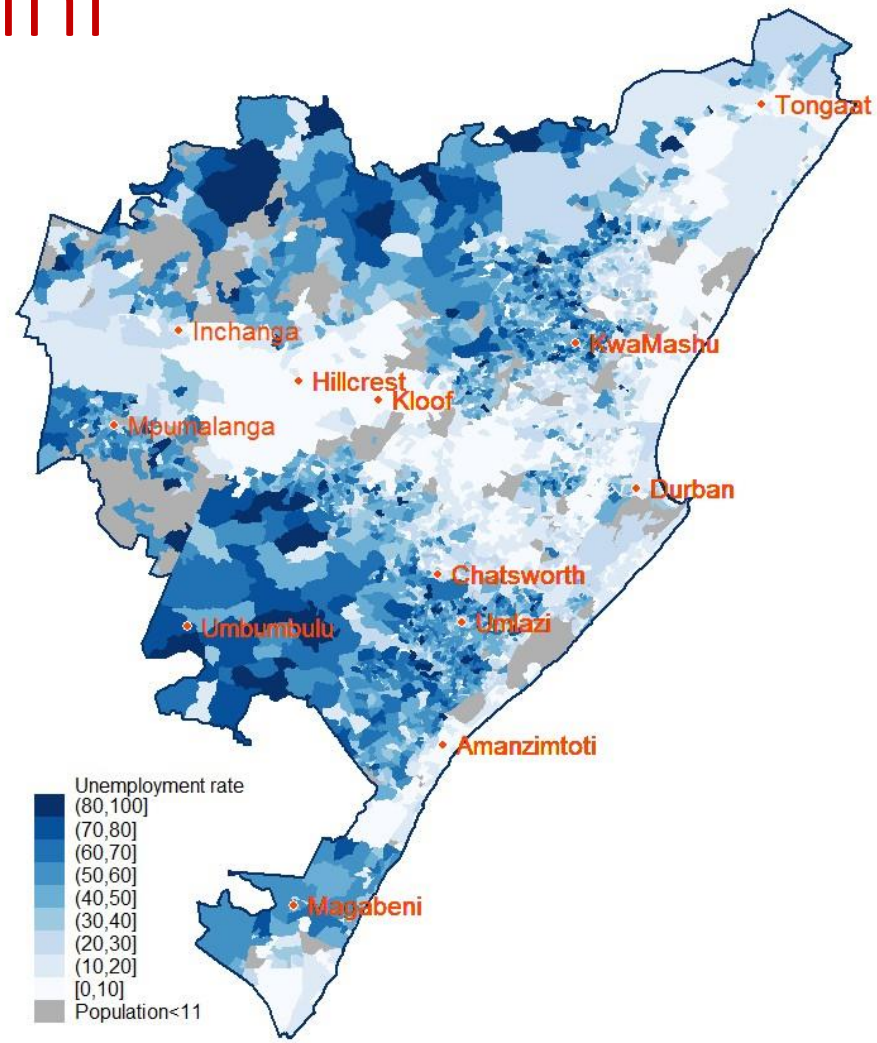
eThekwini

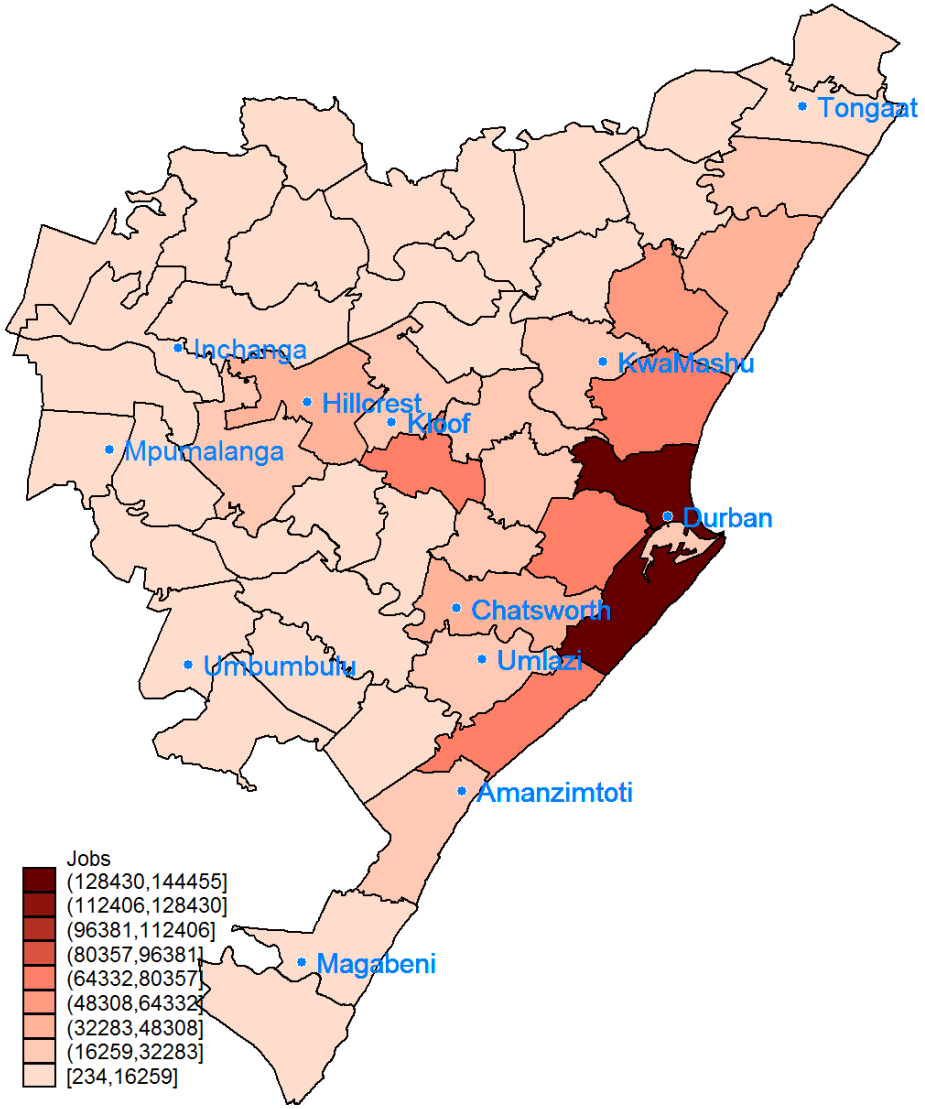
Unemployment

eThekwini Metropolitan Municipality



Jobs

eThekwini Metropolitan Municipality



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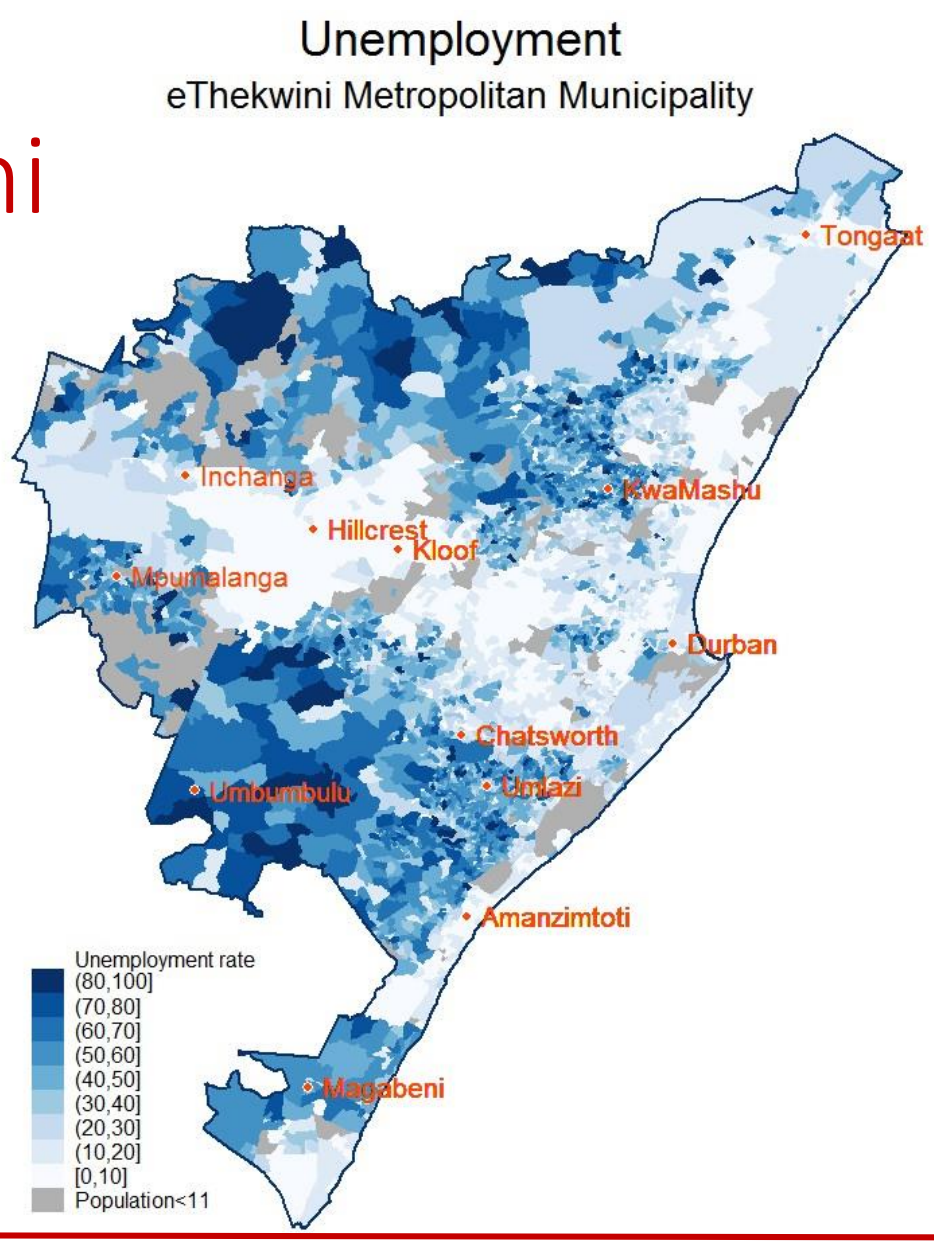
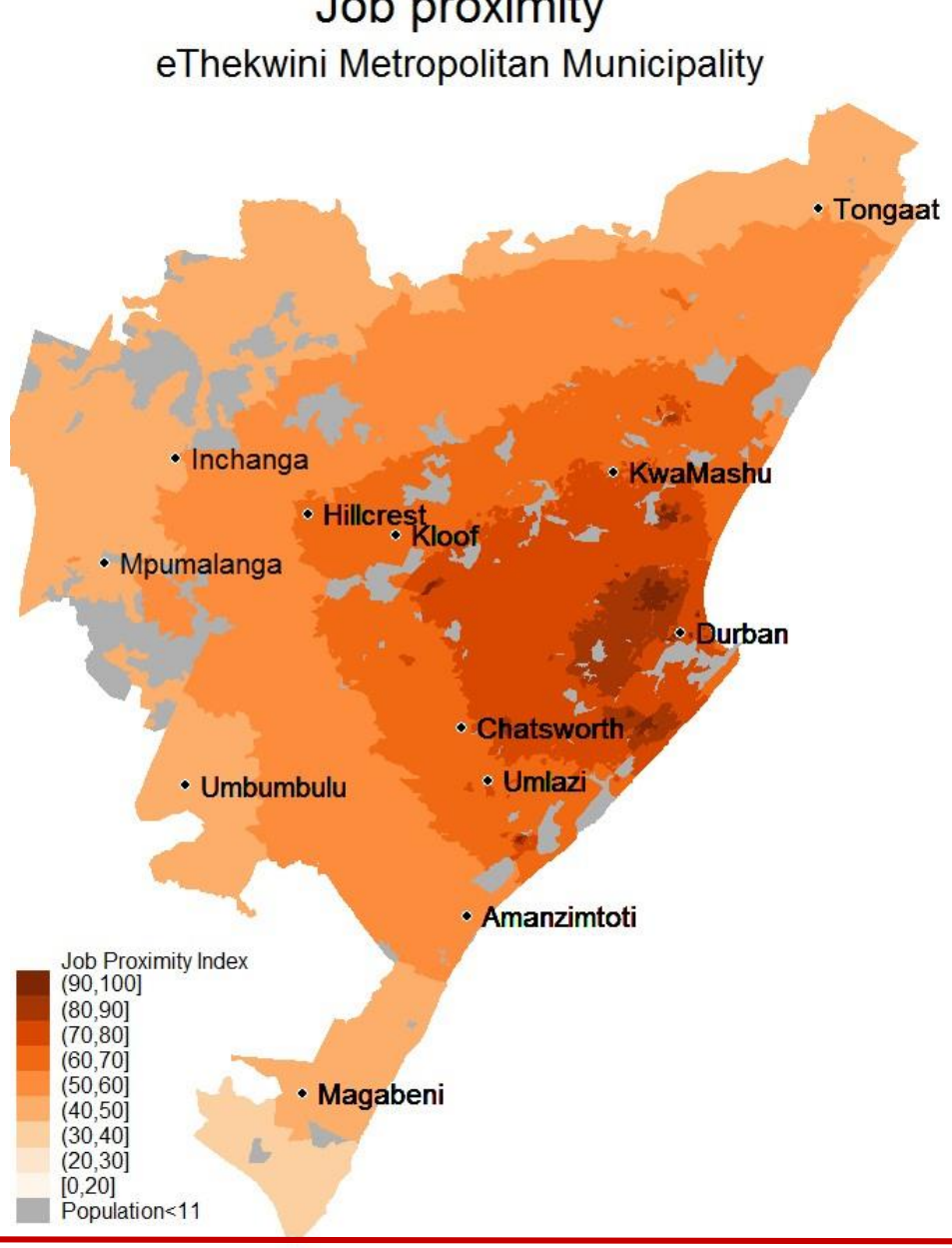
eThekwini





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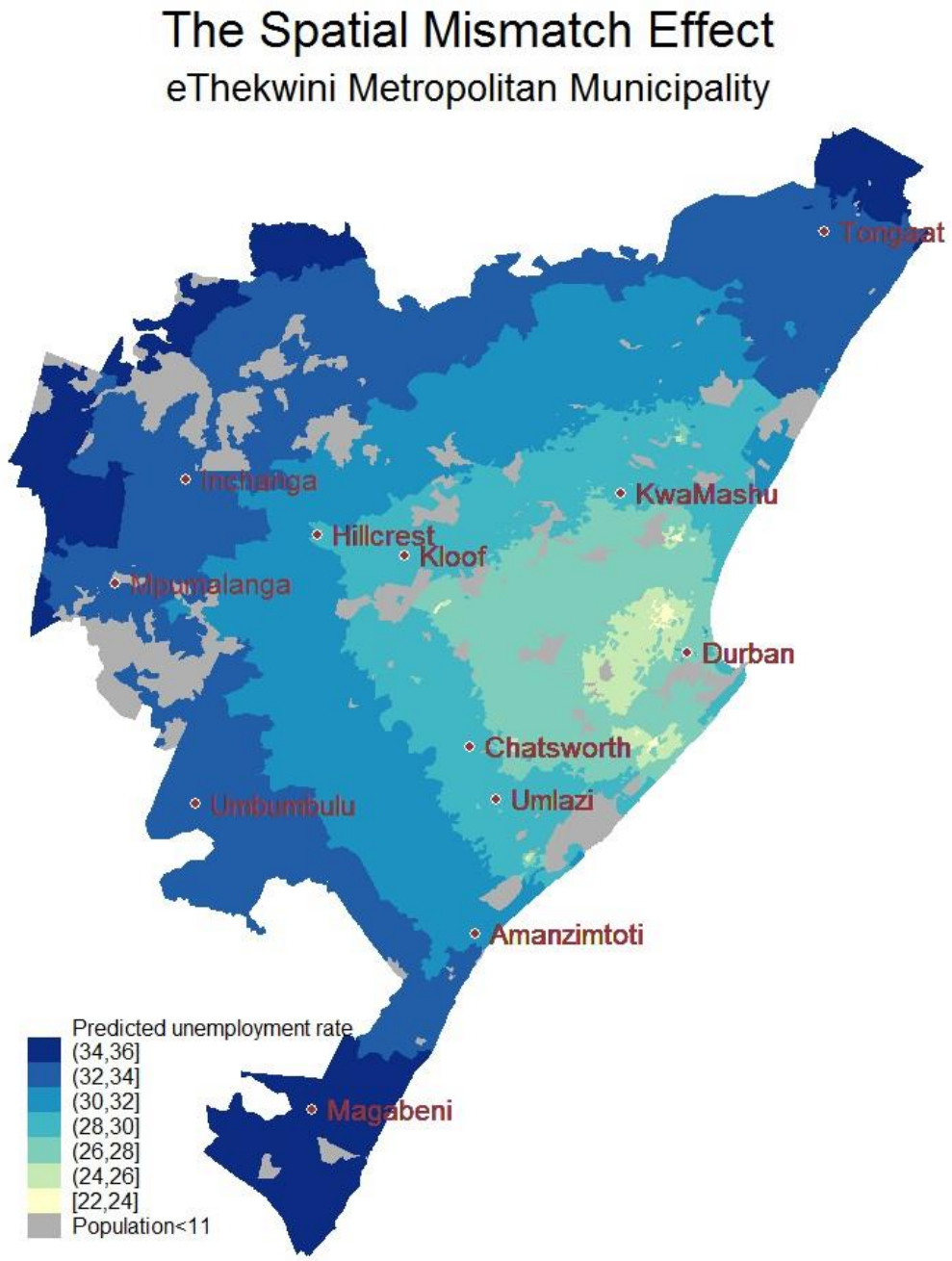
eThekwini

eThekwini Metropolitan Municipality		
	(Spec. 1) GLM unit changes UNEMPLOYMENT RATE	(Spec. 2) GLM % changes UNEMPLOYMENT RATE
Proximity to jobs (index)	-0.223***	-0.495***
	(0.0262)	(0.0584)
Observations	4,780	4,780

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Control covariates not shown



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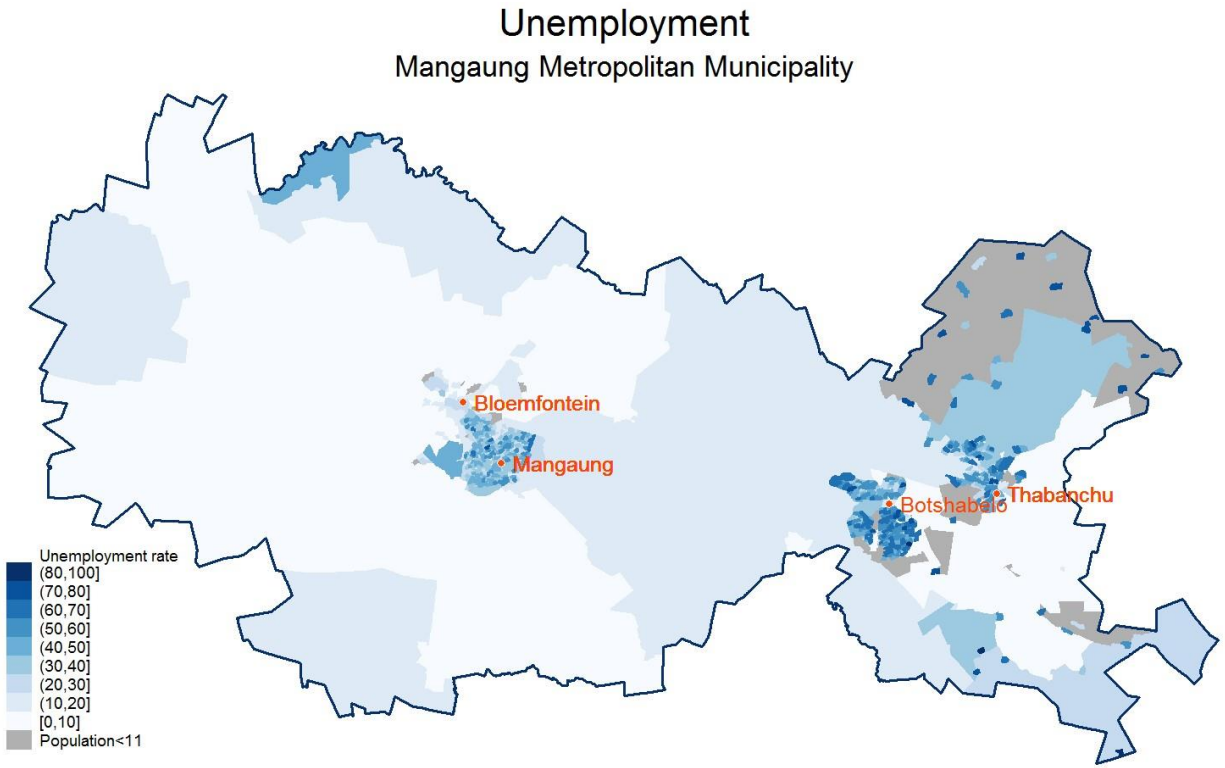
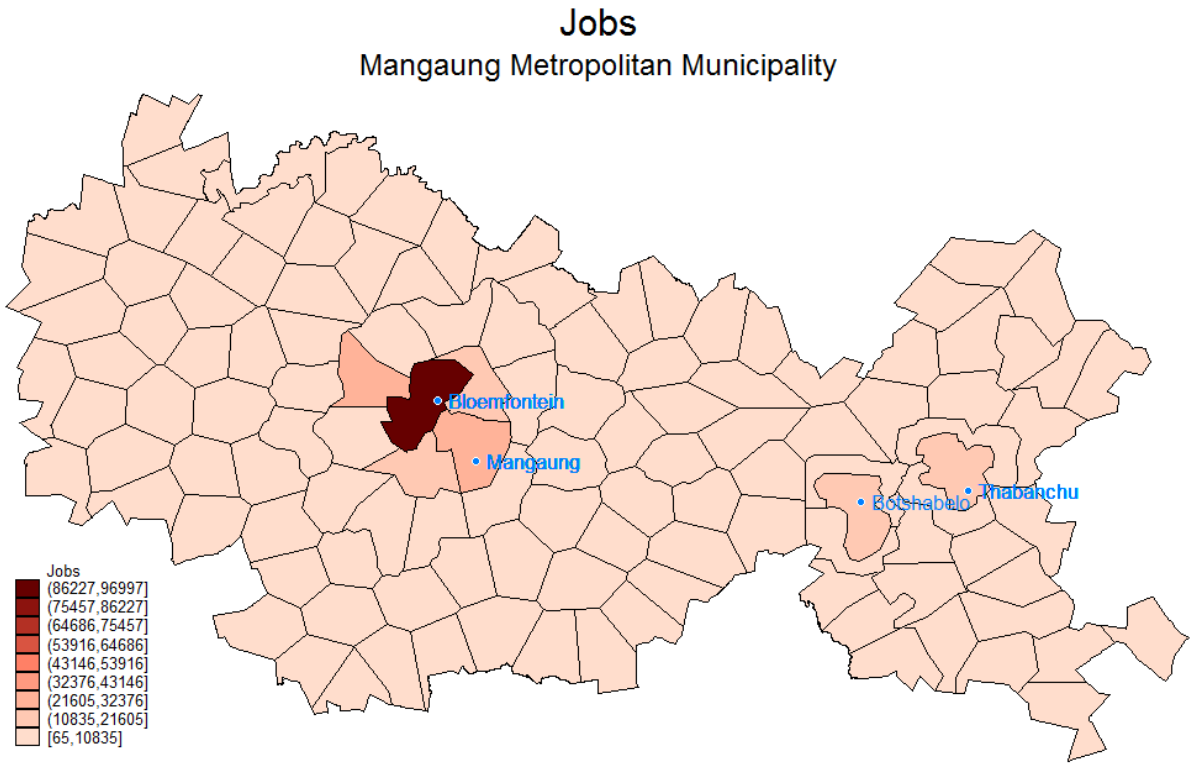
Mangaung





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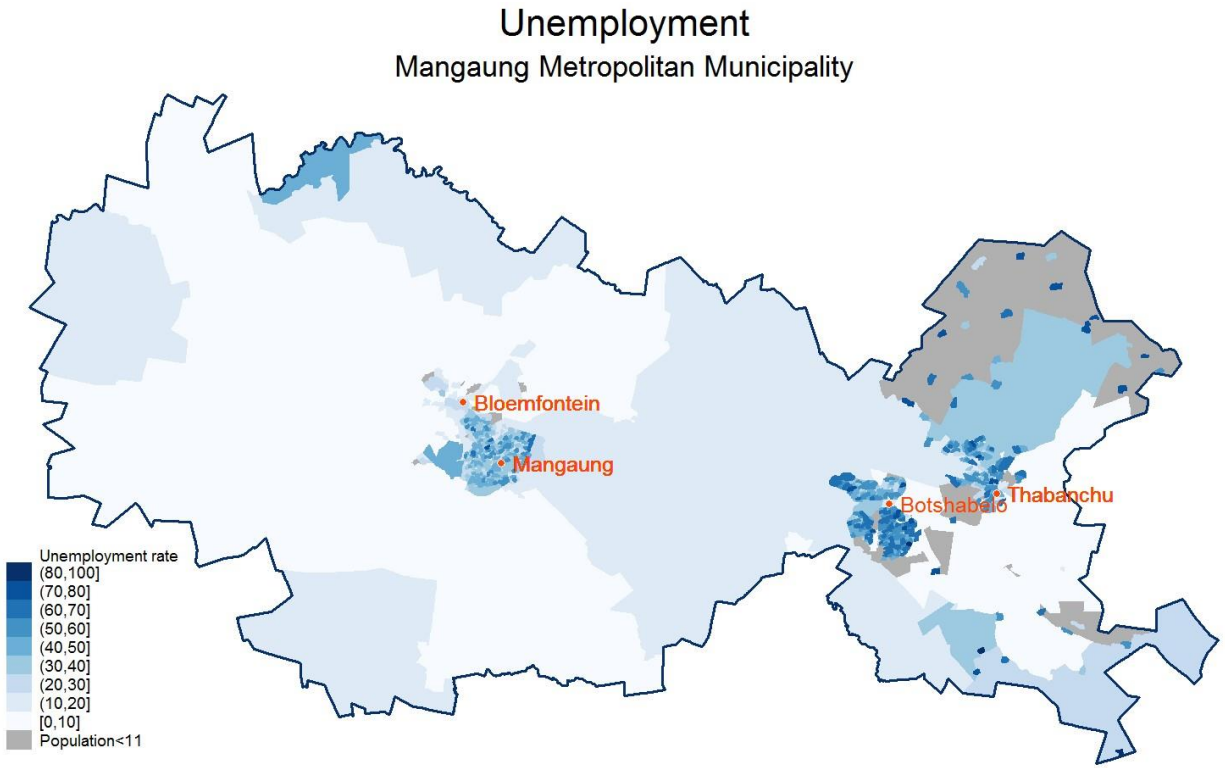
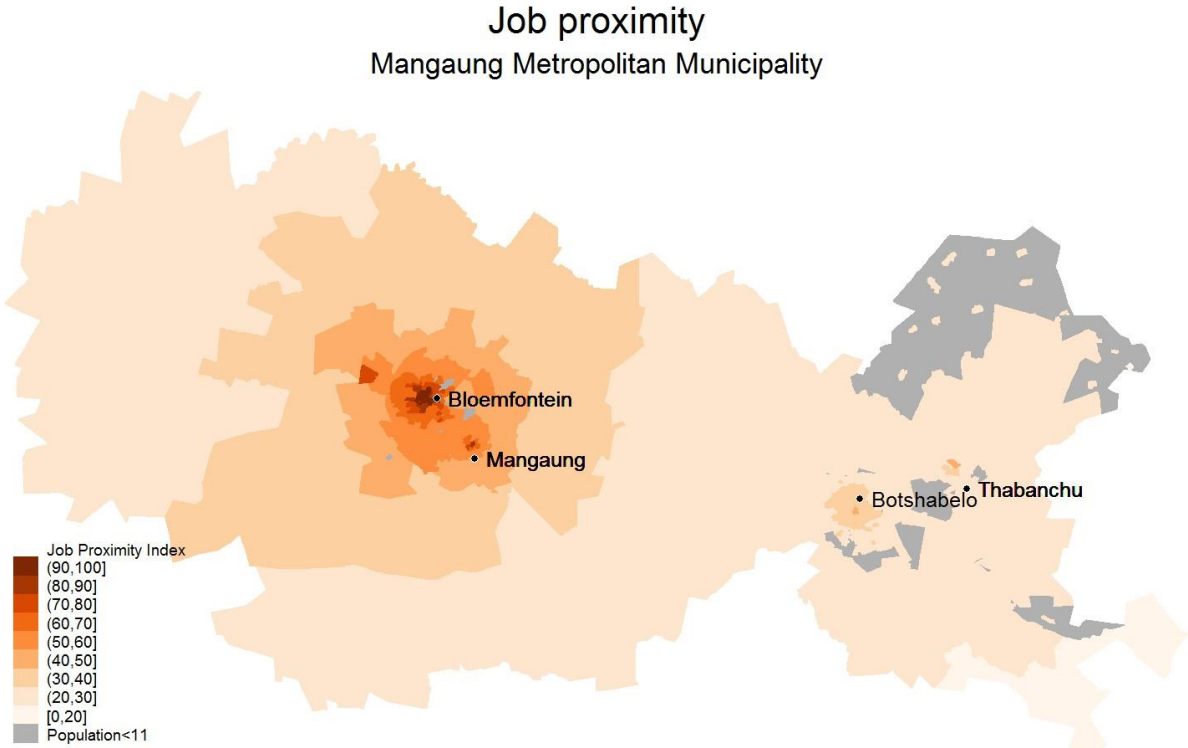
Mangaung





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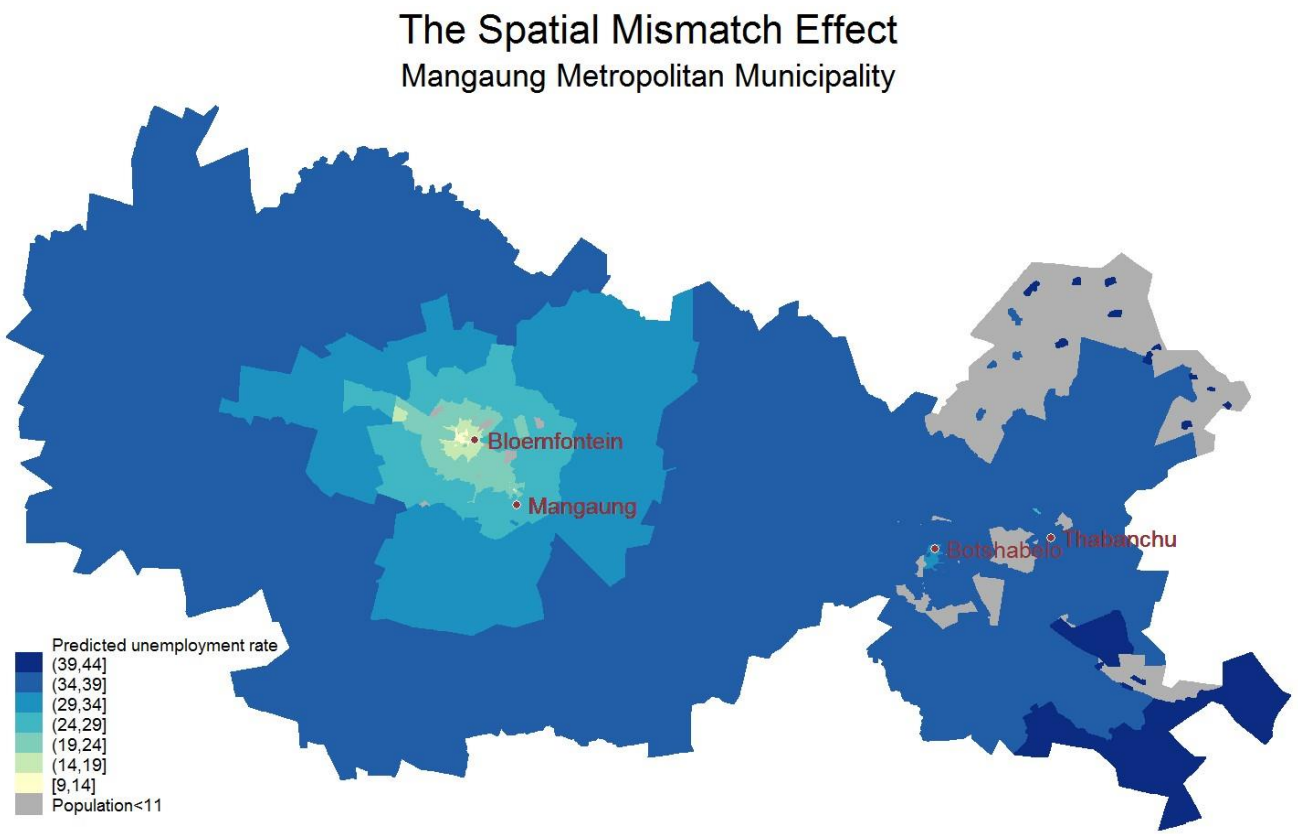
Mangaung

Mangaung Metropolitan Municipality

	(Spec. 1) GLM unit changes UNEMPLOYMENT RATE	(Spec. 2) GLM % changes UNEMPLOYMENT RATE
Proximity to jobs (index)	-0.466***	-0.713***
	(0.0350)	(0.0529)
Observations	1,307	1,307

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Control covariates not shown



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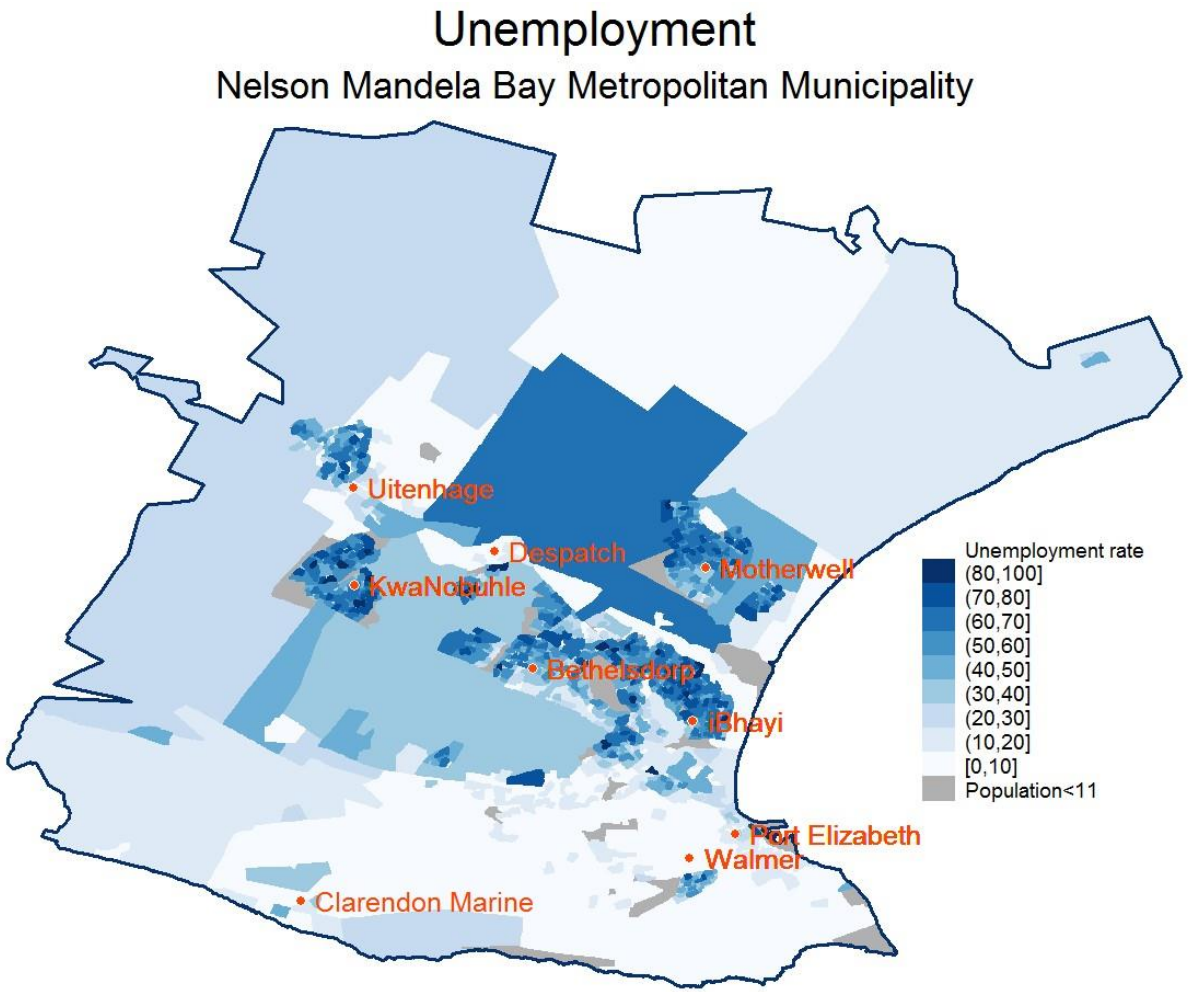
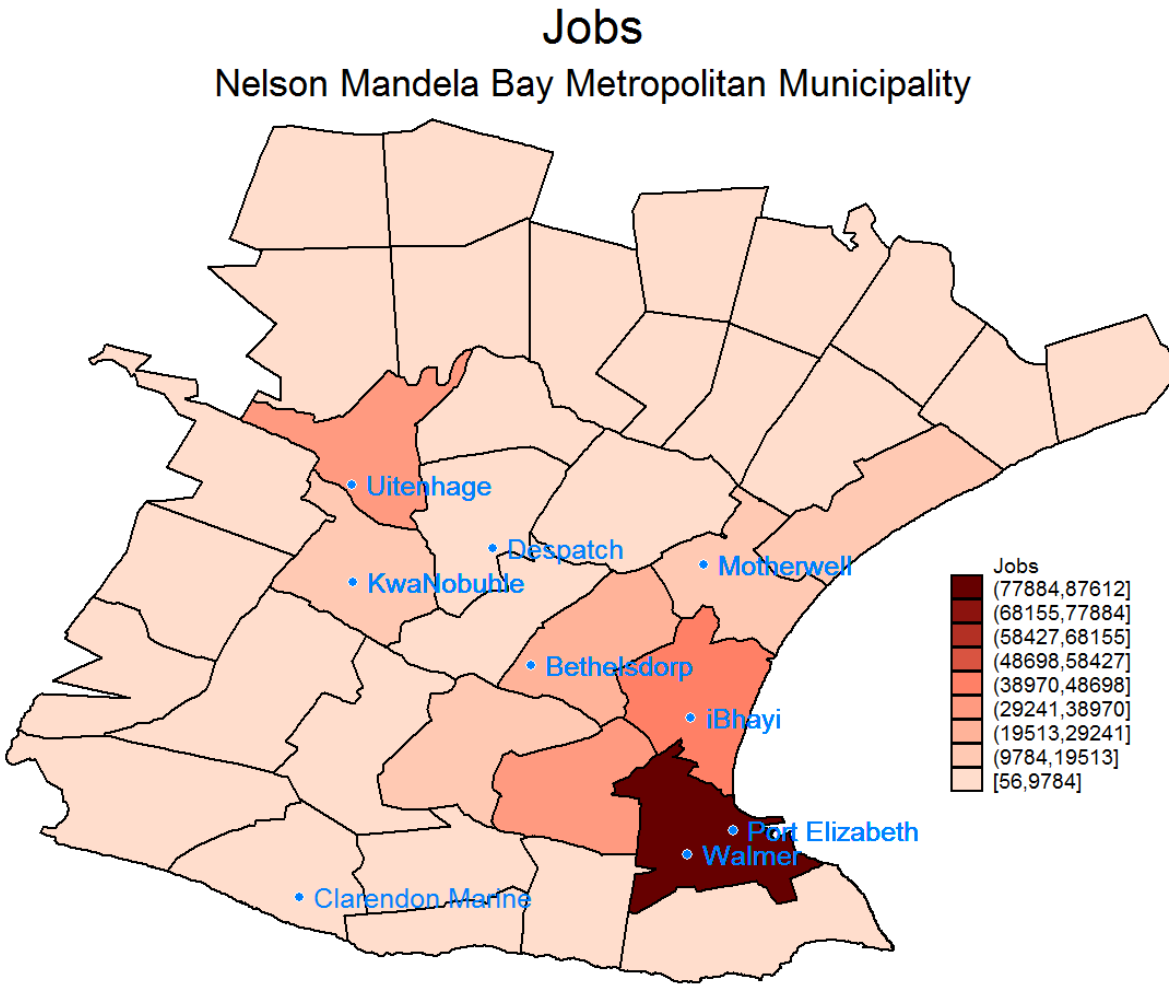
Nelson Mandela Bay





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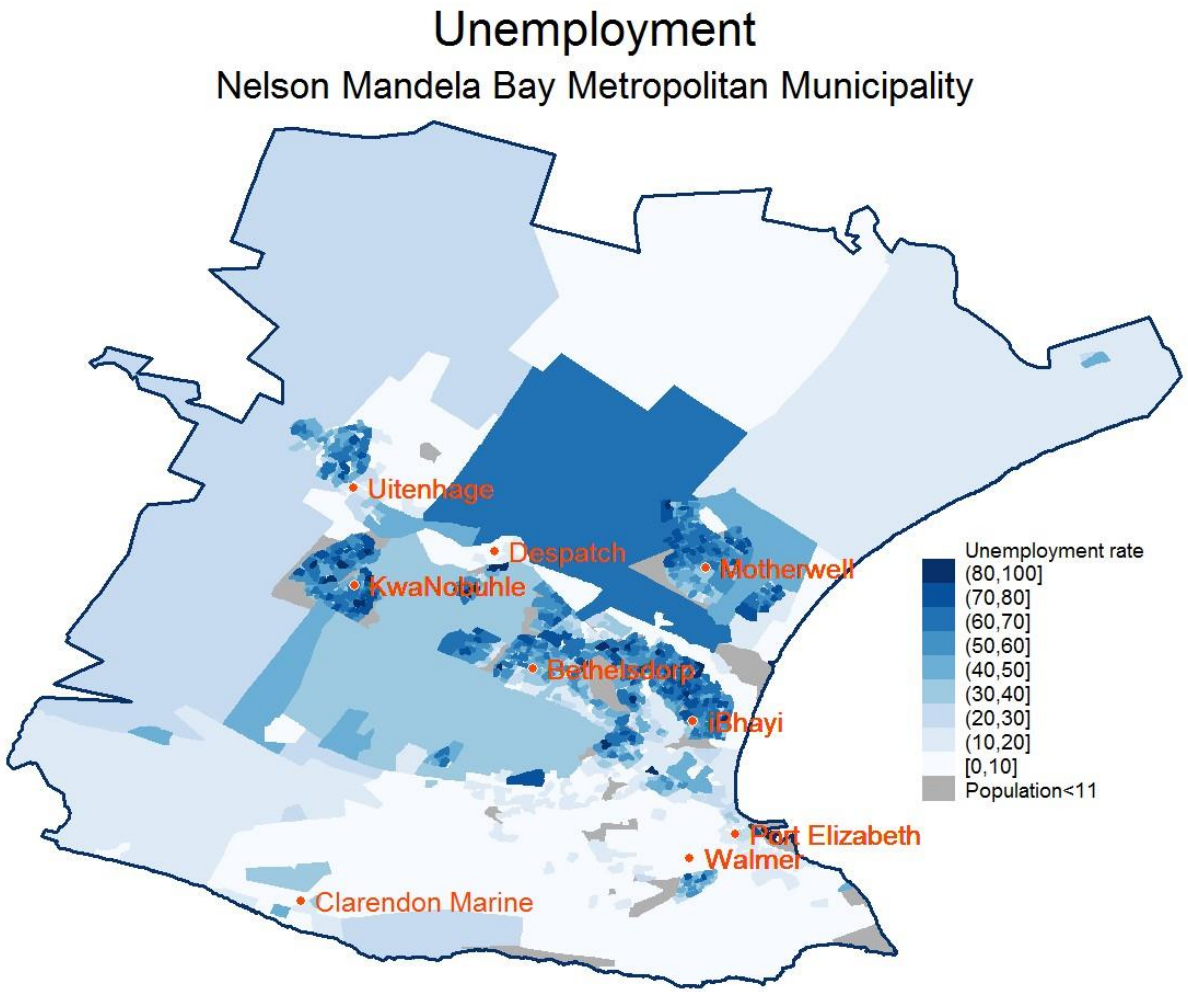
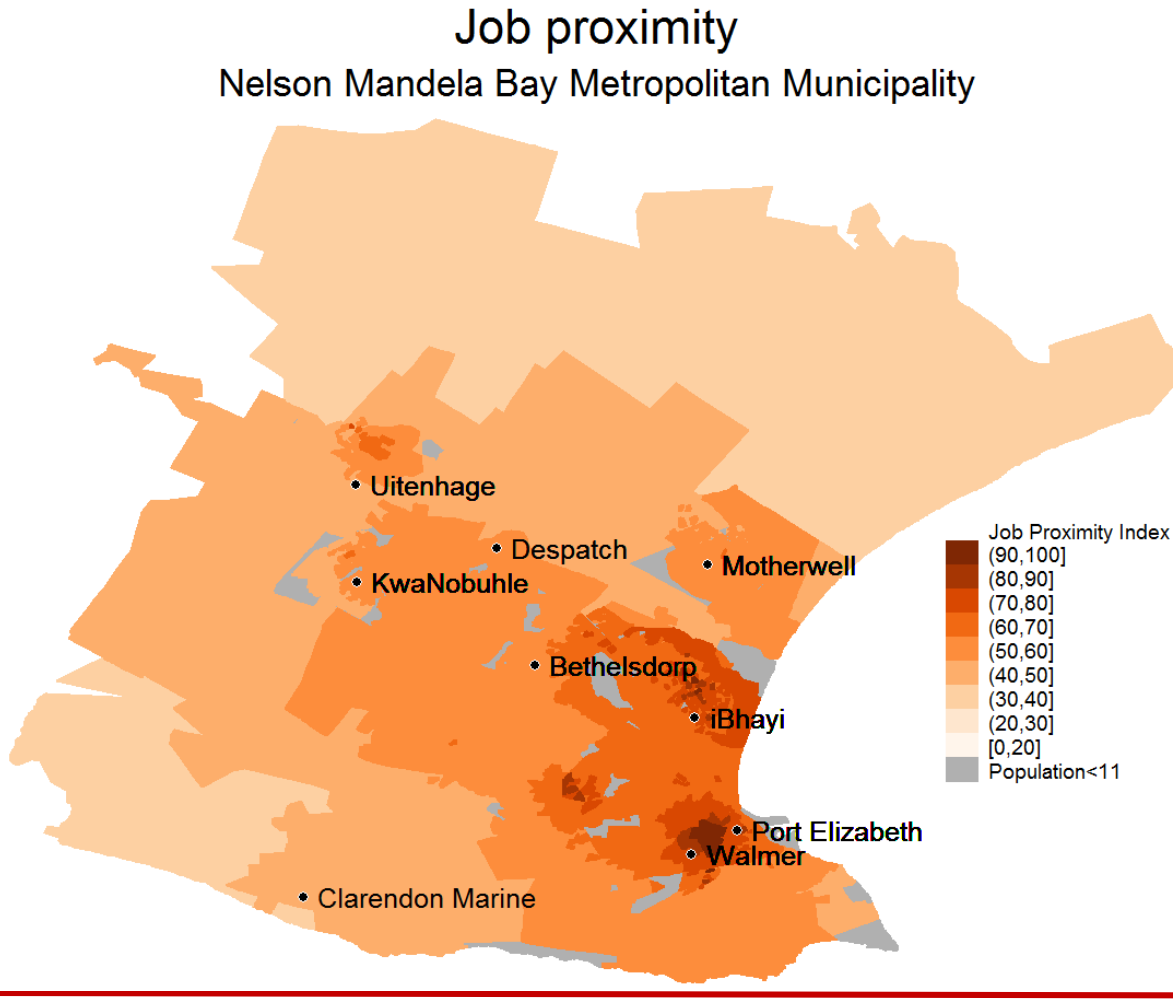
Nelson Mandela Bay





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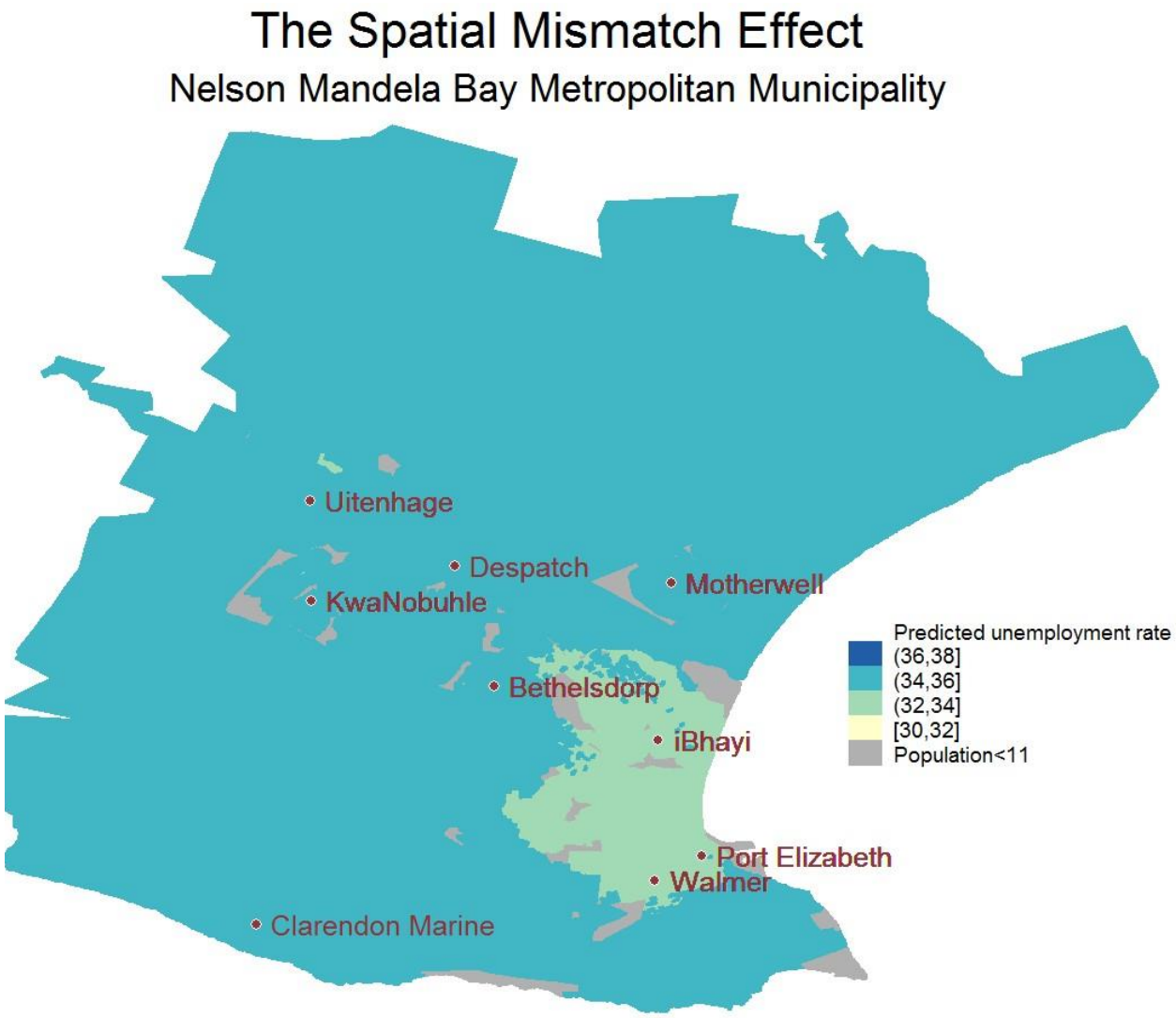
Nelson Mandela Bay

Nelson Mandela Bay Metropolitan Municipality		
	(Spec. 1)	(Spec. 2)
	GLM	GLM
	unit changes	% changes
	UNEMPLOYMENT RATE	UNEMPLOYMENT RATE
Proximity to jobs (index)	-0.0380	-0.0654
	(0.0520)	(0.0895)
Observations	1,803	1,803

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Control covariates not shown



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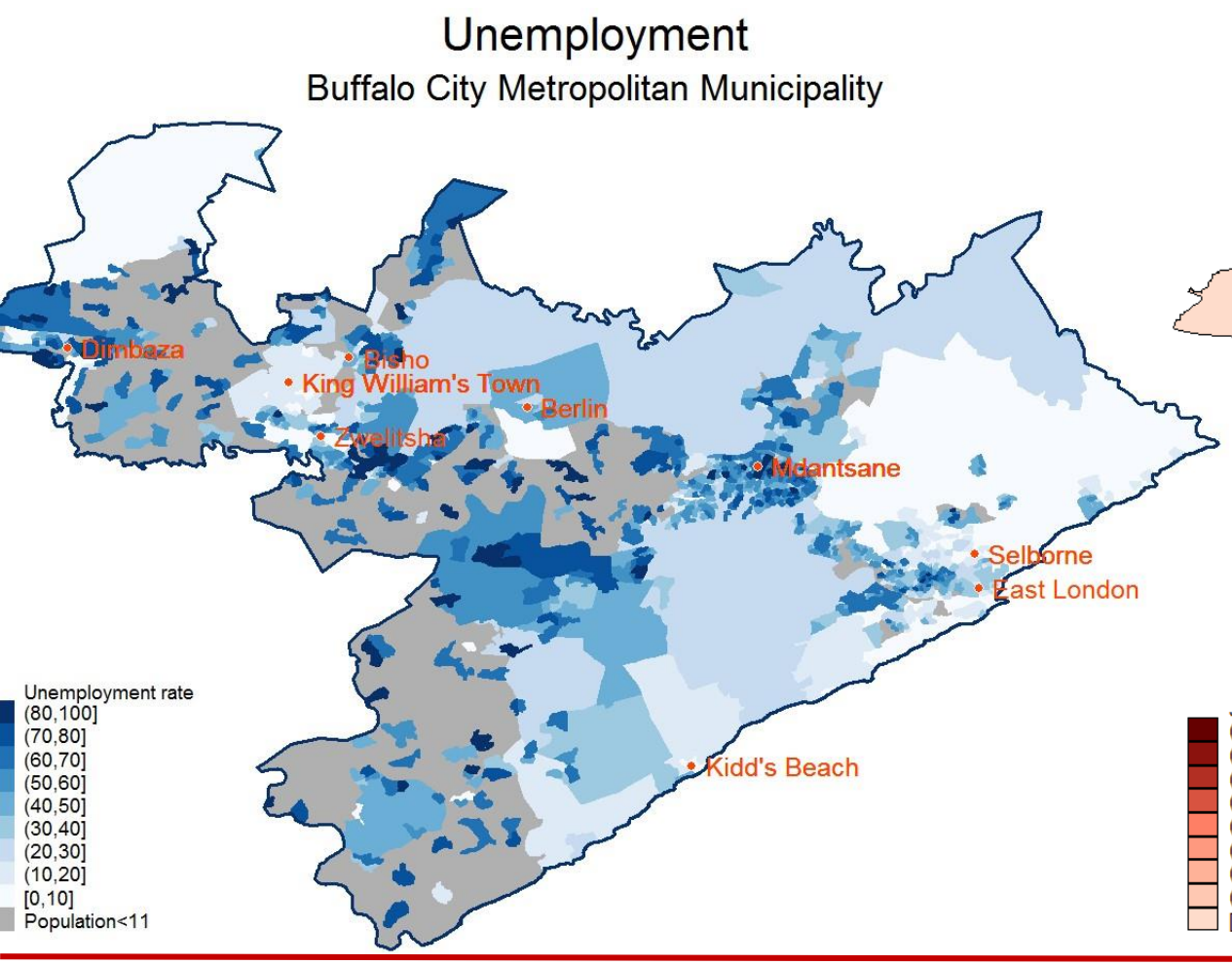
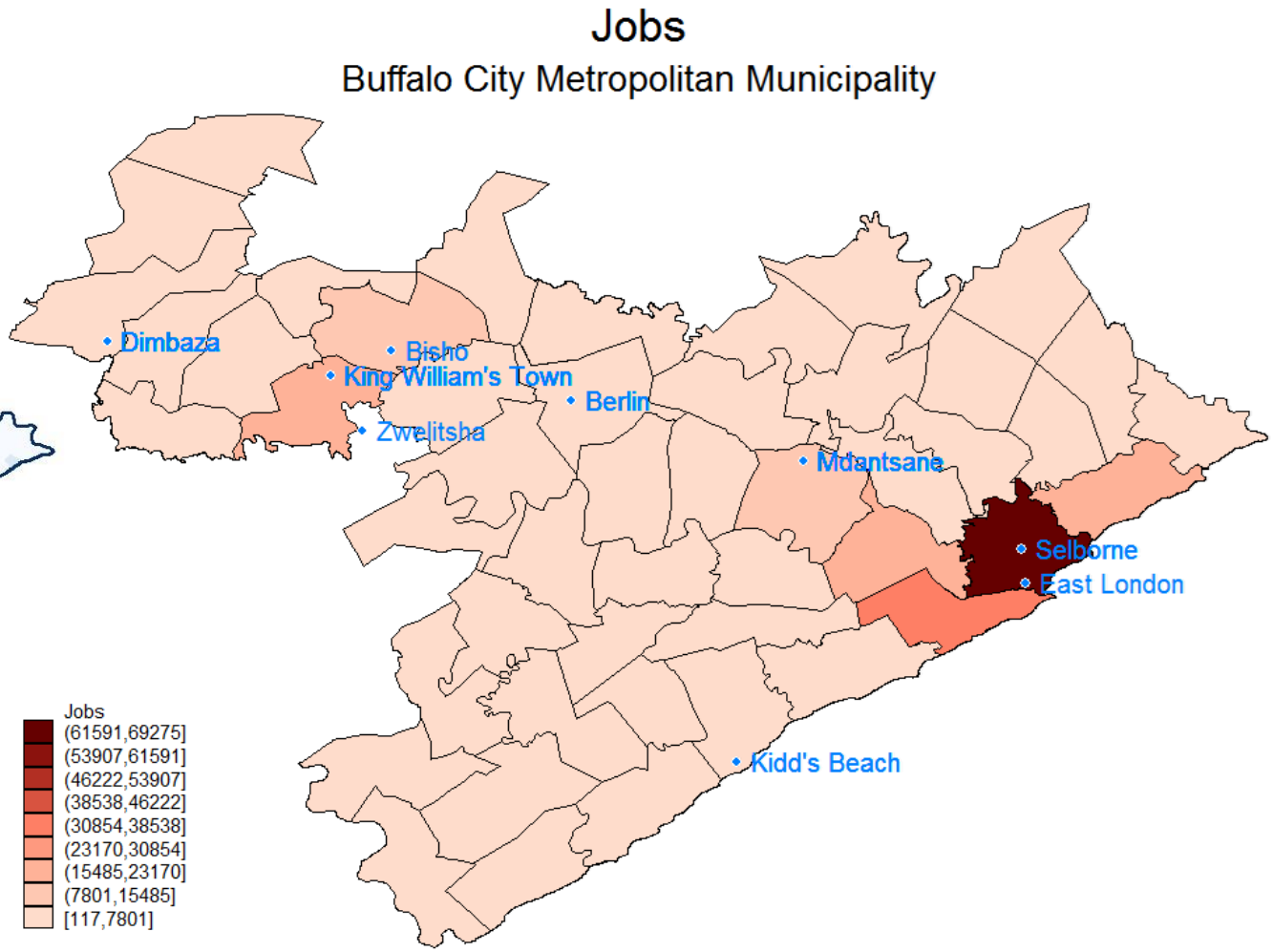
Buffalo City





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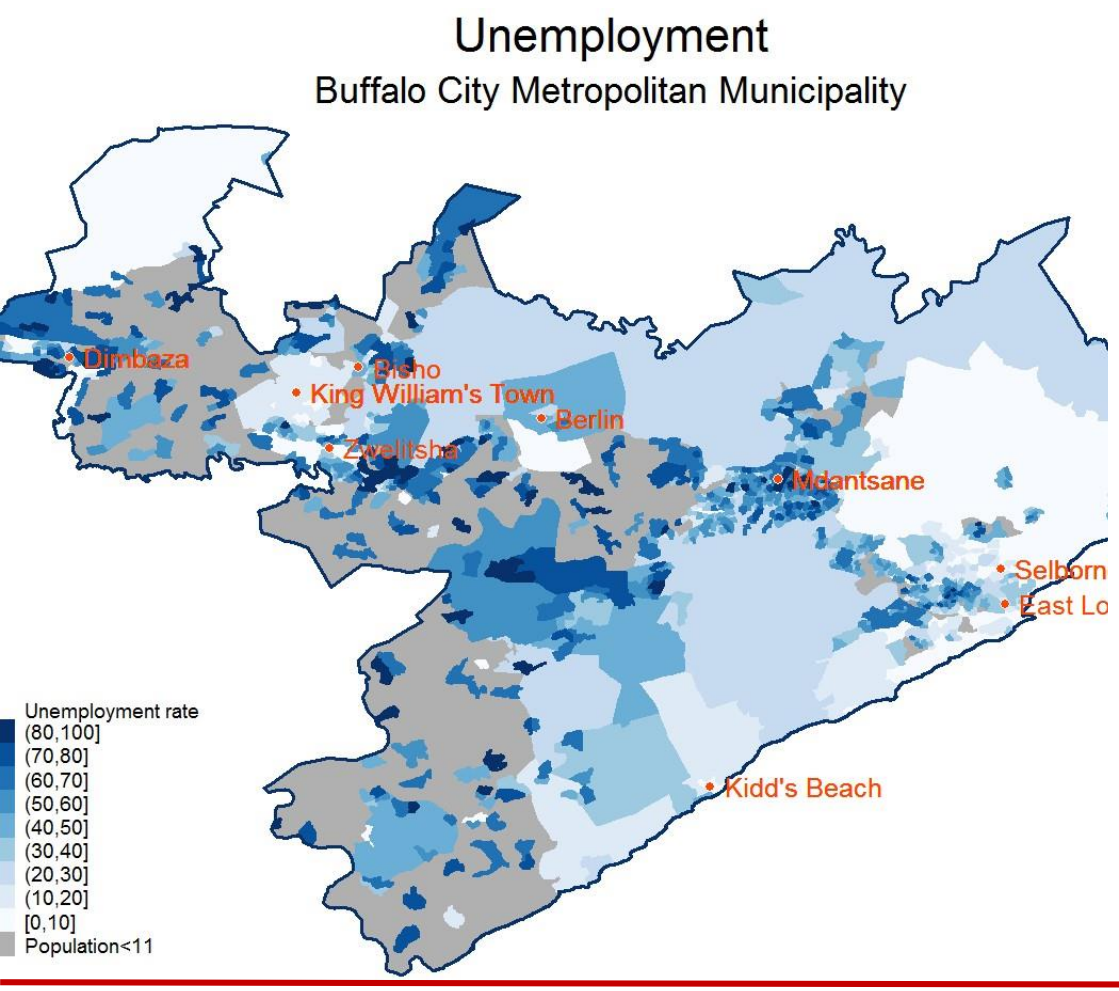
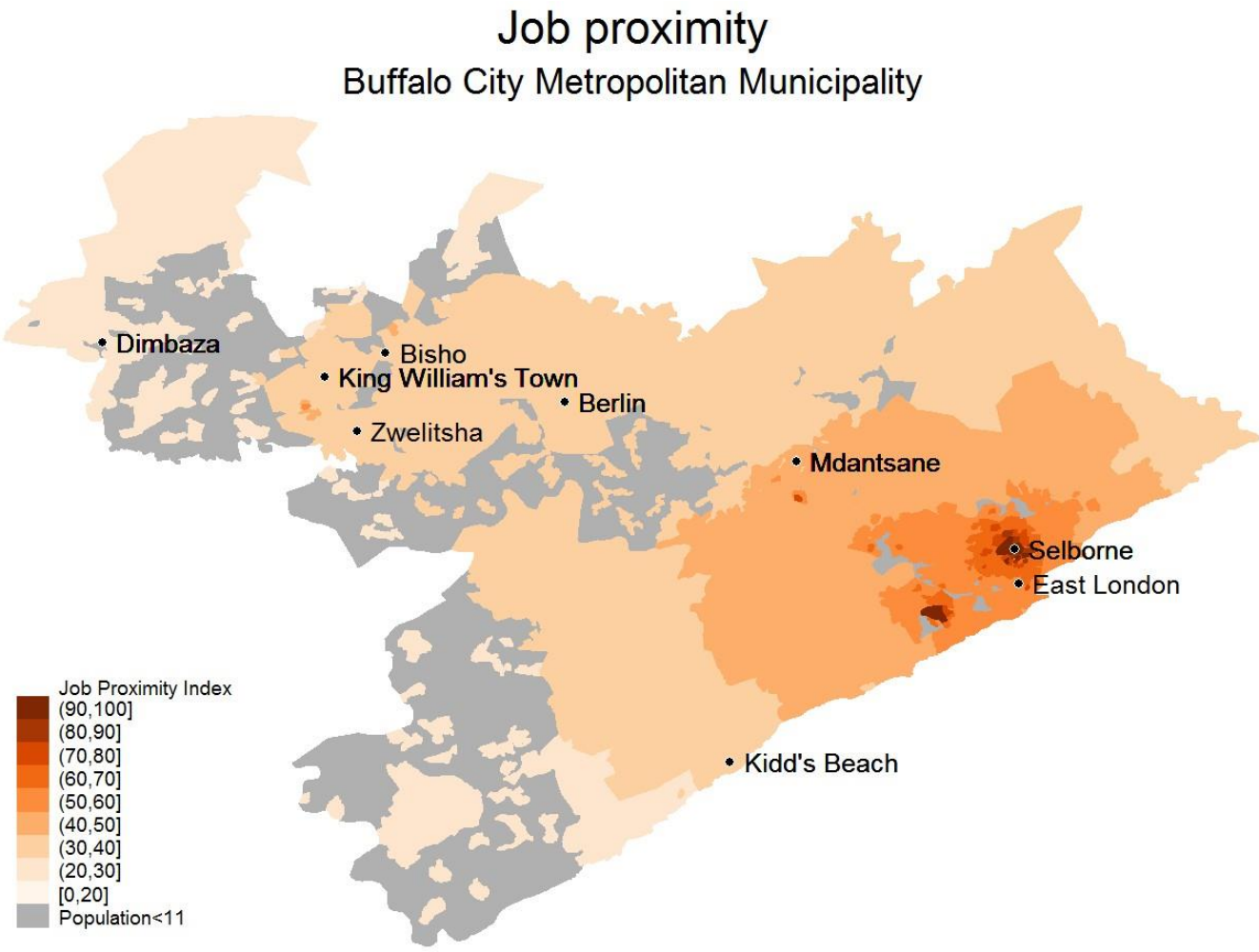
Buffalo City





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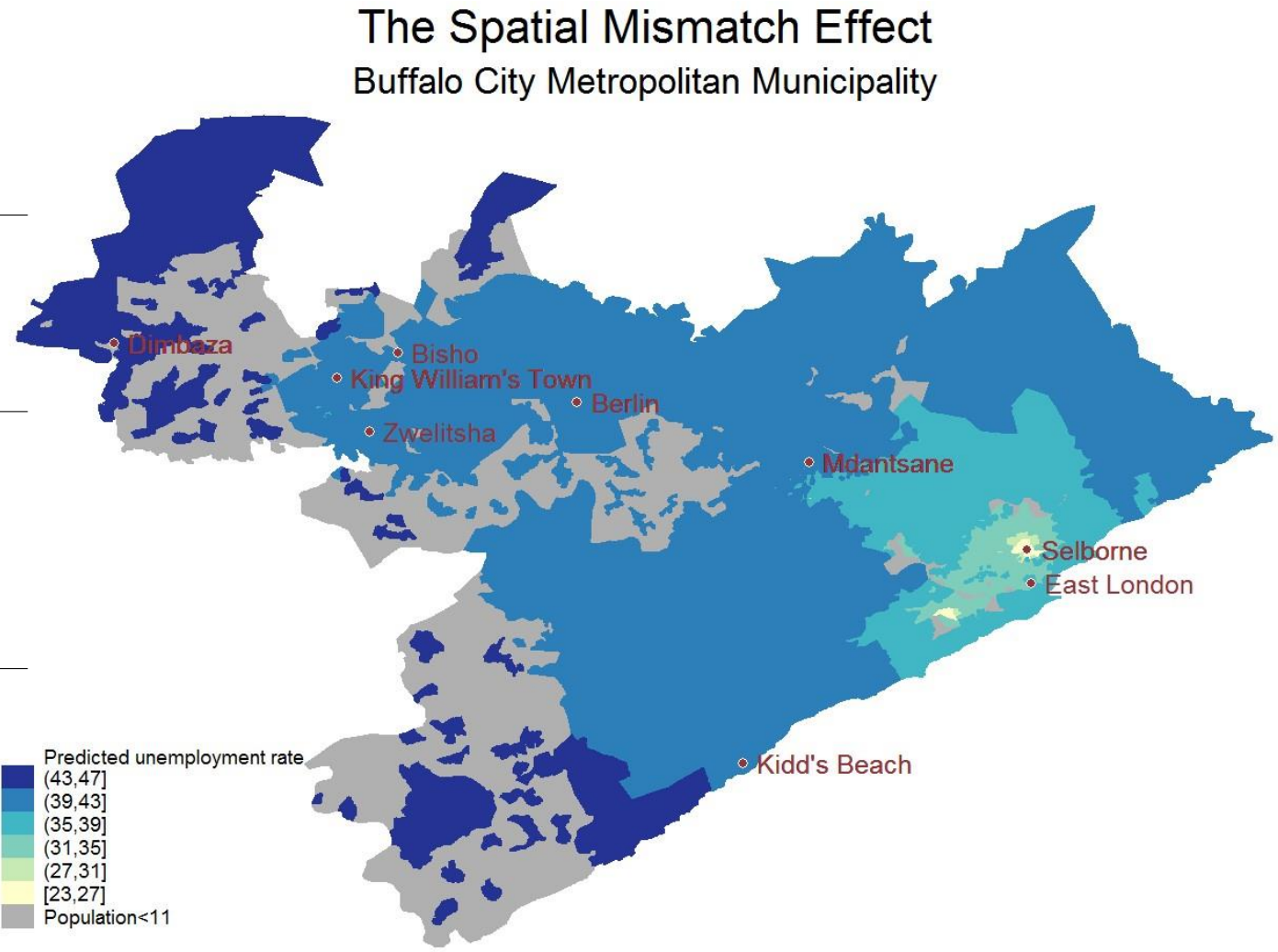
Buffalo City

Buffalo City Metropolitan Municipality

	(Spec. 1) GLM unit changes UNEMPLOYMENT RATE	(Spec. 2) GLM % changes UNEMPLOYMENT RATE
Proximity to jobs (index)	-0.300***	-0.334***
	(0.0568)	(0.0630)
Observations	1,383	1,383

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Control covariates not shown



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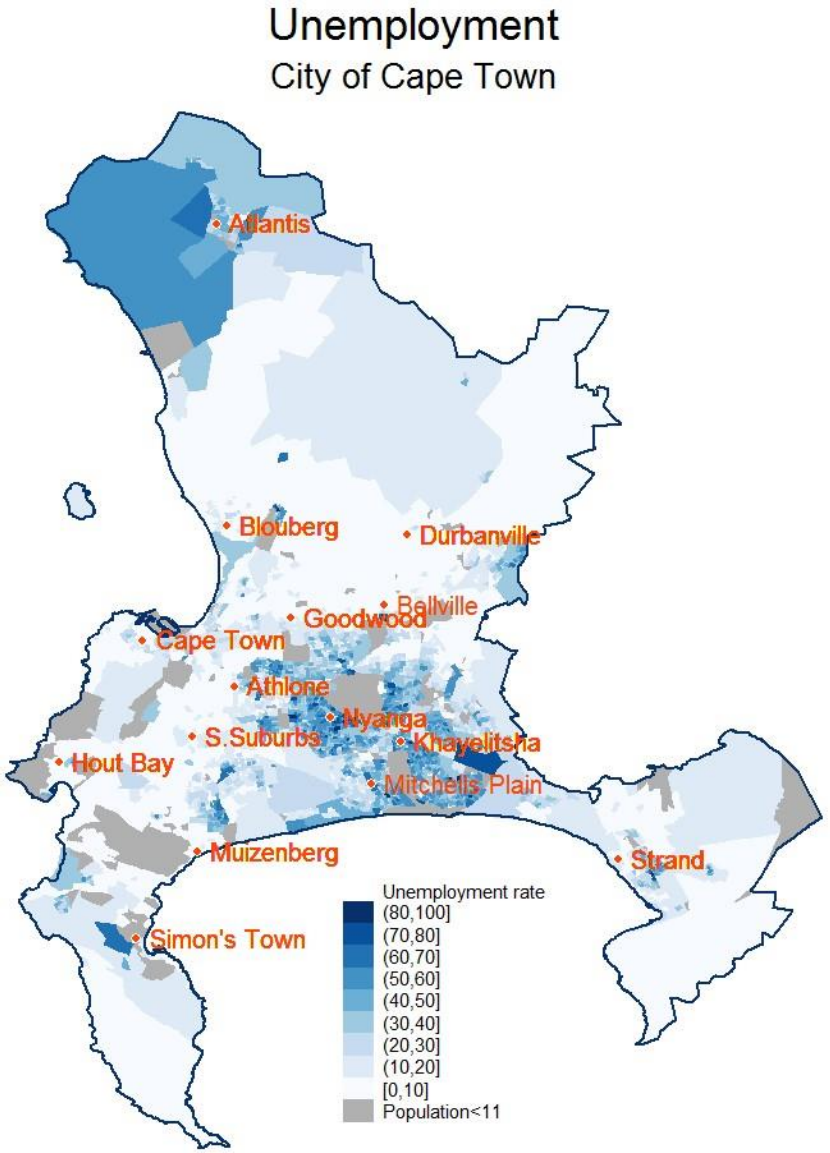
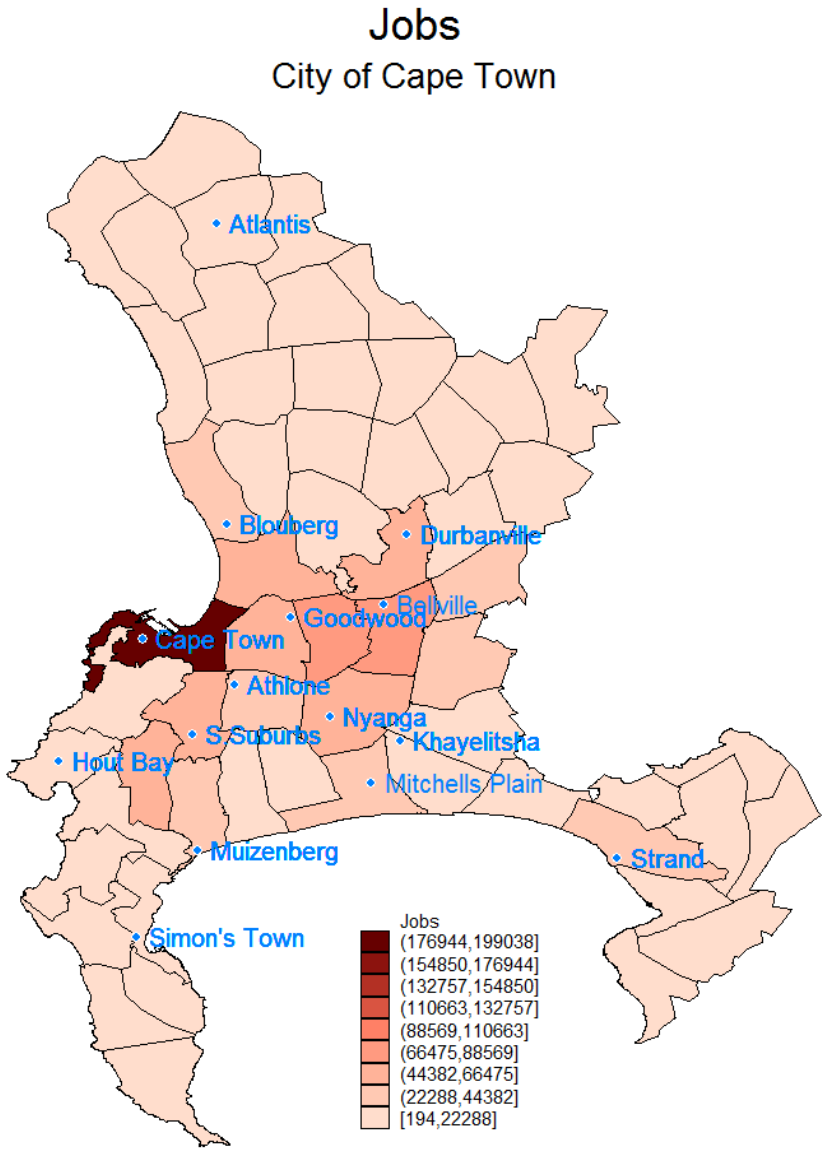
City of Cape Town





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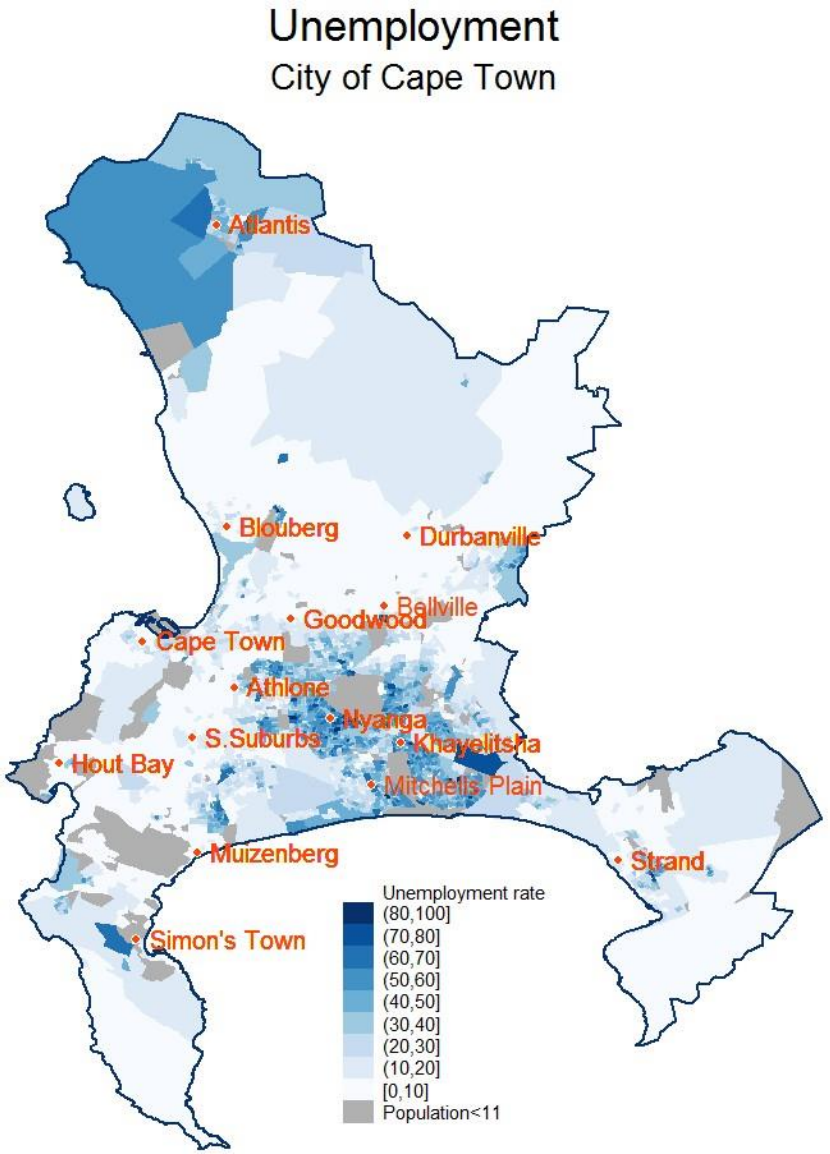
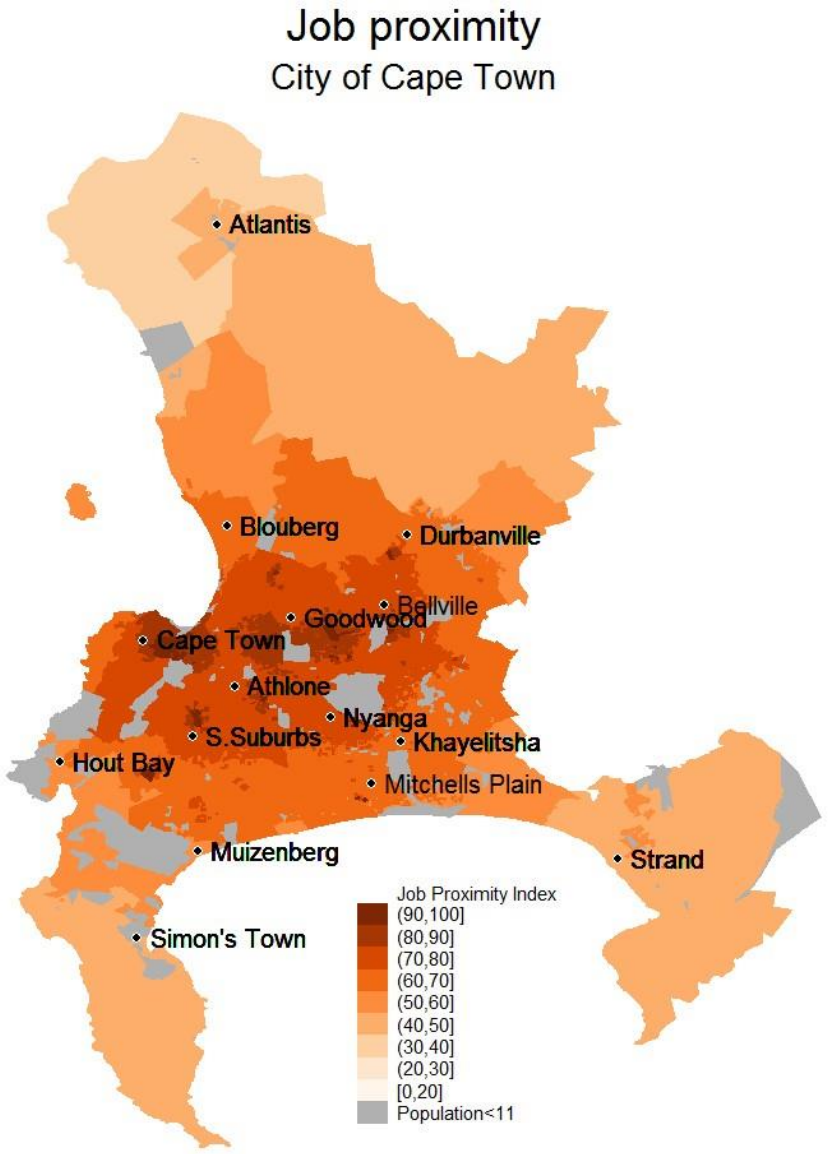
City of Cape Town





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City of Cape Town

City of Cape Town

	(Spec. 1) GLM unit changes UNEMPLOYMENT RATE	(Spec. 2) GLM % changes UNEMPLOYMENT RATE
Proximity to jobs (index)	0.0278*	0.0963*
	(0.0165)	(0.0571)
Observations	5,324	5,324

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Control covariates not shown

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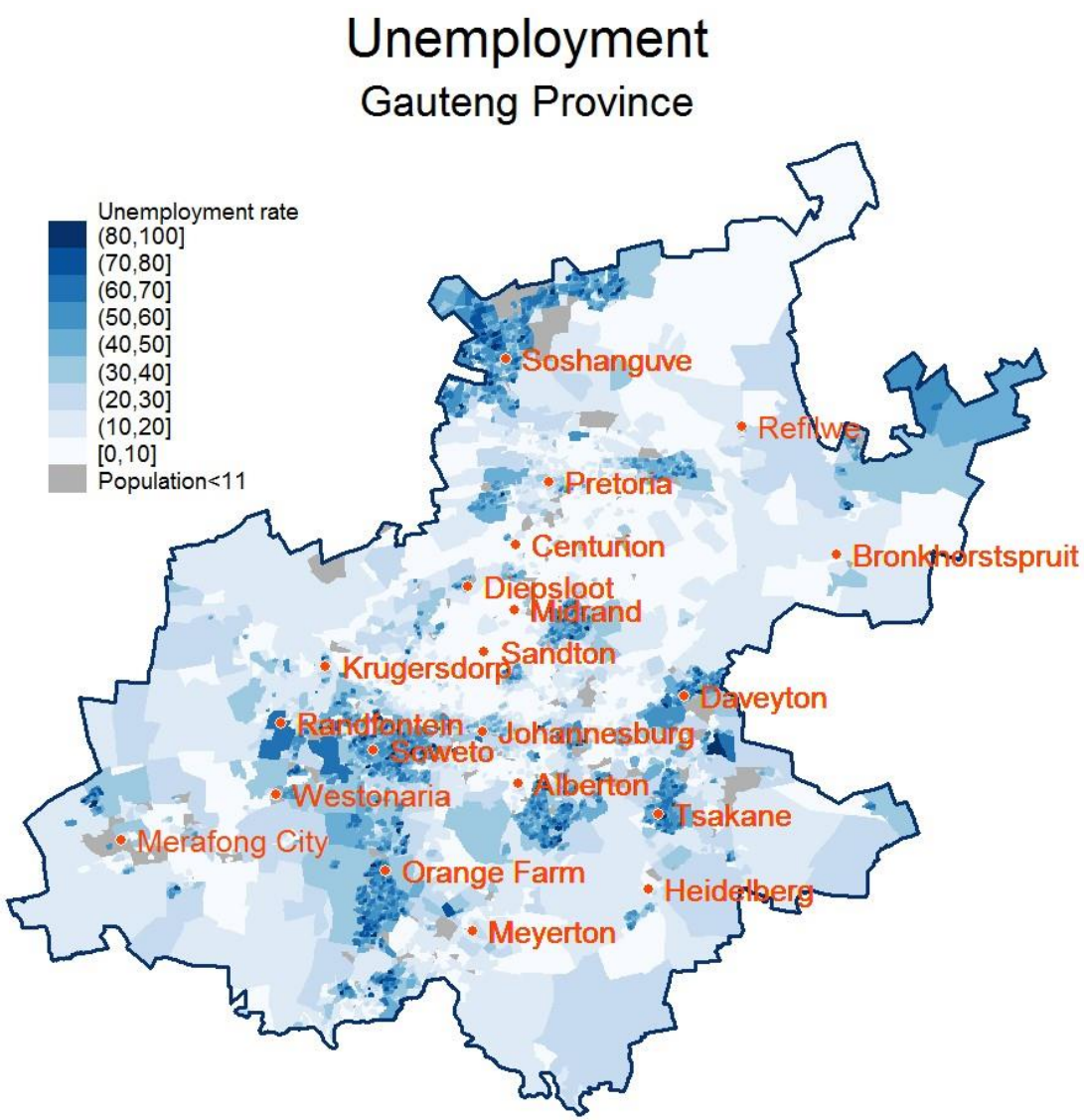
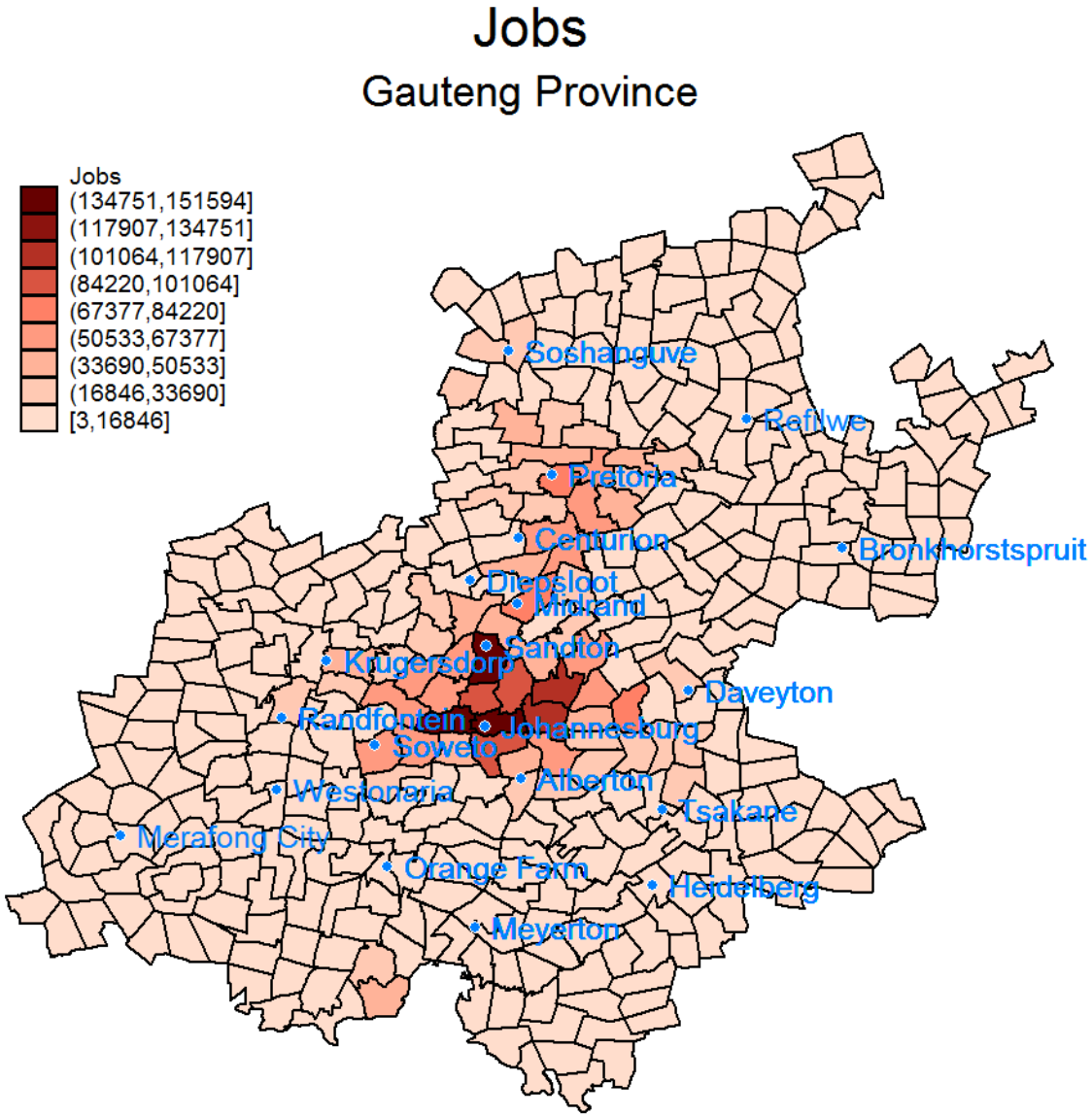
Gauteng





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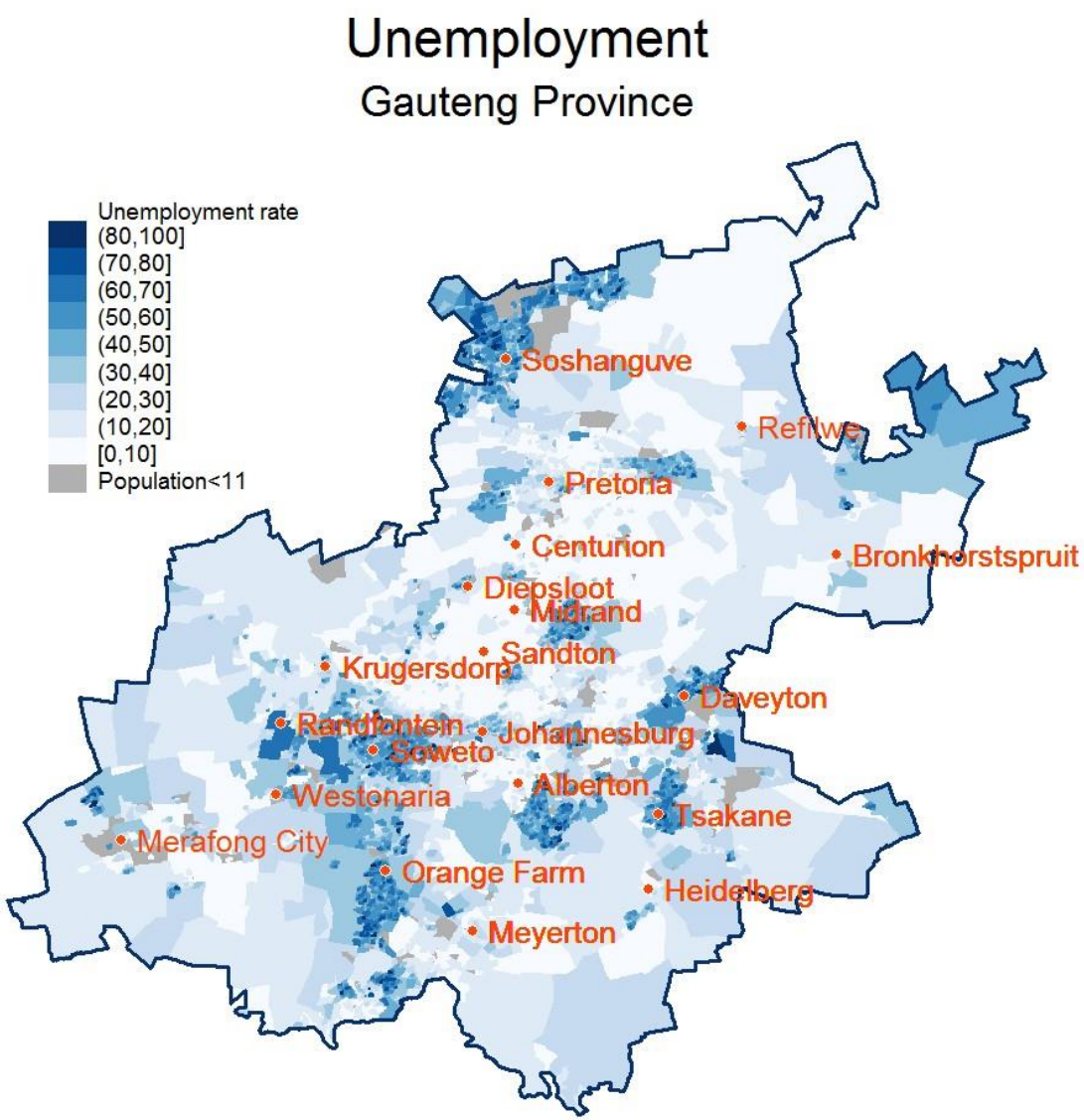
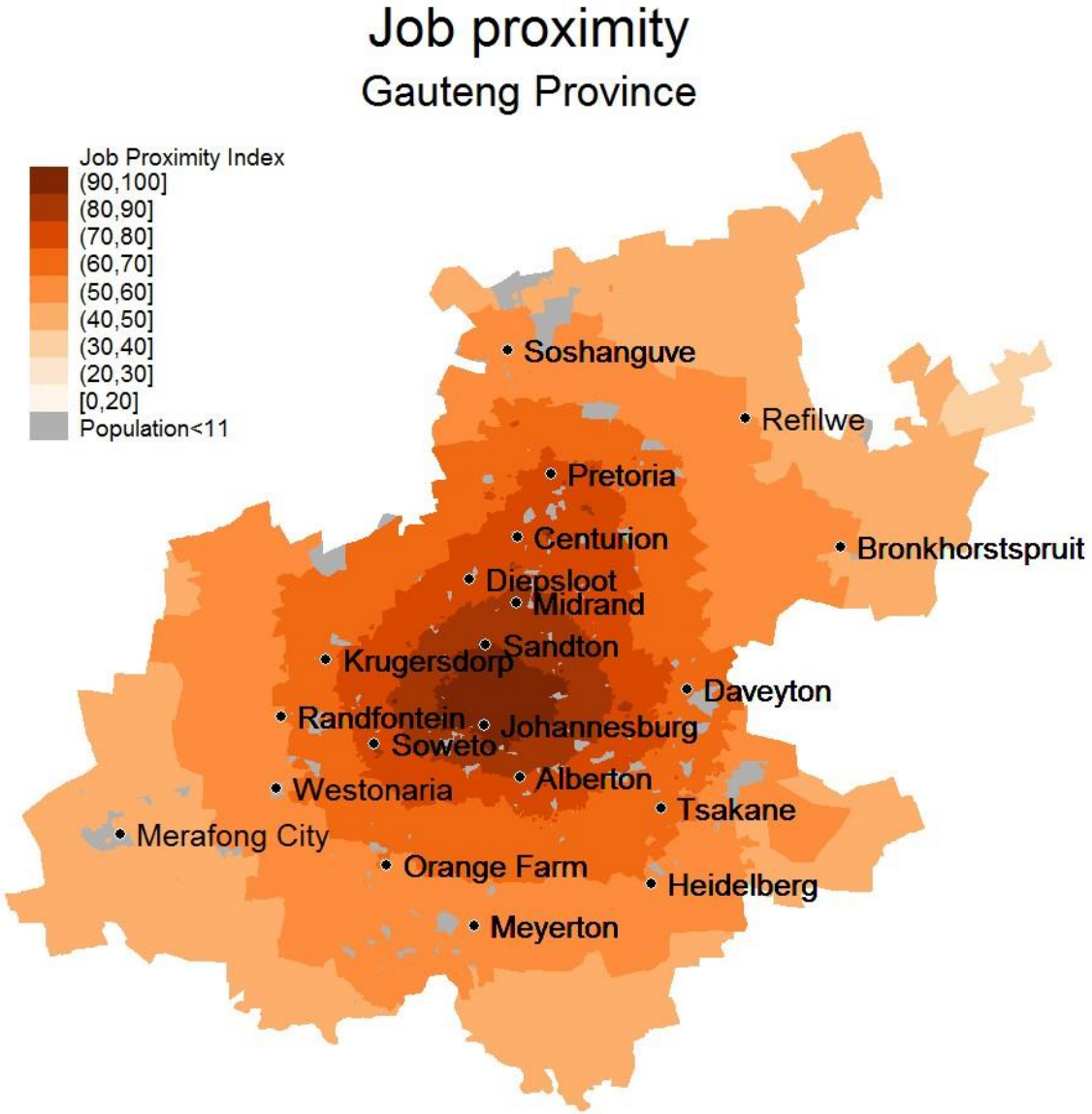
Gauteng





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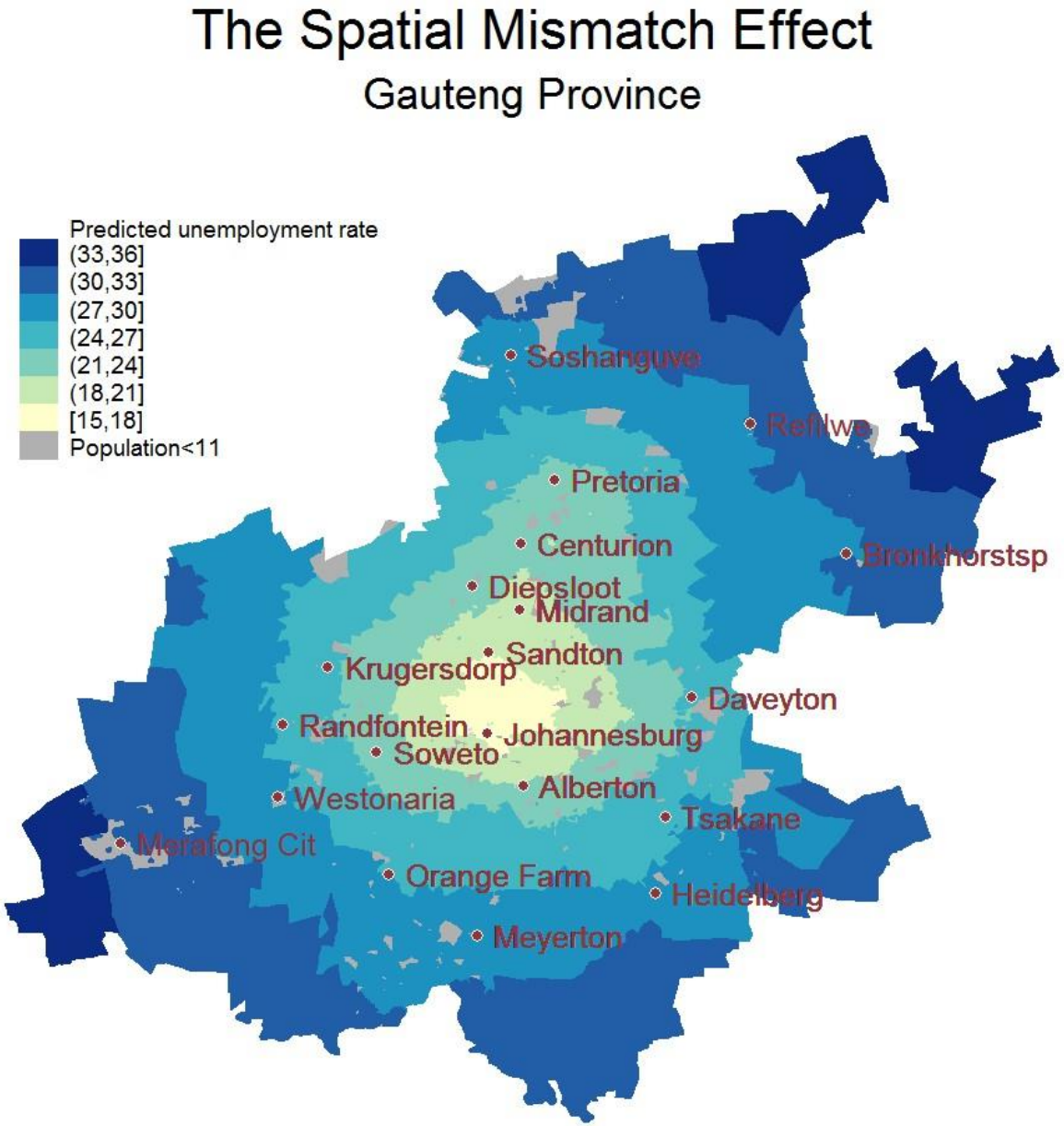
Gauteng

Gauteng Province

	(Spec. 1) GLM unit changes UNEMPLOYMENT	(Spec. 2) GLM % changes UNEMPLOYMENT
Proximity to jobs (index)	-0.304***	-0.899***
	(0.00912)	(0.0270)
Observations	17,806	17,806

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Control covariates not shown



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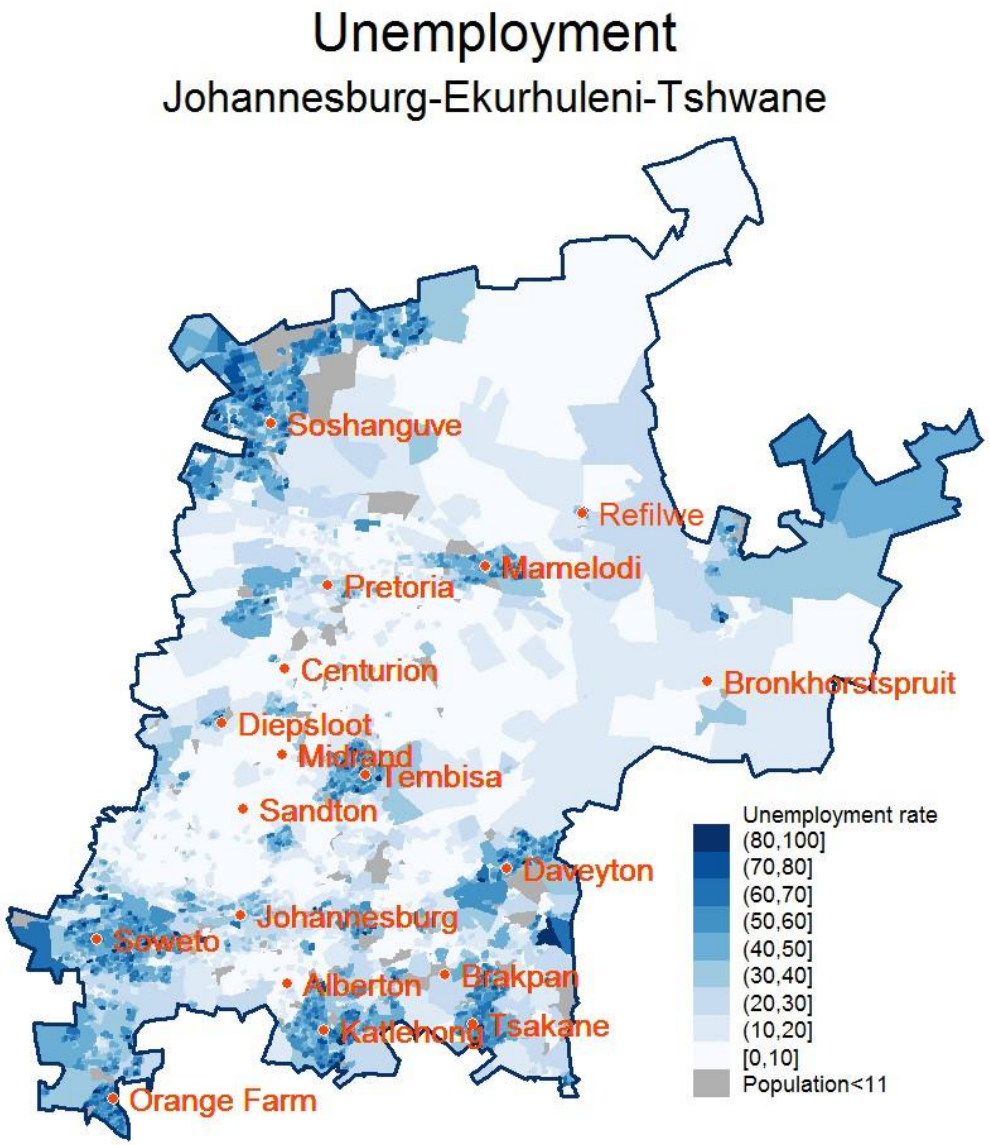
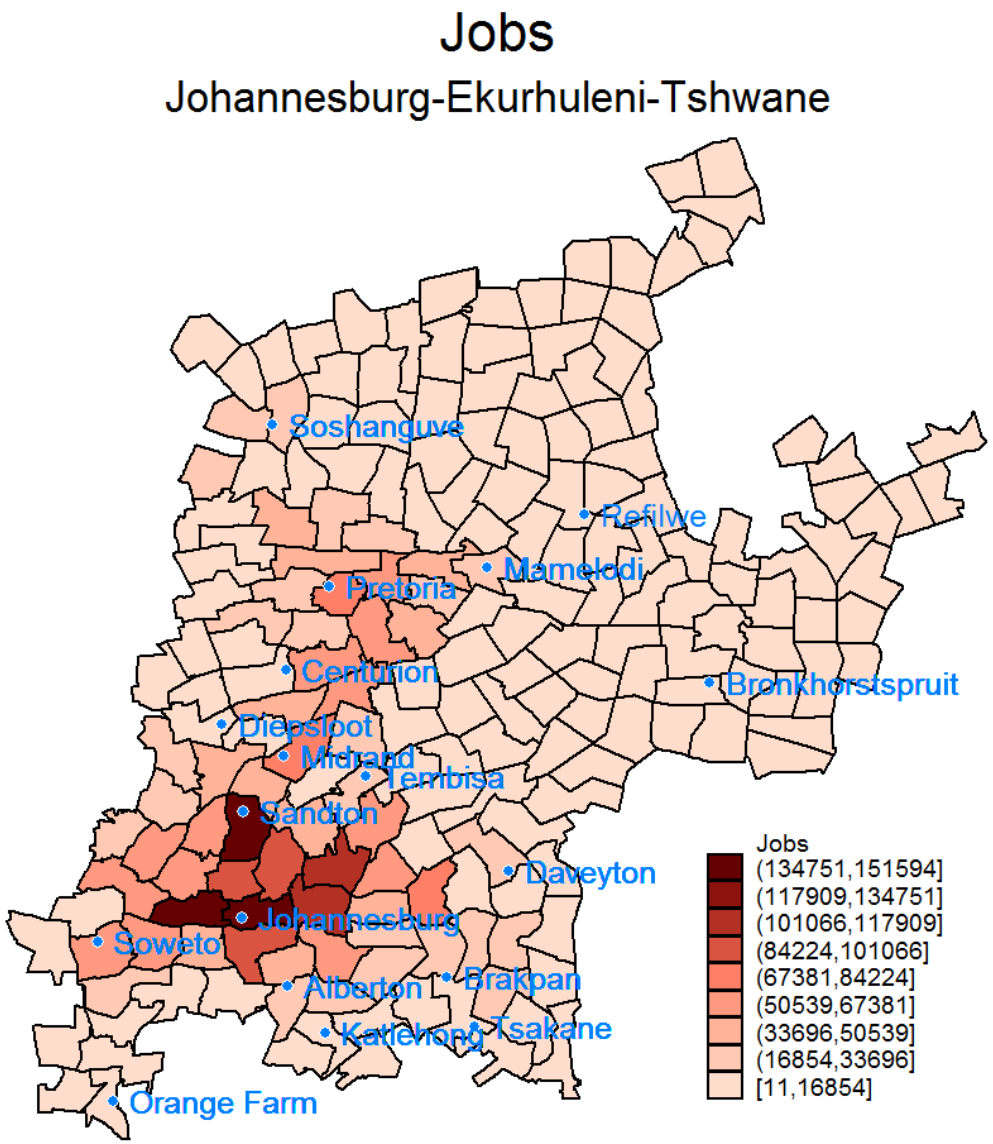
Johannesburg-Ekurhuleni-Tshwane





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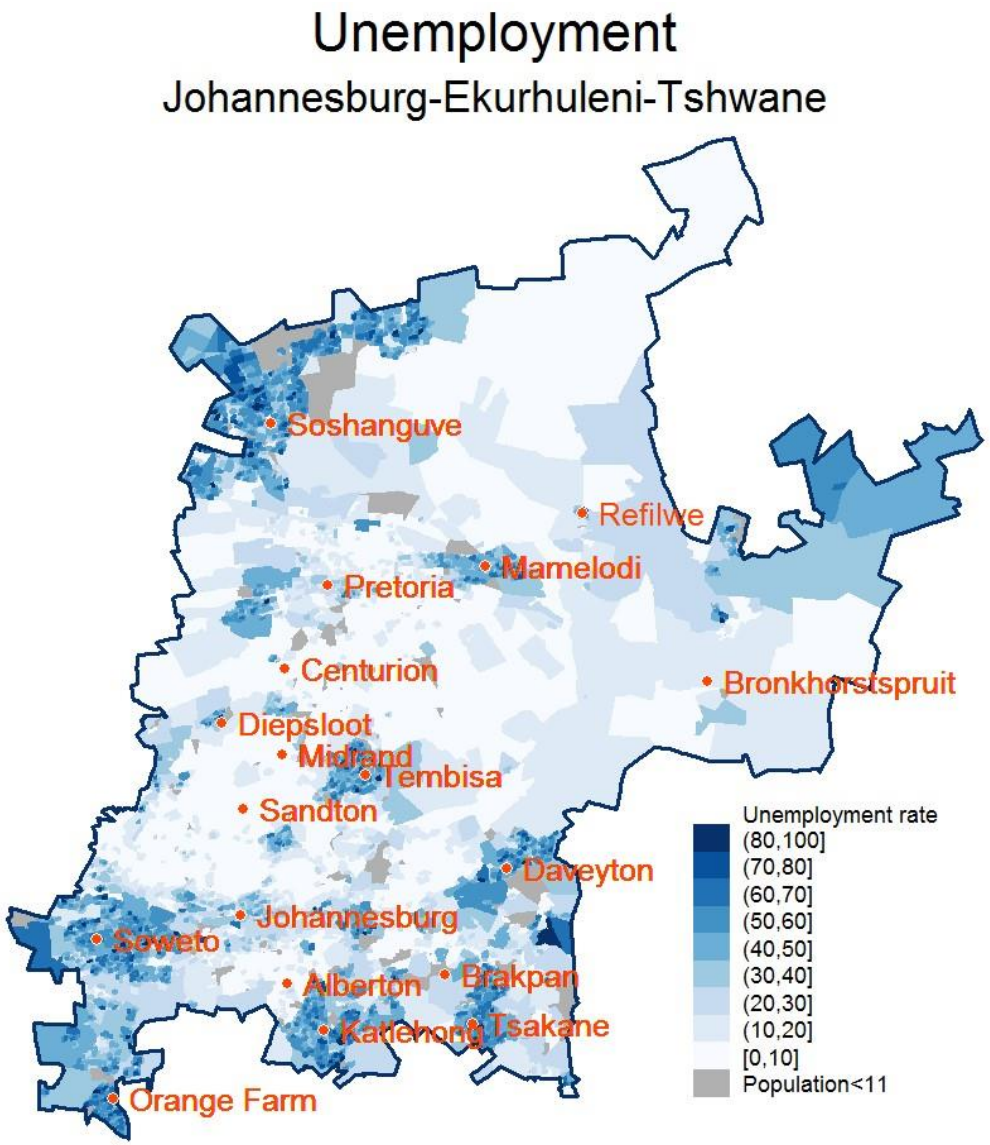
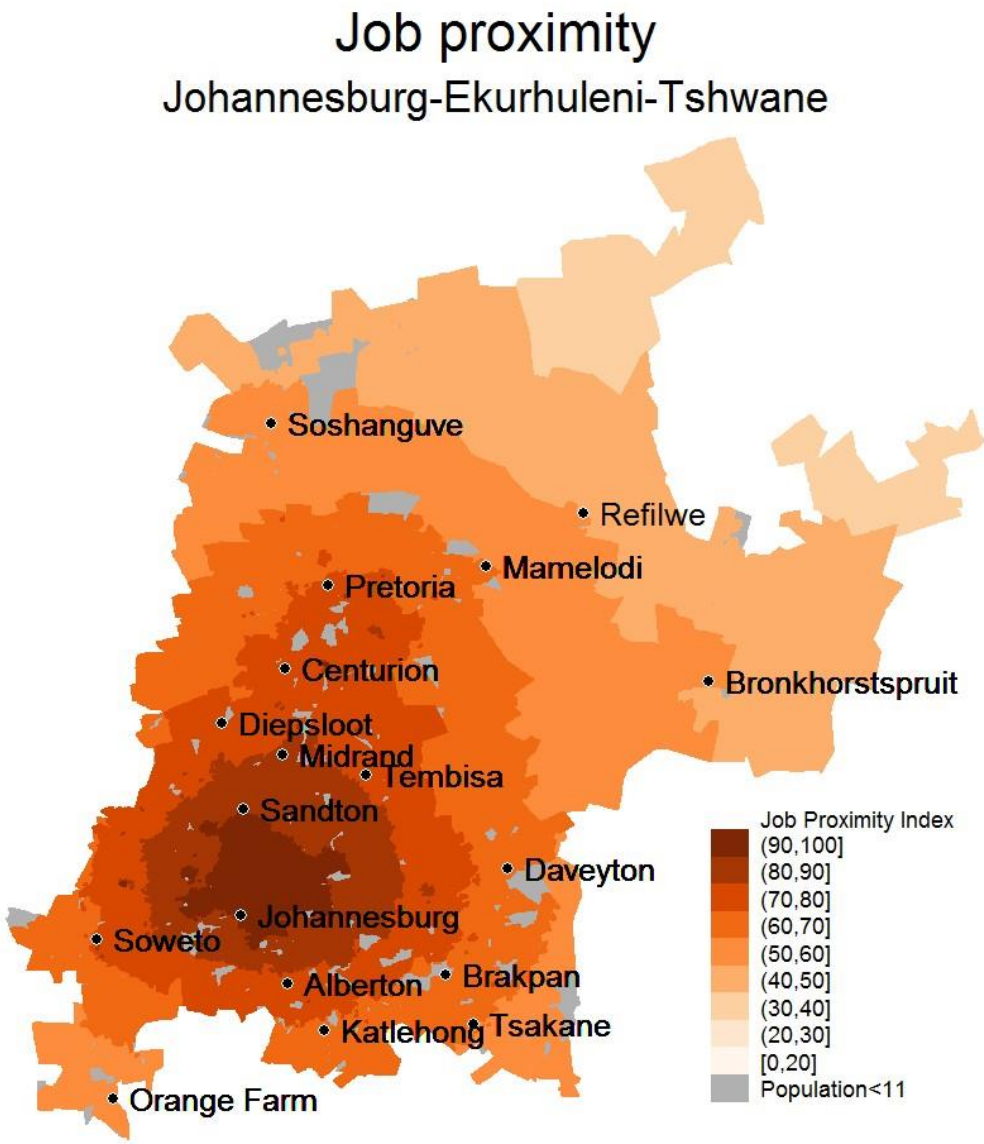
Johannesburg-Ekurhuleni-Tshwane





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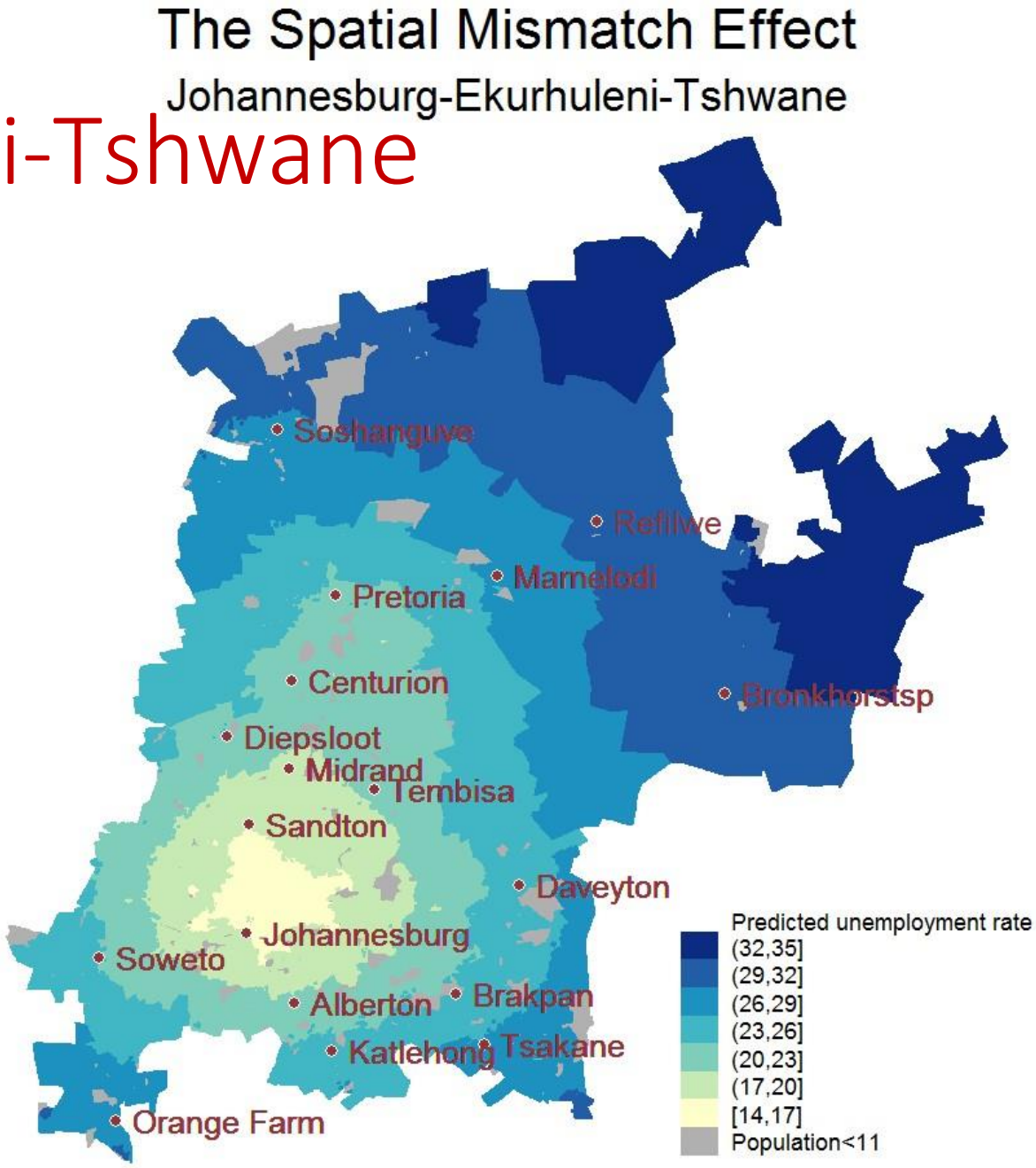
Johannesburg-Ekurhuleni-Tshwane

Johannesburg-Ekurhuleni-Tshwane	(Spec. 1) GLM unit changes UNEMPLOYMENT	(Spec. 2) GLM % changes UNEMPLOYMENT
Proximity to jobs (index)	-0.317***	-0.992***
	(0.0104)	(0.0323)
Observations	14,907	14,907

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Control covariates not shown



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Why the resilience of Apartheid cities?

- Commercial developers have generally sought to invest in well-located city cores and suburbs
  - Even supposedly low-cost private sector housing is typically unaffordable for the poor
  - Government has been unable to effectively direct private investment
- Post-Apartheid housing policy has tended to entrench peripheral development
  - Emphasis on titling, freehold tenure, “asset-based” pathway out of poverty
  - But RDP housing has not been an effective financial or productive asset
  - RDP housing not bad! But *peripheral* RDP housing entrenches Apartheid spatial form

Implications for housing policy

- Intensive rather than extensive development
  - Spatial Mismatch shows dangers of exacerbating urban sprawl and entrenching development of peripheral dormitory settlements
  - Mega-projects, based on idea of taking “jobs to housing”, are implausible, risky, costly, and do not take advantage of the “urban premium”
- Prioritising well-located affordable housing
  - In the inner city, where Joburg evidence suggests severe shortages
  - Beyond the inner-city: suburbs, and ensure the affordability of Corridors of Freedom-type projects
  - Building a public sector rental option

Implications for understanding Spatial Justice?

- Strong commitment made to the concept of Spatial Justice in SPLUMA and the NDP
- Potential to be politically powerful, but practical definitions lacking
  - Academic definitions suggest spatial justice is about identifying the inter-relationships between spatial conditions and social outcomes, and vice versa
  - Government definitions emphasise “righting the wrongs of the past”
- In either case, spatial mismatch is a clear example of spatial injustice!
- Creates a benchmark for evaluating one aspect of progress to spatial justice in SA’s cities
- Of course spatial justice is about more than spatial mismatch! But this offers one important issue to benchmark against and mobilise around.

Conclusions

- South African cities characterised by Apartheid spatial form, and extreme poverty and inequality
- Evidence suggests spatial mismatch is one way in which these phenomena are linked
  - Has large impact in most of SA's major urban areas
  - This is despite our measure being somewhat crude and probably biased against picking up mismatch
- Some policy implications: peripheral housing mega-projects are bad, well-located affordable housing is good
- Ideas of spatial justice must mean integrated cities with proactive measures to include poor & working class in well-located & serviced areas