First steps towards a macro-theory of urban violence in Mexico

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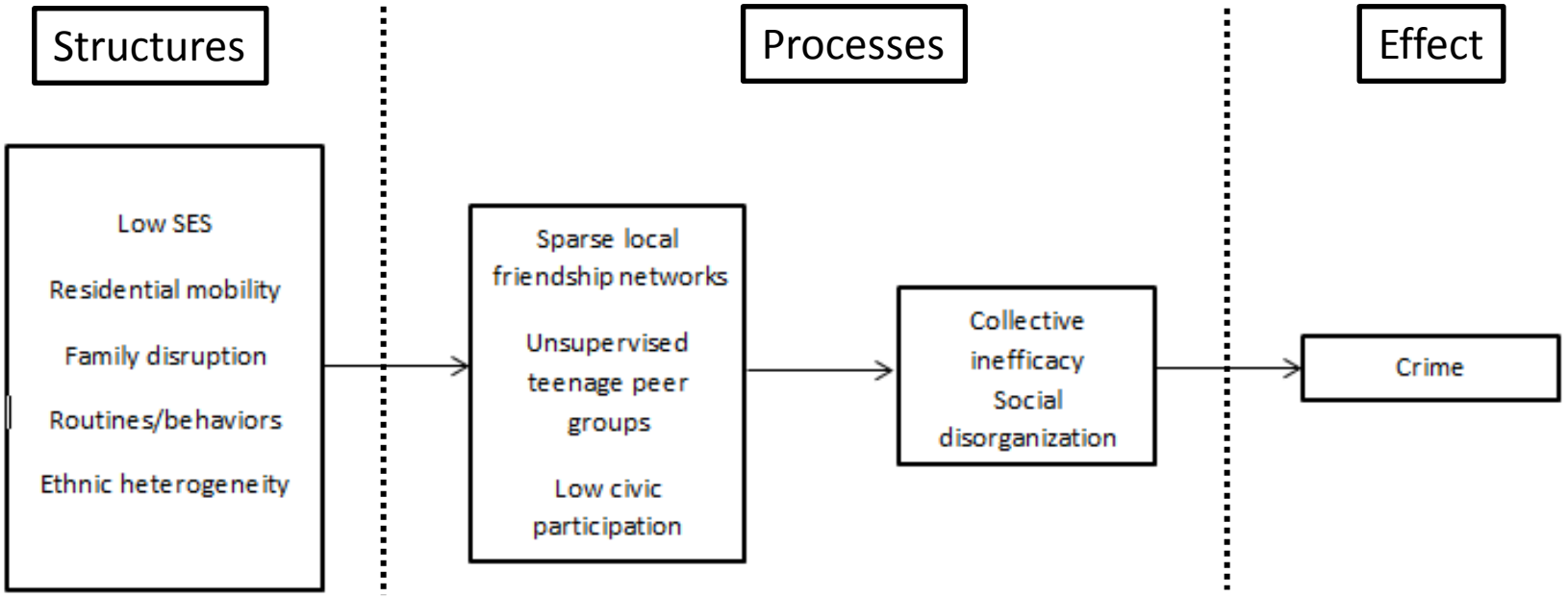
This presentation

- Today: Recent increases in extreme violence in the conurbated area of Mexico City (MCMA)
  - Cd. Juarez, Tijuana, Acapulco… Mexico City now?
  - Social crime prevention: What should we do exactly?
- Understanding by testing 2 macro-theories of crime
  - Social disorganization + Institutional anomie
  - Is an integrated approach richer? Better?
  - Method: Spatial analysis
- First step:
  - Testing established theories
  - Proceed with the most general test (i.e. for all crimes)

The theories

New formulation of an old theory: SD

- How Social Disorganization operates:

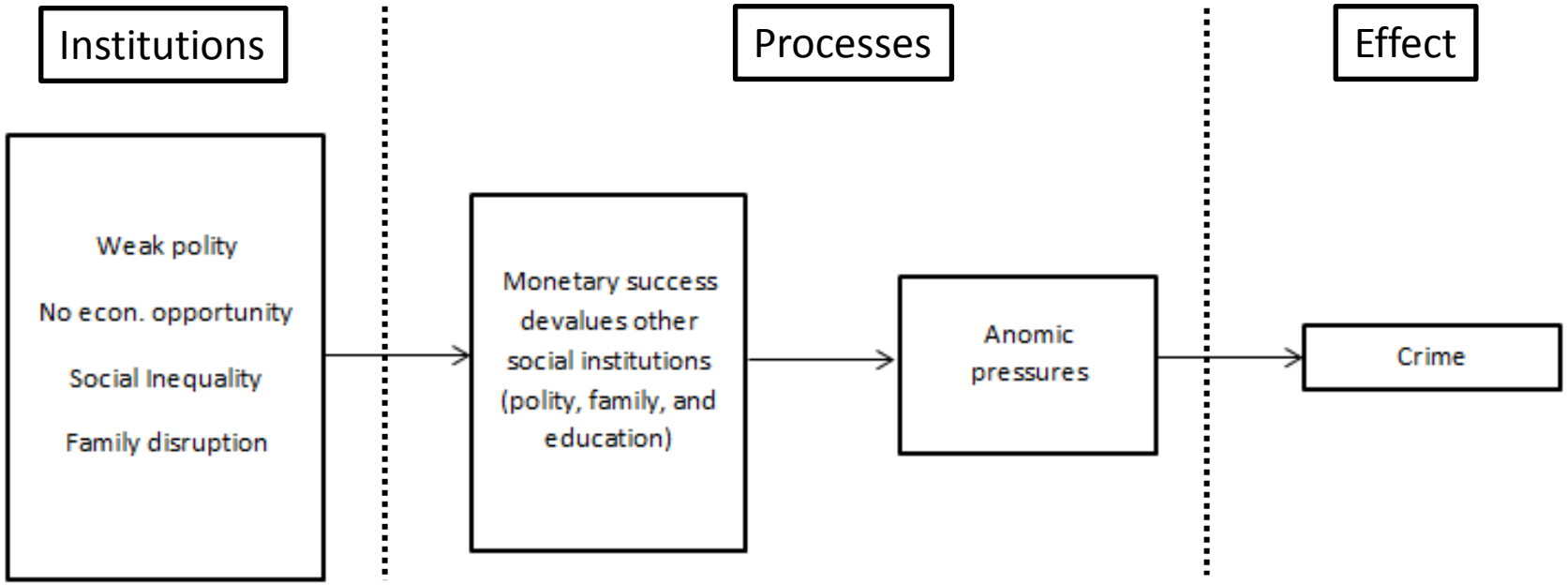


Weak neighborhood integration → No local normative constraints + economic need → Anything goes → Crime

Source: Adapted from Shaw and McKay (1972), Sampson and Groves (1989), and Sampson (2011)

Formulation of another theory: IAT

- How Institutional Anomie operates:



Market rules over other institutions → Monetary success as End + insufficient legal Means → Anomic pressures → Crime

Source: Adapted from Messner and Rosenfeld (1994), Messner and Rosenfeld (1997), and Rosenfeld and Messner (2010)

Correlates in this study

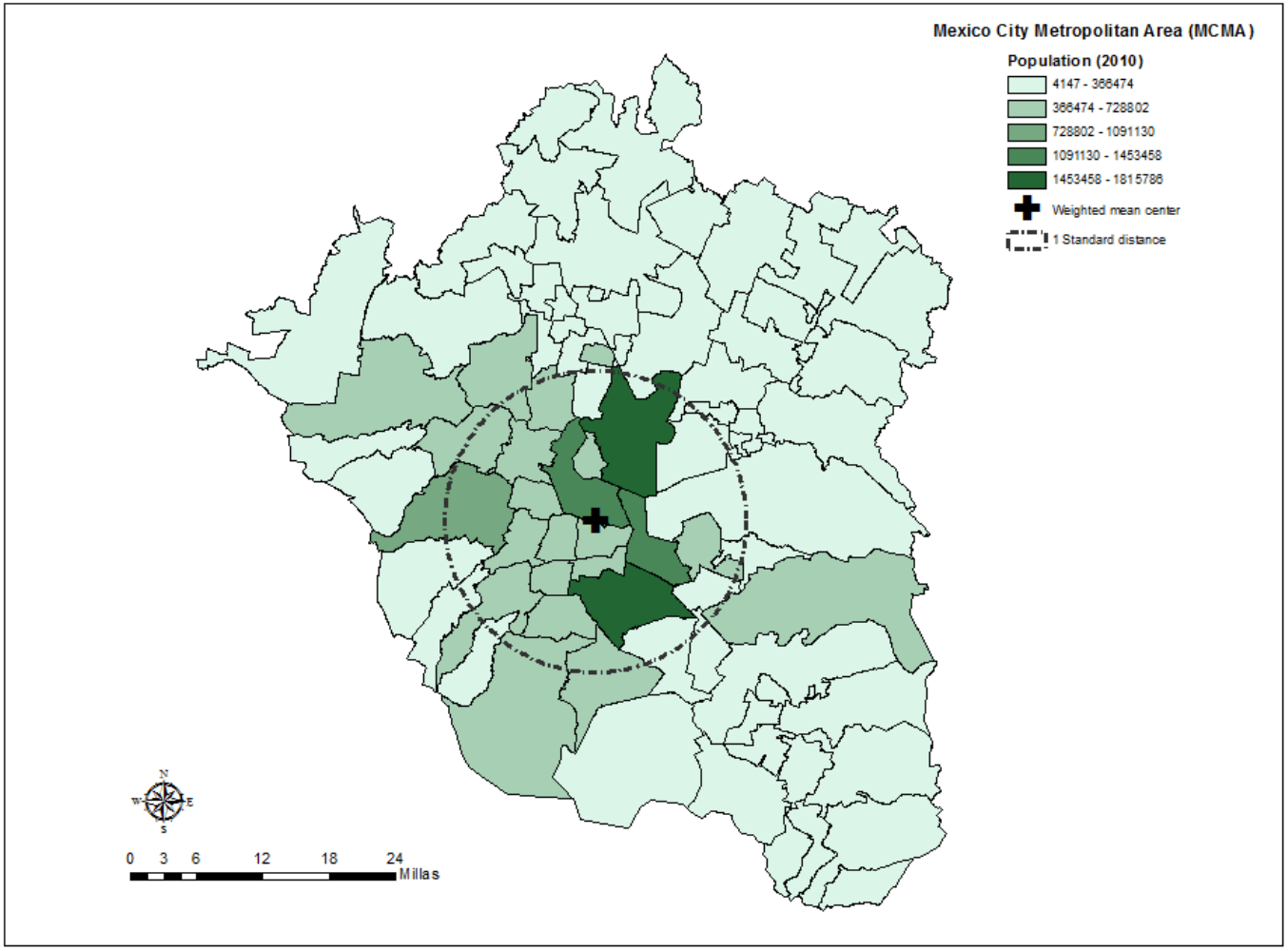
- Social disorganization + Institutional anomie

Criminological theories are in most part theories of YOUTH

The case study: MCMA

MCMA: 76 municipalities

- Total pop: 20,116,842 (Census of 2010)



Area:
3,037 mi^2

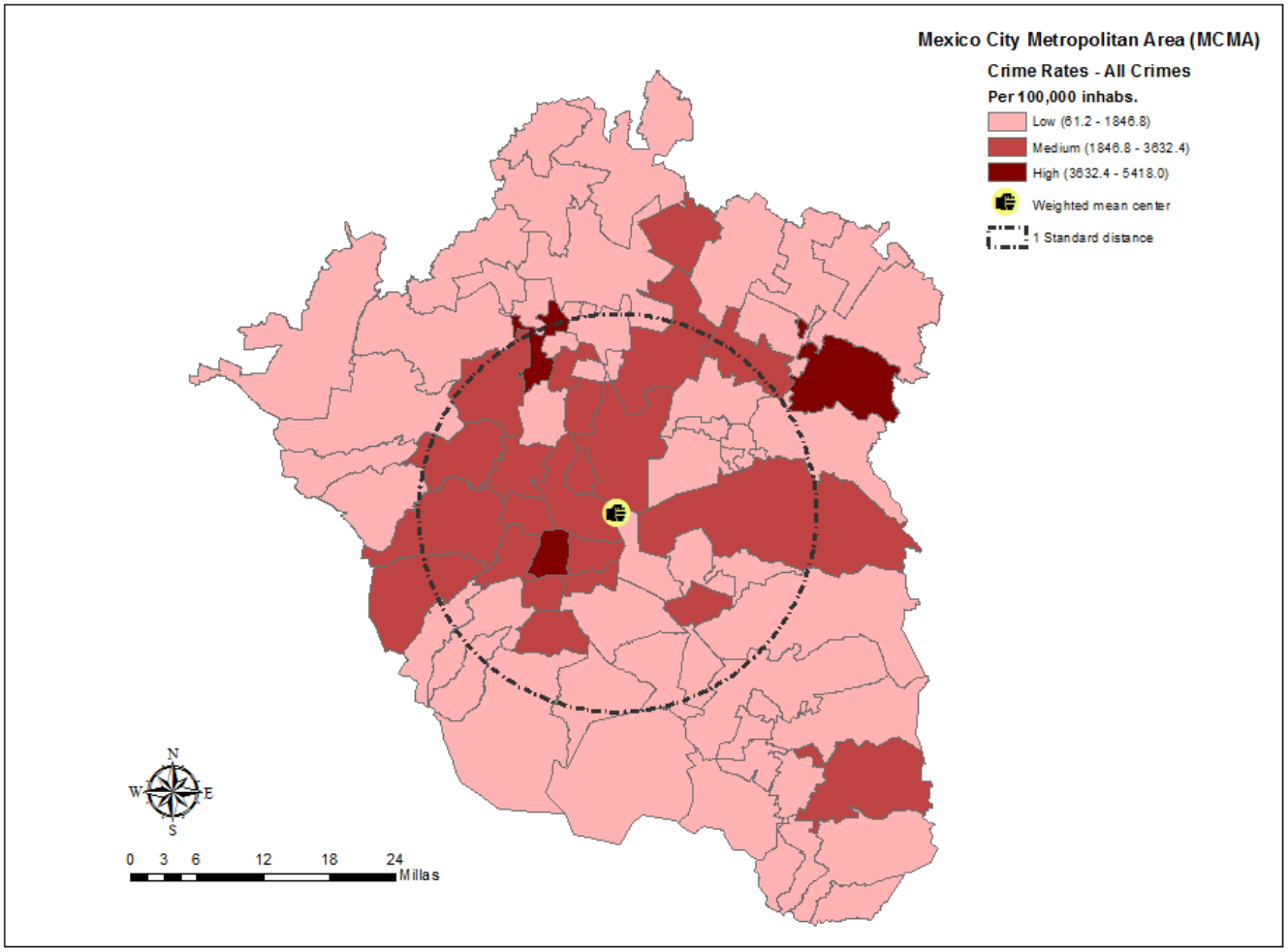
Density:
6,623 per mi^2

Yearly rate of growth (2000-2010):
0.9%

68% live within 27 miles radius

The most general test: All crimes

- Geography of crime: Rates for all crimes

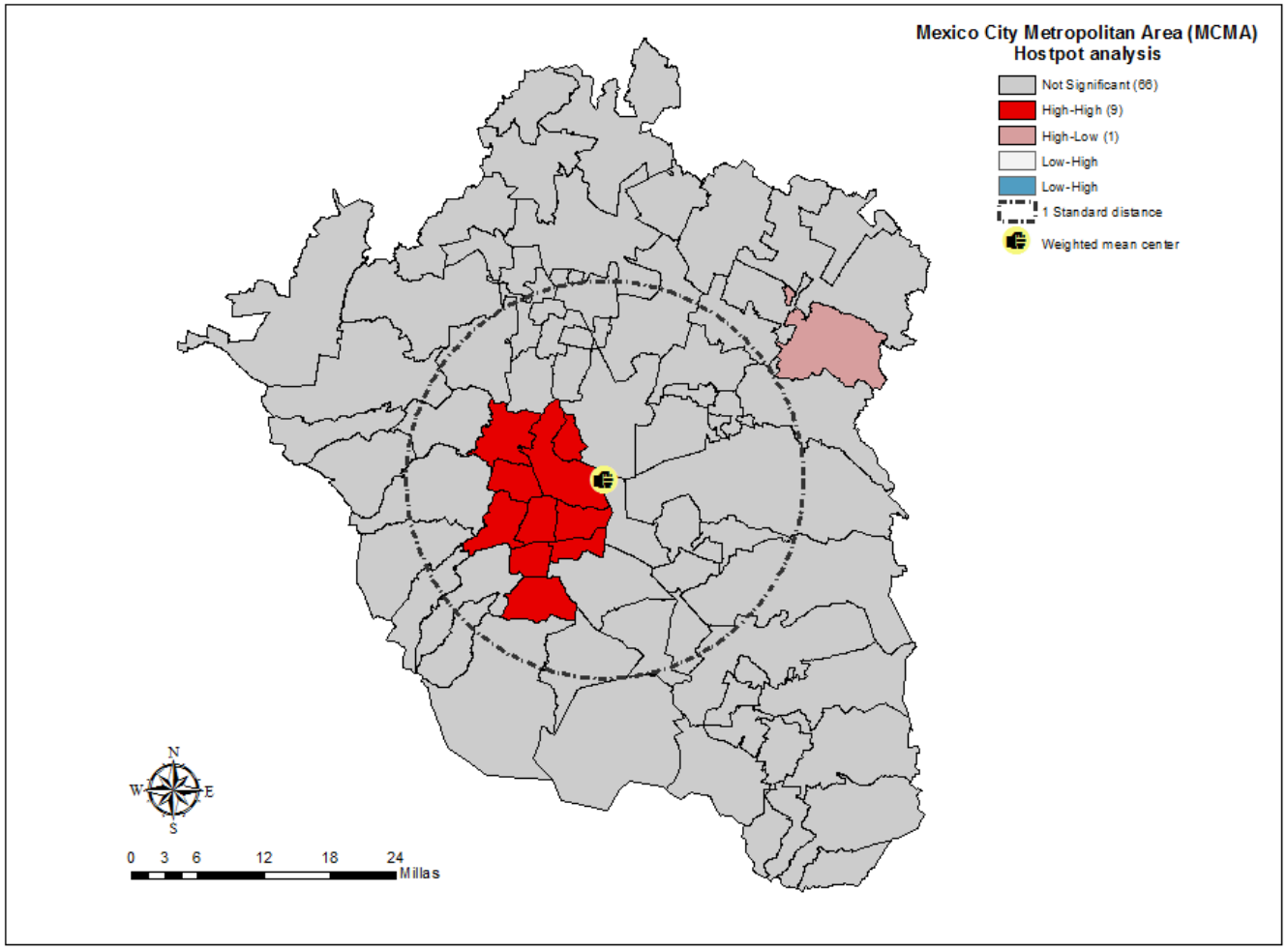


Crime is geographically clustered

Spatial dependence
$I = 0.499$
$p < 0.001$

The most general test: All crimes

- Hotspot analysis: crime is not spatially uniform



Hotspots:
10

Type:
9 High-High
1High-Low

So notice that…

- Crime varies across places → does place matter?
  - Places structure our behaviors (Pred, 1990)
  - Criminal activity clusters because social and physical conditions for criminal behavior varies across places **substantively** (i.e. local contextual effects vs. sampling variation or model misspecification)
- So?
  - We cannot expect same policy effects in all places
  - The never-ending mistake: To think that similar policy actions can be utilized everywhere anytime
  - Instead **see what the maps are really telling**
    - Maps depict relationships and not univariate phenomena only
    - See not only the magnitude of things (X and Y and then Z…)
    - See relationships between things (X with Y with Z etc.)

Evidence

Are these theories compatible or incompatible?

And… how does place matter?

The most general test: All crimes

- Results of GWR: **SD vs IAT vs SD + IAT**

	SD	**IAT**	**SD + IAT**
	Beta Coeff.	Beta Coeff.	Beta Coeff.
Intercept	*-0.038*	*-0.009*	*-0.080*
Social lag index	-0.087	-	-0.087
Migration	0.194	-	0.164
Bars/restaurants	0.199*	-	0.217*
Female HH	0.478***	0.665***	0.479***
Voter turnout	-	-0.008	-0.123
Gini index	-	0.337***	0.201
Grade retention	-	-0.212*	-0.040
R2 adjusted	0.702	0.564	0.674
Residuals (Moran´s I)	-0.174	-0.033	-0.155

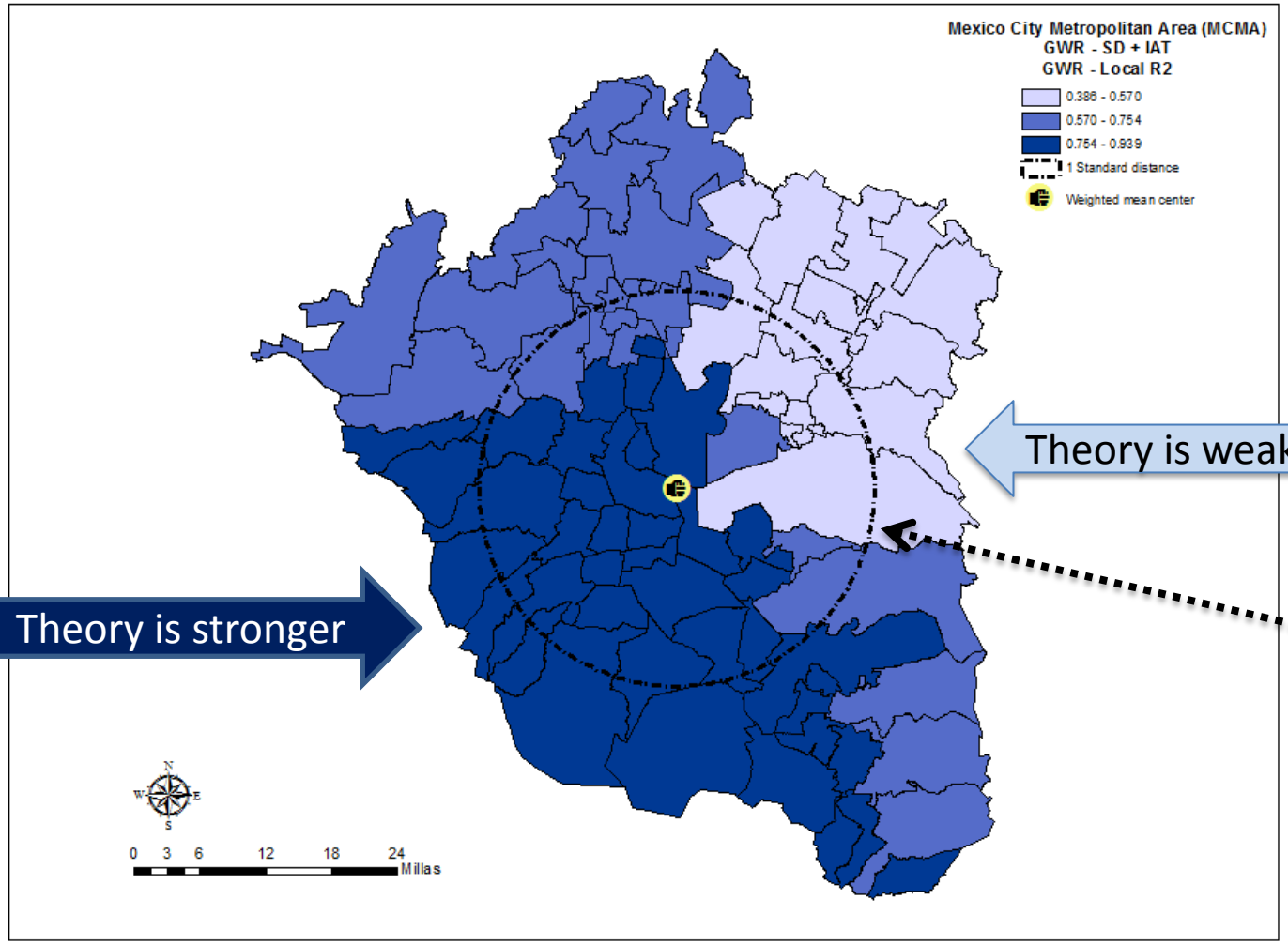
Note: Median values of standardized coefficients reported (n =76)
GWR: Geographically weighted regression / Method: Adaptive kernels and CV fits

Are these theories compatible?

- Both seem accurate when tested independently
  - Relationships: OK as expected in theory
    - Female HH → Less supervision of minors → More crime
    - Bars/Rest → More targets → More crime
- Integrated approach: Beneficial
  - SD correlates removed statistical significance from IAT but not for common correlate (i.e. Female HH)
  - Misspecification? Possibly but unlikely
    - BTW: Missing variables and unknowable variables are a constant in research
- **But… theoretical predictions are not spatially uniform**
  - Are you sure theoretical fit = R^2 ?
  - See Local R^2 = The spatial fit of the theory
  - **Focus on spatial tests: Spatial fits** and **spatial misfits!**
    - Theoretical models predict (somewhat) differently across places

Integrating theories: SD + IAT

- Magnitude of relationships covary with places



In some places the "integrated" theoretical fit is stronger

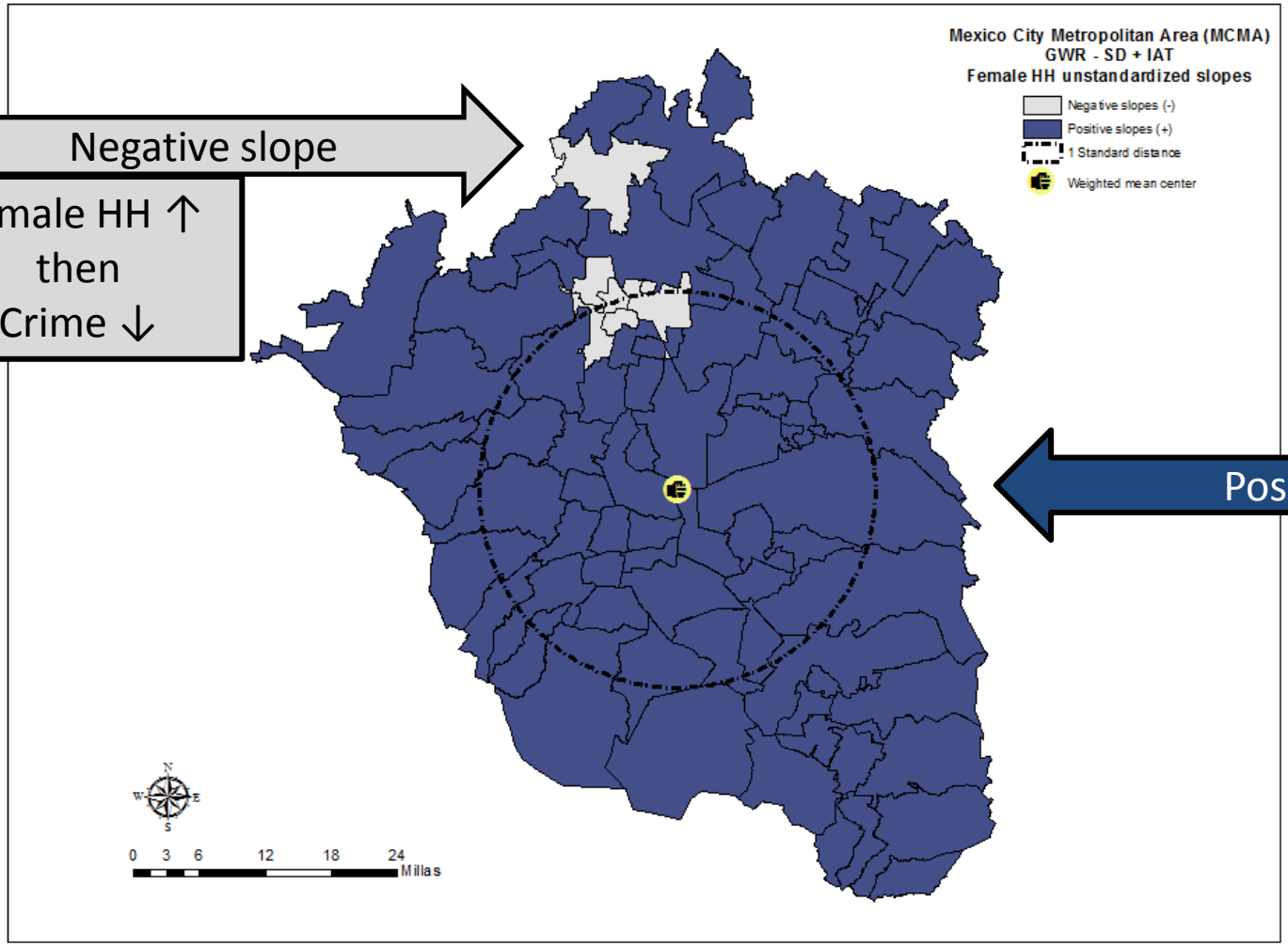
Theory is weaker

Theory is stronger

Notice spillover effects will vary within the central area

Integrating theories: SD + IAT

- Direction (sign) of relationships covary with places



Negative slope

Female HH ↑
then
Crime ↓

Positive slope

Female HH ↑
then
Crime ↑

What to do? No Nobel Prize is needed

- Violence in the MCMA is very much a process of:
  - Lack of supervision of minors via (currently increasing) female headed households (a new family structure)
    - Focus on youth: MORE supervision of minors and prevention in schools
    - Increase # of program beneficiaries for the **"new family structure"** and **"youth"**
      - More scholarships → Fewer hard drug crimes and vandalism among high school students (Vilalta and Martinez, 2012)*
      - More alcohol abuse → more intrafamily violence → More crimes and more prison inmates (Vilalta and Fondevila, 2013)*
  - Crime opportunities
    - Alcohol → More targets → Criminal acts (intentional or not)

*I am citing these as they contain direct empirical evidence of the MCMA

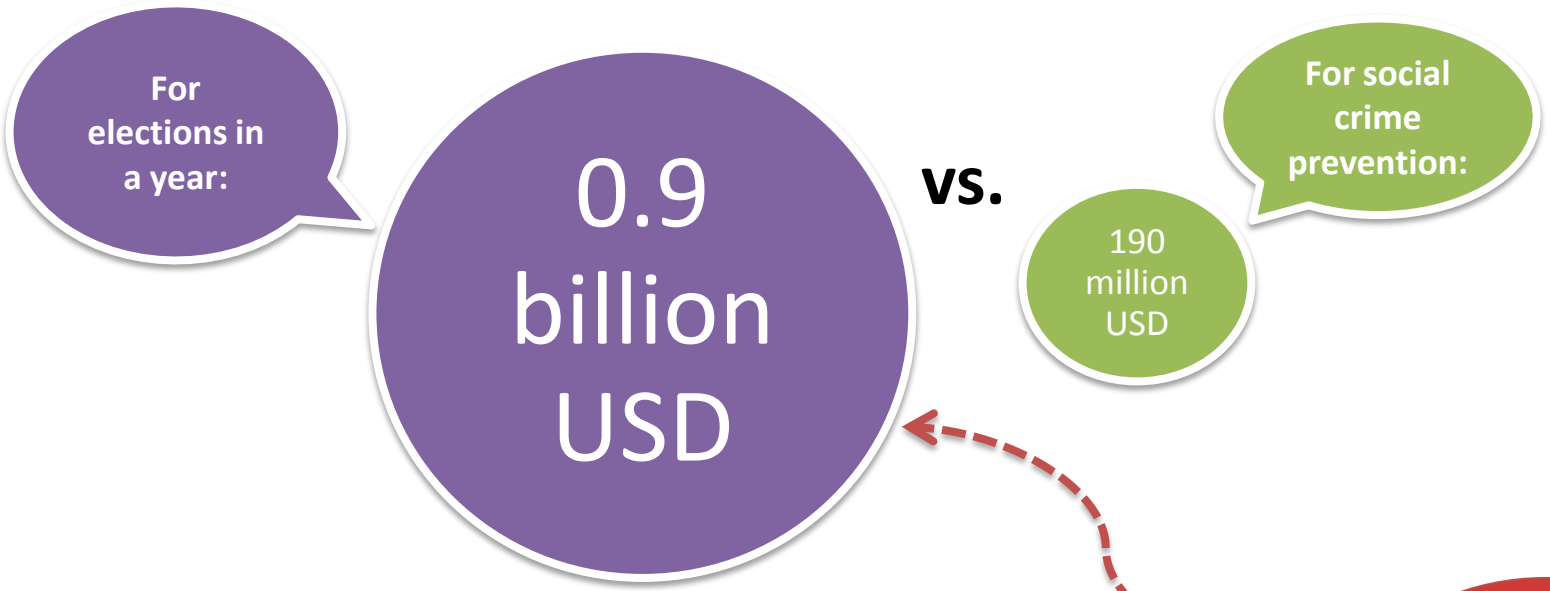
What to do? Pragmatic approach

- Integrated crime prevention approach:
  - Social + Situational crime prevention
    - Social: New non-traditional family units (structural change)
      - Federal Kindergarten program for working mothers has increased notably in the last 3 years
    - Situational crime prevention does work and does it quicker!!
      - Notice that home security systems do not reduce fear of crime (Vilalta, 2012)*
      - However home security systems may help reduce victimization
        - » Make home/business security systems tax deductible
          - Government won´t like it, taxpayers will like it
        - » Average yearly expense HH for protection measures against crime in Mexico: 822 USD (ENVIPE 2012)
          - Too much money spent on victimization and fear of crime

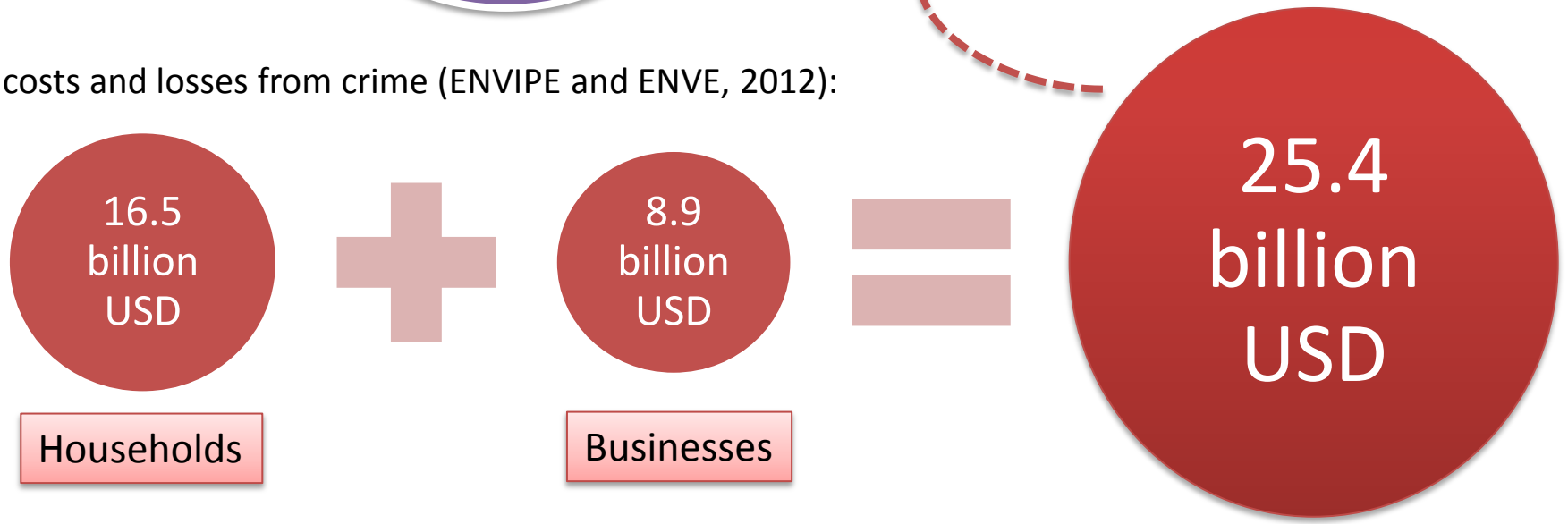
*I am citing this paper as it contains direct empirical evidence of the MCMA

Crime in MCMA is not about voter turnout

- Instead what are the Mexican budgetary priorities for 2014?



The costs and losses from crime (ENVIPE and ENVE, 2012):



Thank you!

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More maps and data

The most general test: All crimes

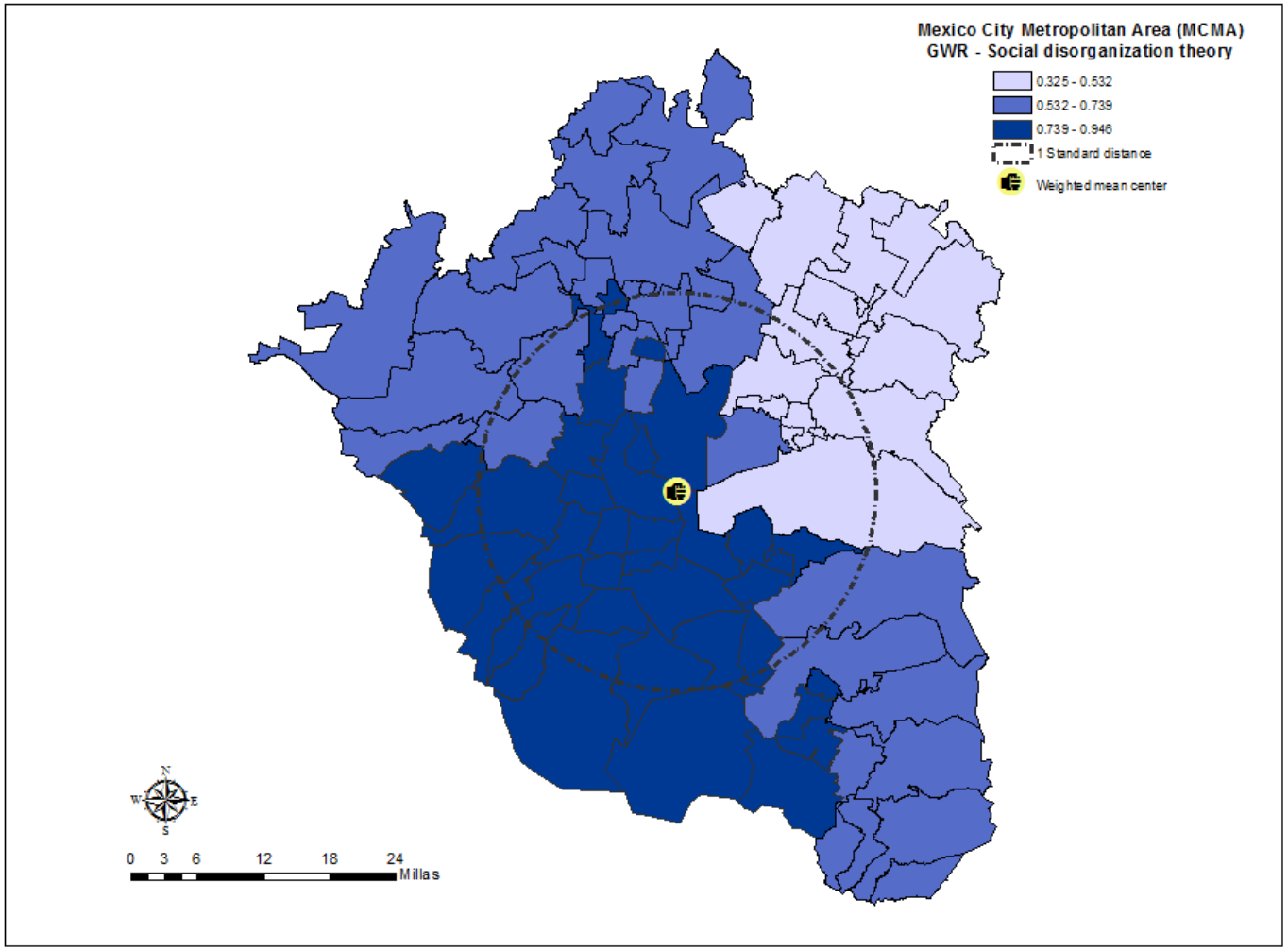
- Results of SAR: SD + IAT

	SD	IAT	SD + IAT
Social lag index	-0.236**	-	-0.168
Migration	0.174**	-	0.108
Bars/Restaurants	0.116	-	0.125
Female headed HH	0.489***	0.625***	0.493***
Voter turnout	-	-0.017	0.002
Gini	-	0.213**	0.137
Grade retention	-	-0.259***	-0.158
Spatial lag (Rho)	-0.048	-0.024	-0.049
Intercept	0.011	0.004	0.007
Residual std. error	0.717	0.695	0.692
Residuals (Moran´s I)	0.175***	0.172***	0.174***

Standardized coefficients reported (n = 76)
SAR: Spatial autoregressive modelling / Squared inverse distance weighting of centroids

Testing SD: Spatial heterogeneity

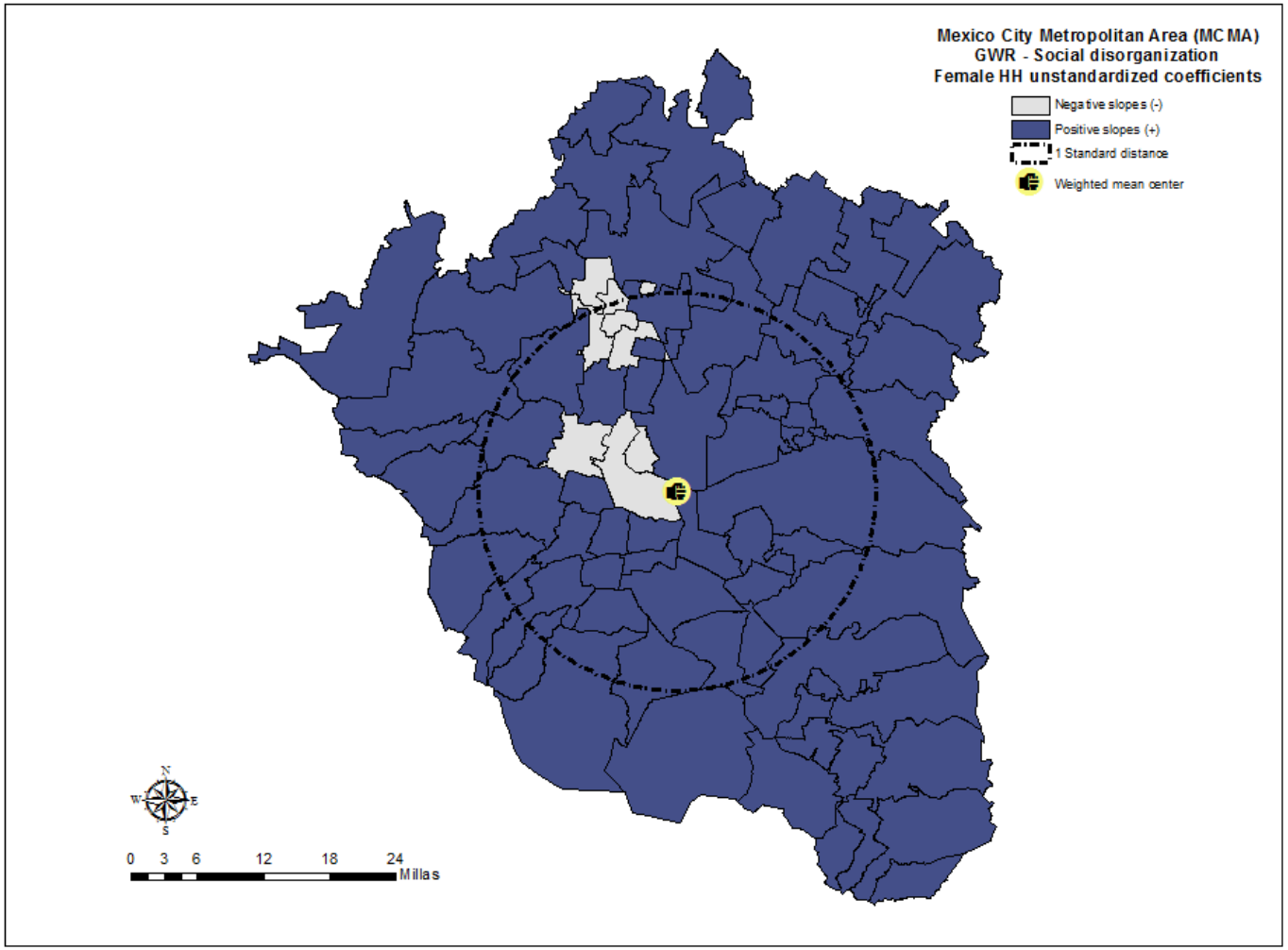
- Magnitude of relationships covary with places



In some places the theoreticalfit is stronger

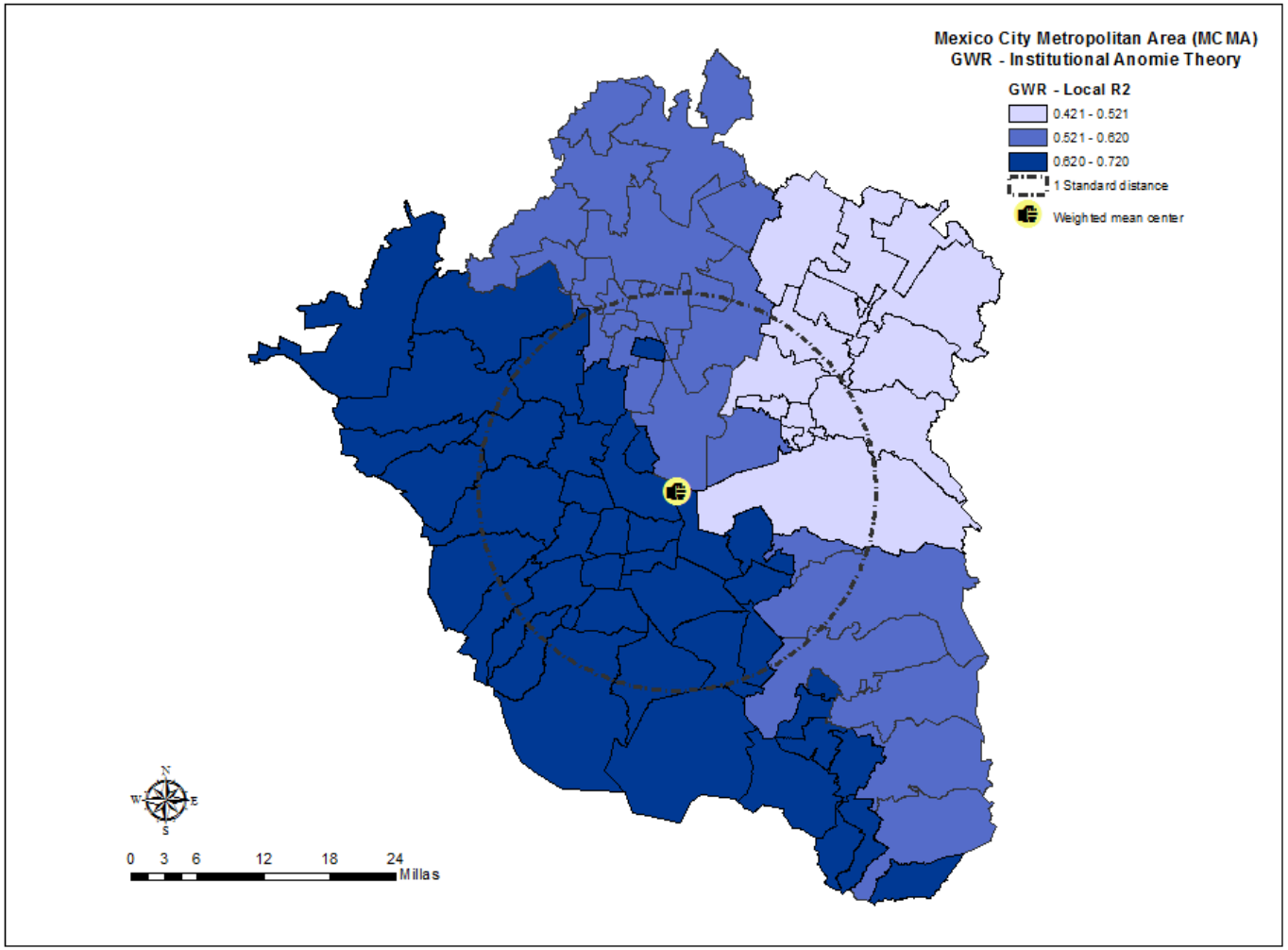
Testing SD: Spatial heterogeneity

- Direction (sign) of relationships covary with places



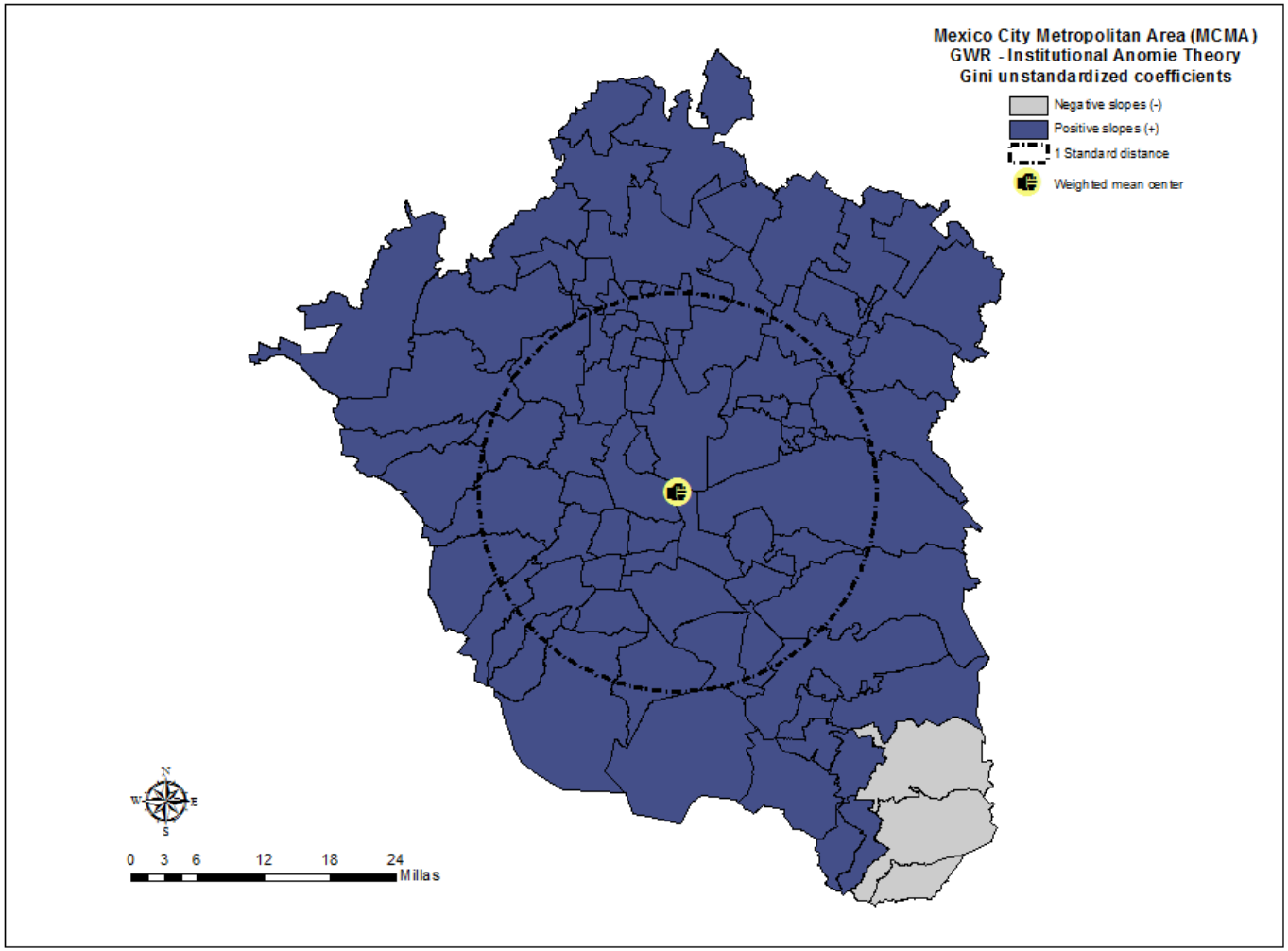
Testing IAT: Spatial heterogeneity

- Magnitude of relationships covary with places



Testing IAT: Spatial heterogeneity

- Direction (sign) of relationships covary with places



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Databases:

ENVIPE: Encuesta Nacional de Victimización y Percepción sobre Seguridad Pública, 2012

ENVE: Encuesta Nacional de Victimización de Empresas, 2012

Other references available for download at: www.carlosvilalta.net

Note: This version includes few personal afterthoughts from the conference.