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Núcleo de Economia Regional e Urbana da Universidade de São Paulo

The University of São Paulo Regional and Urban Economics Lab

POLICY CENTER FOR THE NEW SOUTH

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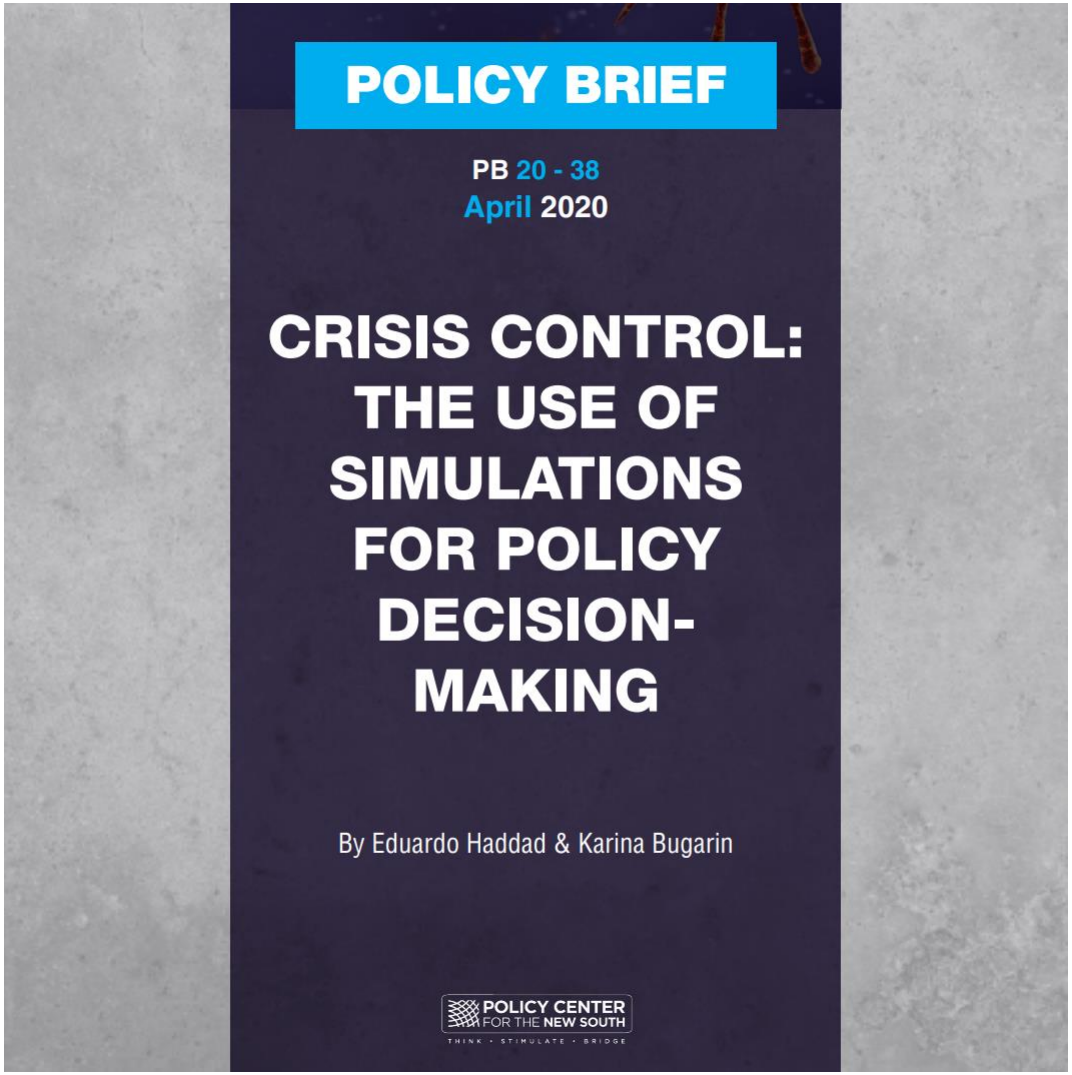
Crisis Control: The Use of Simulations for Policy Decision-Making

Ciclo de Charlas Virtuales: El COVID-19 en América
Universidad Maimónides, May 27, 2020

Eduardo A. Haddad Karina Bugarin

https://www.policycenter.ma/publications/crisis-control-use-simulations-policy-decisionmaking



Use of evidence may be key to timely and precise decision-making

Explore the use of simulations in policy decision-making in the Brazilian State of São Paulo in fighting the COVID-19 pandemic.

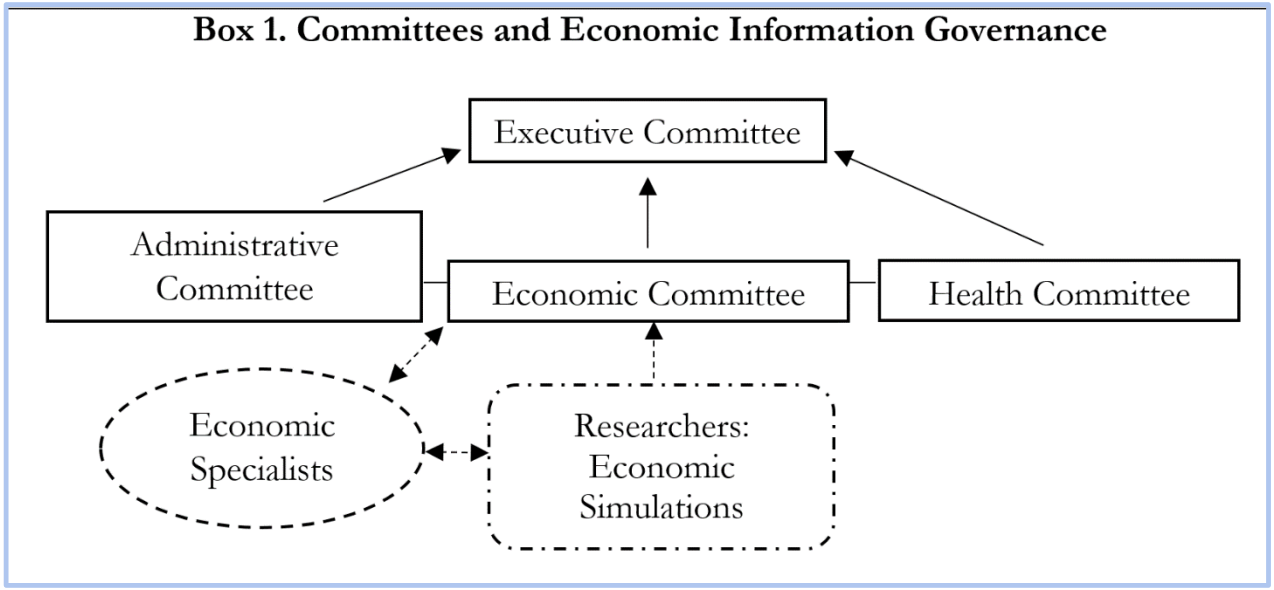
Draw briefly on the literature on evidence-based public policy to highlight the exacerbated need for timely decision-making and the role evidence plays in guiding high-level decision-makers amidst a crisis.

Present examples of simulations that can substantiate top-level decision making, such as the assessment of the potential daily sectoral and regional economic costs of control strategies for mitigating the effects of COVID-19.

Provide the essential contextual elements of governance for informational use as a set of recommended tools for policymakers.

Expert committees to examine initial control measures and define gradual relaxing of social restrictions

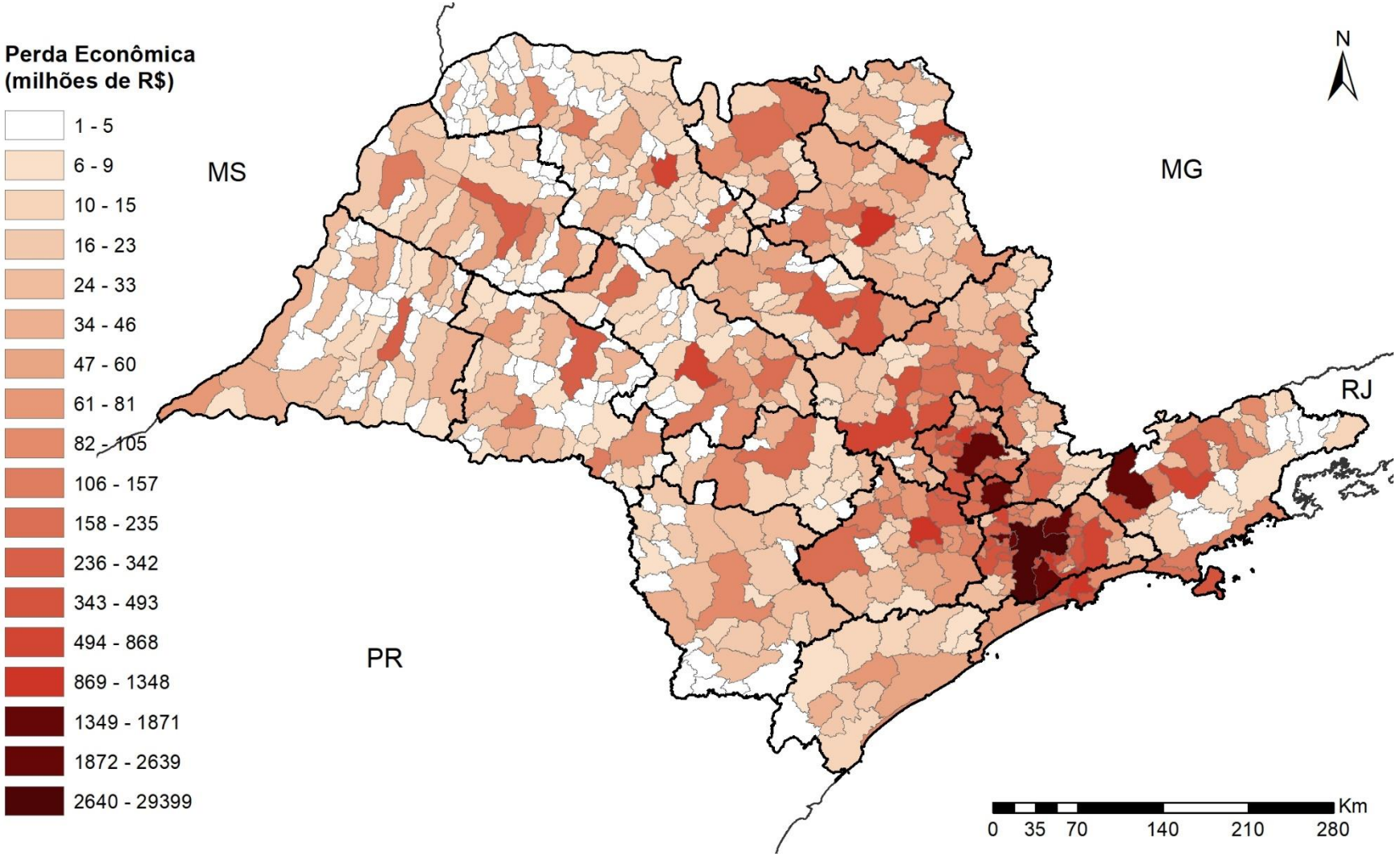
Nonetheless, up against enormous uncertainties, combining epidemiological and socioeconomic simulation-based scenarios to examine ex-ante potential impacts is fundamental for informing officials before committing to a strategy.



There are sectoral costs...

	Região	*Agricultura*	*Indústria*	*Comércio*	*Adm. Pública*	*Outros Serviços*	*TOTAL*
R1	RM de São Paulo	57	3,830	6,941	586	35,881	47,295
R2	RM de Campinas	63	1,493	1,154	74	4,671	7,455
R3	RM da Baixada Santista	5	391	400	46	2,149	2,991
R4	RM de Ribeirão Preto	79	276	524	37	1,655	2,572
R5	RM de Sorocaba	79	779	626	36	1,859	3,379
R6	RM do Vale do Paraíba	16	838	680	57	2,850	4,442
R7	RA Central	40	268	257	18	880	1,463
R8	RA de Araçatuba	61	156	204	15	595	1,031
R9	RA de Barretos	33	93	130	10	401	666
R10	RA de Bauru	52	307	315	24	1,027	1,725
R11	RA de Campinas	125	1,454	1,439	68	4,193	7,279
R12	RA de Franca	38	109	152	9	439	747
R13	RA de Itapeva	106	49	120	6	230	511
R14	RA de Marília	103	136	270	20	660	1,190
R15	RA de Presidente Prudente	71	111	207	15	642	1,045
R16	RA de Registro	29	52	85	4	220	389
R17	RA de São José do Rio Preto	110	235	417	35	1,224	2,021
R18	RA de Sorocaba	27	87	99	7	263	482
	São Paulo	**1,093**	**10,663**	**14,021**	**1,067**	**59,839**	**86,684**
	% do PIB setorial	***3.43%***	***3.54%***	***5.28%***	***0.96%***	***4.76%***	***4.40%***

… and there are regional costs



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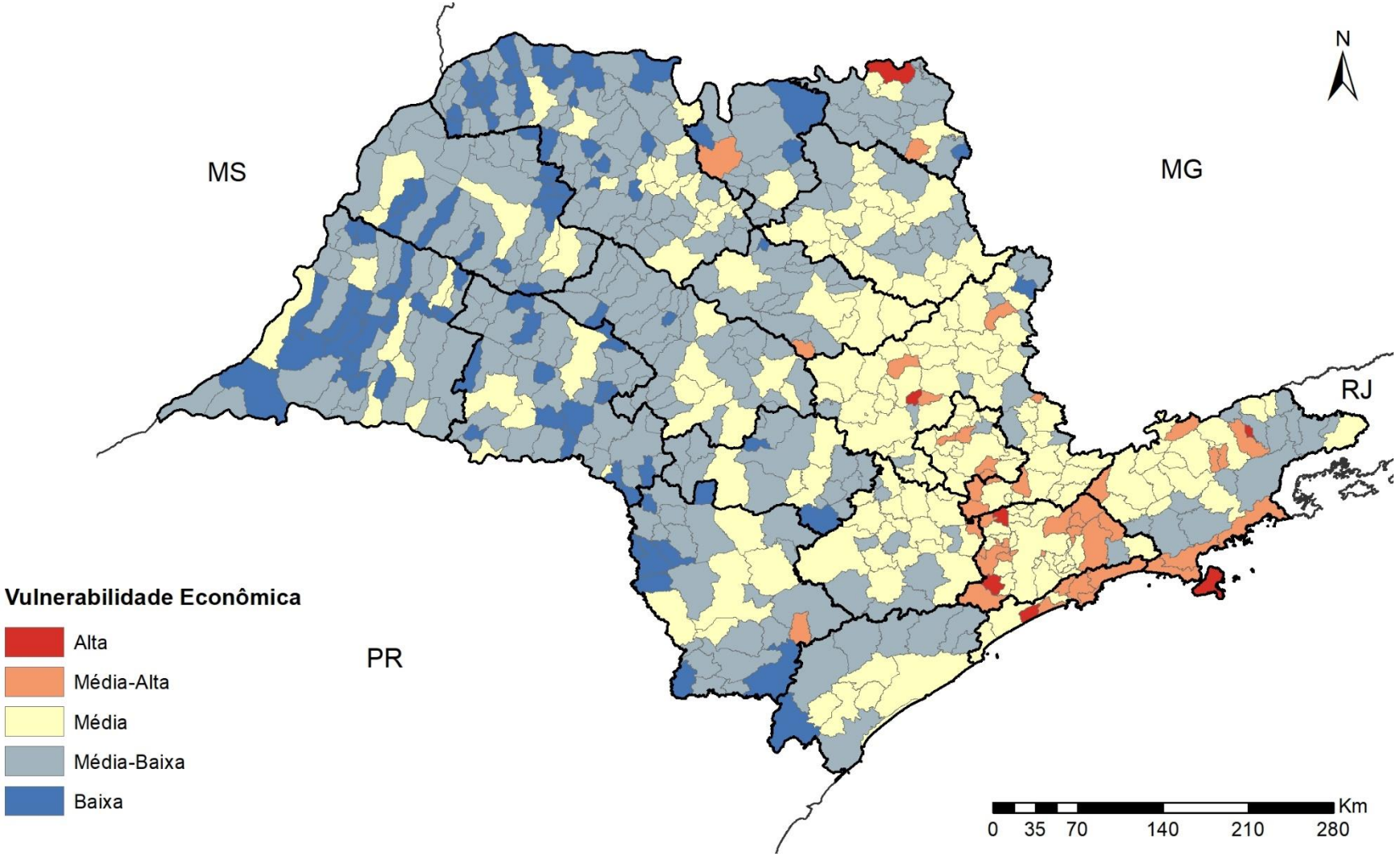

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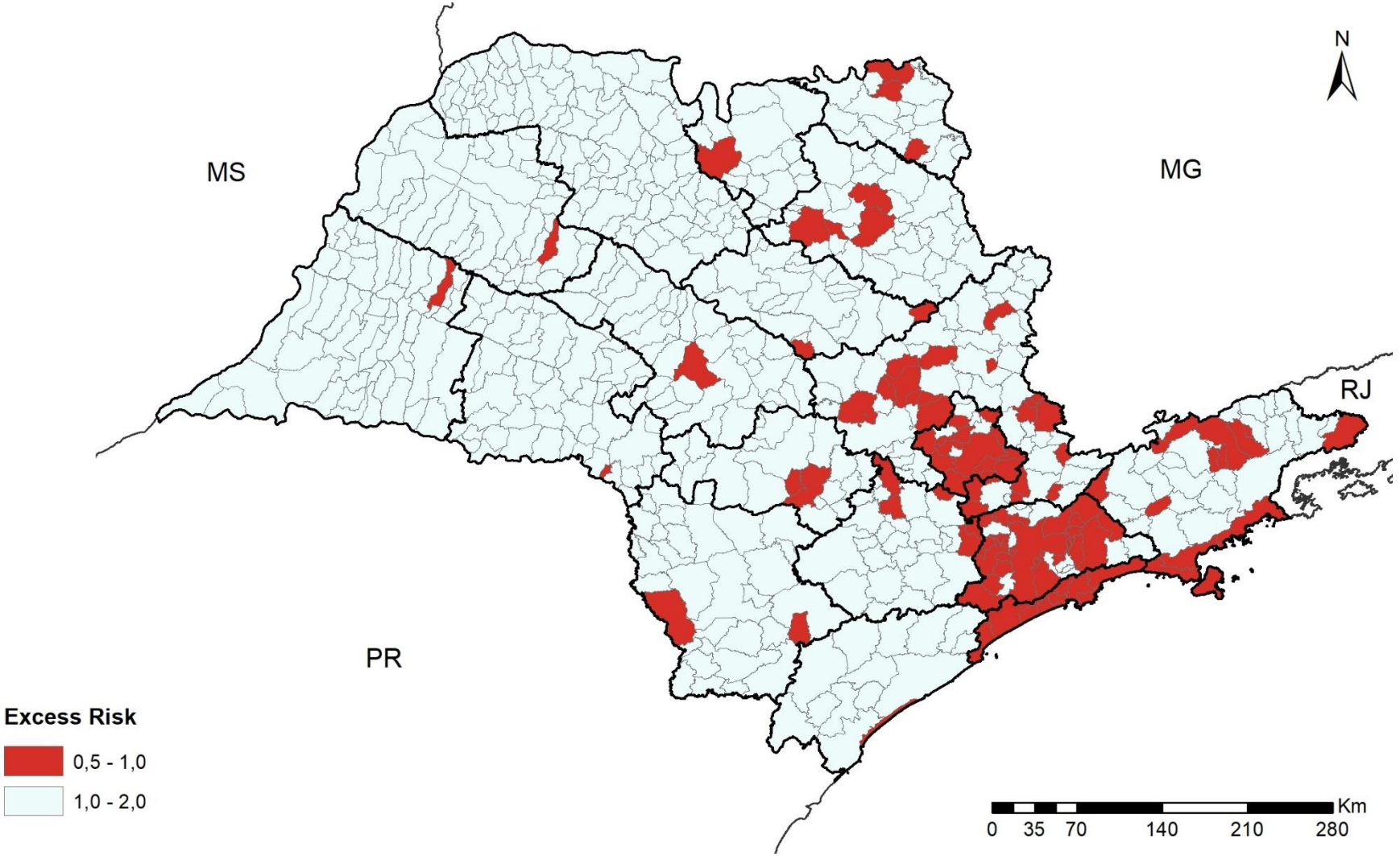

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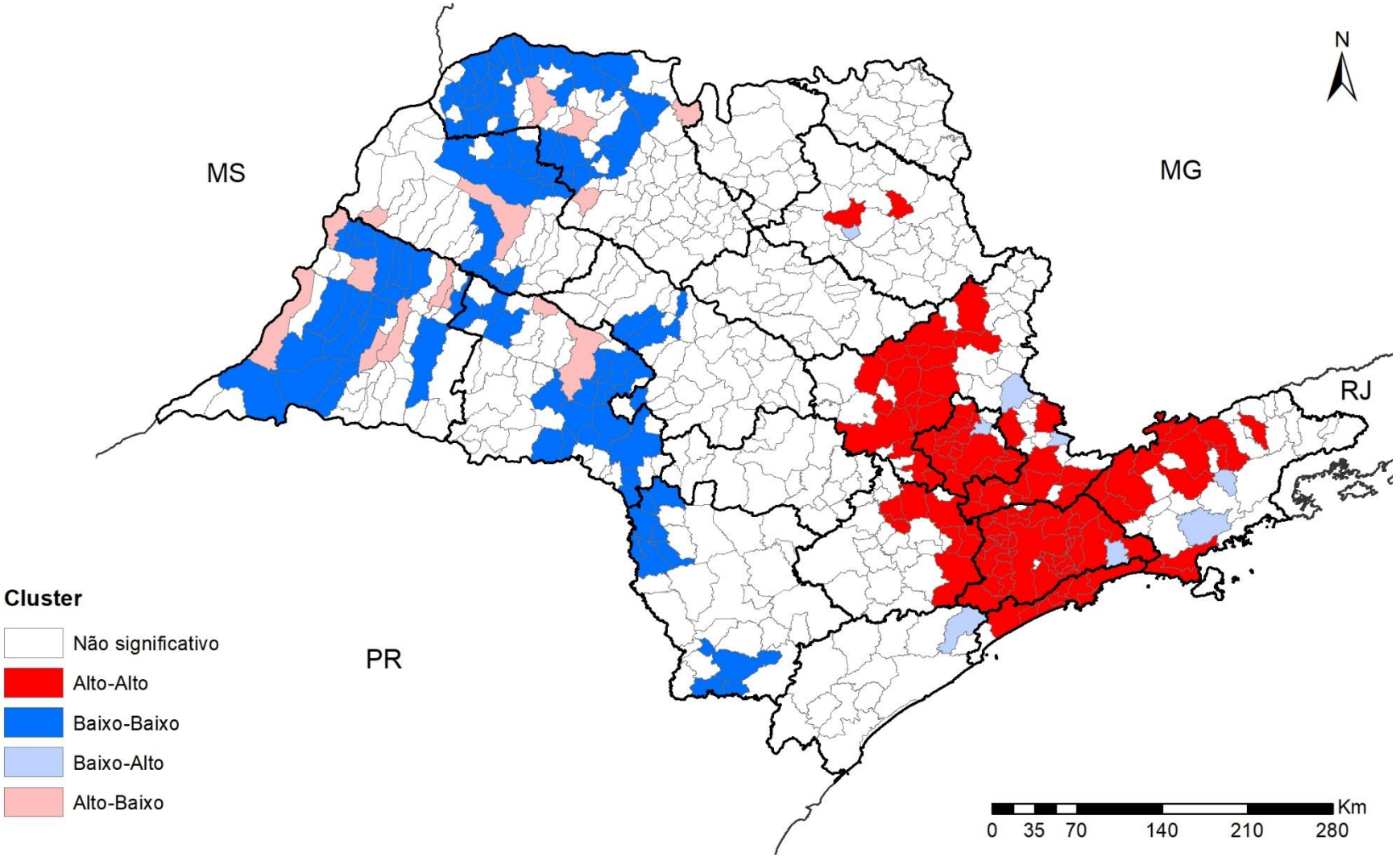


Main take-away

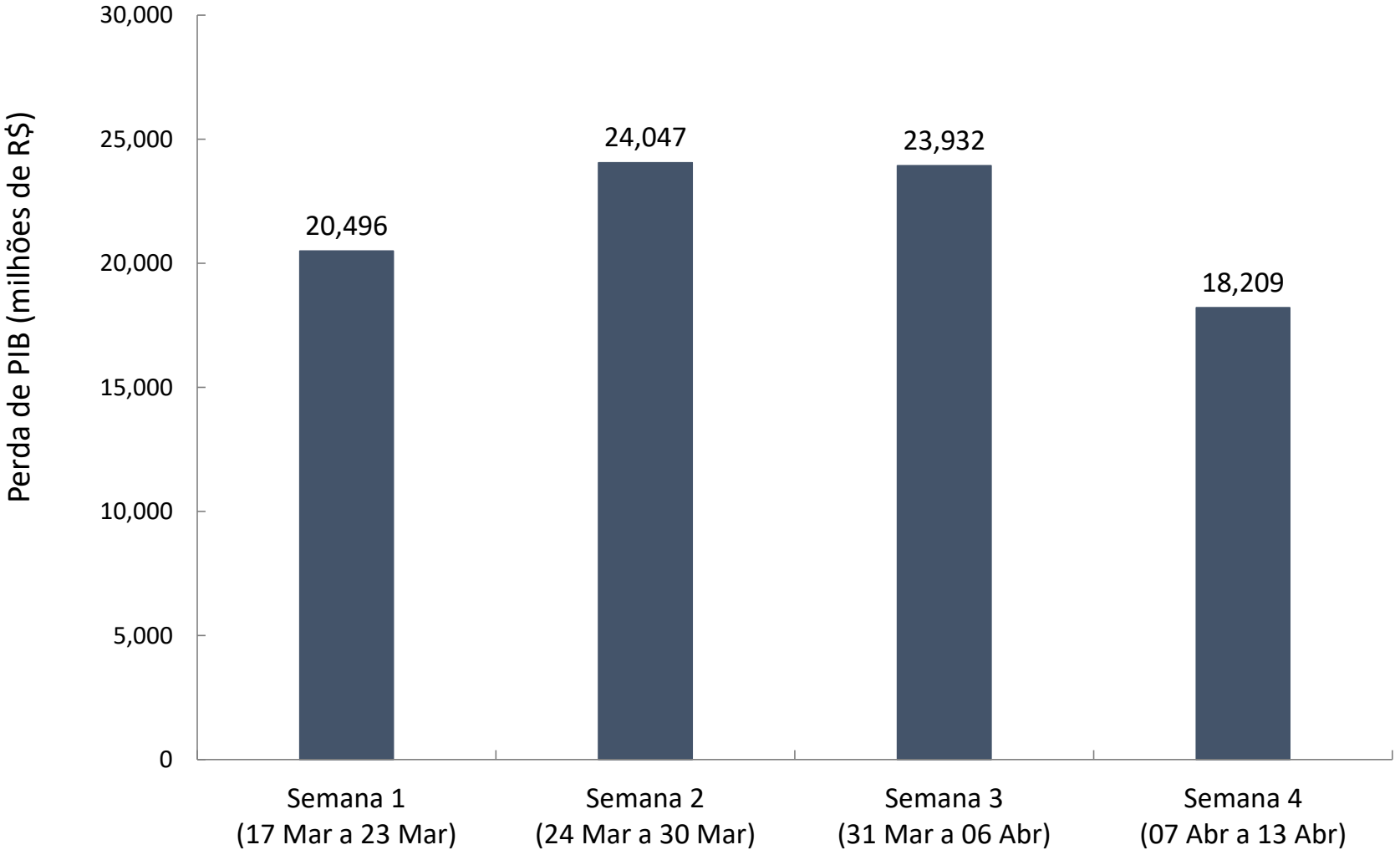
The main losses are concentrated in the regions that most contribute to the state's GDP, which coincide with the most densely populated areas.

The most affected sectors are labor and flow intensive.

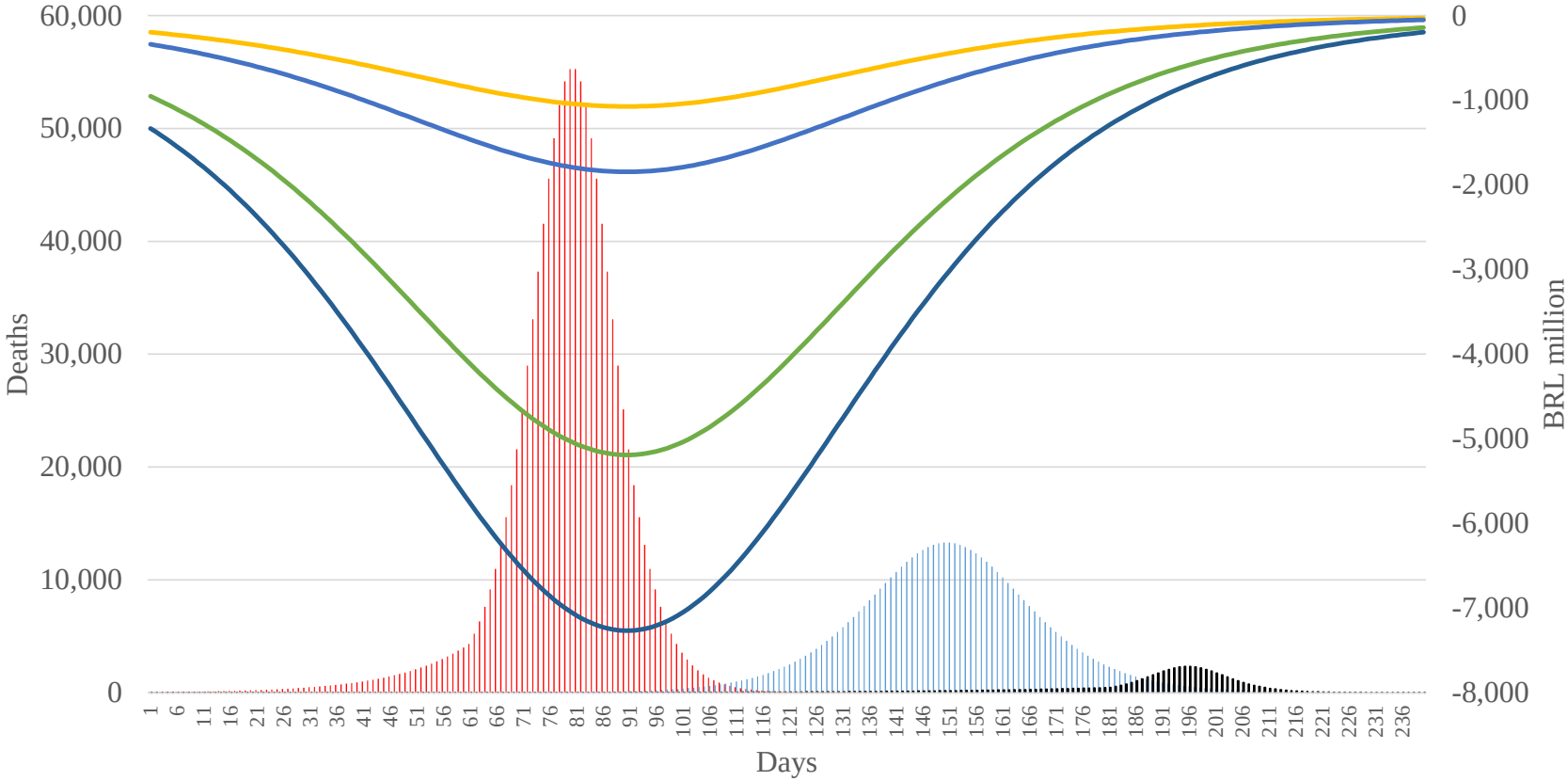
More densely populated regions are also the main vector for promoting contamination.

Therefore, a possible flexibility measure would be to loosen the grip in rural areas, *pari pasu* increasing restrictive measures in urban areas, while adopting a series of protocols in labor-intensive sectors with the aim of reducing contamination.

There are also time-related economic costs, which adds an additional layer of complexity…



… when computing the trade-offs between postponing the infection curve peak and economic productive losses



Political turmoil

The mismatch between the cadence and intensity of the impacts of the pandemic event on the economy and its cadence and intensity in terms of mortality adds another layer of complexity for decision-makers.

The mismatch provides an opportunity for political pressures in favor of relaxing stricter control strategies.

Different groups of discontents, e.g. those less vulnerable physiologically, and those more vulnerable economically, may encompass discourses and actions favoring the immediate abolition of measures of social distancing.

Political turmoil

The regional, sector, and time-related economic costs highlight the need to act based on evidence.

Considering a context with low technology adoption by the producers and consumers, restrictive measures that hinder the usage of innovative products and service delivery are particularly harmful, and a new set of policies is recommended to allow for reducing the spread of the virus beyond health system capacity while maintaining the capabilities of economic institutions for economic recovery post-crisis.

Critical areas of analysis and policy recommendations

Aspects[10]		Regional Effects[11]	
		Concentrated Heterogeneity	Diffuse Heterogeneity

Sectoral Effects[12]	Concentrated Heterogeneity	• Territorially heterogeneous restrictive measures
		• Additional targeted sector support (for instance, payroll compensation, tax alleviation)
		• Large firm and consumer subsidies to counteract economic effects
		• Main restrictions:
		  • Policies are strongly limited due to economic feasibility of restrictive measures
		  • Restrictive policies may suffer from noncompliance due to coordinated political action
			• Territorially homogenous restrictive measures
			• Additional targeted sector support (for instance, payroll compensation, tax alleviation)
			• Large firm and consumer subsidies to counteract economic effects
			• Main restriction:
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	Diffuse Heterogeneity	• Territorially heterogeneous restrictive measures
		• Main restriction:
		  • Restrictive policies may suffer from noncompliance due to coordinated political action
			• Territorially homogenous restrictive measures
			• Main restriction:
			  • Policies are strongly limited due to economic feasibility of restrictive measures

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Thank you!

ehaddad@usp.br

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