

Capital, Institutions and Urban Growth Systems

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Capital Accumulation Growth Theory

- A theory based upon:
 - preferences,
 - endowment,
 - resource allocation,
 - and intentional investment decisions.

Forms of Capital Facilitating Growth

- Physical Capital
- Human Capital
- Knowledge Capital
- Entrepreneurship Capital
- Network Capital.

Institutional Growth Theory

- A theory based upon:
 - constraints,
 - incentives,
 - and organisational arrangements.

Do the two theories interact?

- Both theories are considered endogenous in nature.
- Are preferences and investment decisions shaped by prevailing institutions?
- Does the availability and accumulation of capital shape incentive structures and organisational arrangements?
- An institutional approach allows us to consider the ownership of regional stocks of capital.

Aim of the Paper

- The aim of this paper is to seek to develop a more transparent link between institutional and capital accumulation theories of growth from the viewpoint of analysing differentials across cities and regions.
- It seeks to establish a theoretical framework that draws on the institutional and capital accumulation theories of growth as a means of developing a systems-based conceptualisation of urban growth.
- It conceptualises urban economies as growth systems through which different forms of institutions are associated with different forms of capital accumulation.
- In this model, the capital drivers of growth are not merely the result of preferences and existing capital endowments, but are mediated by a set of evolving institutional forms.

Institutions

- Institutions are the humanly devised constraints that structure human interaction:
 - **formal** constraints and their enforcement
 - **informal** constraints and their enforcement characteristics.
 - Together they define the incentive structure of societies and specifically economies.
 - rules, laws, constitutions
 - norms, behaviour, conventions.
- ‘The rules of the game’.
- More **efficient** rules facilitate growth and development.

The Spatiality of Institutions (1): Community and and Society

- In a series of works, Rodríguez-Pose, Storper, and their colleagues (Farole et al., 2011; Rodríguez-Pose, 2013; Rodríguez-Pose and Storper, 2006; Storper, 2005, 2008; Storper et al., 2007) have developed the framework of:
 - **Community** – which appears to represent a **spatially localized** notion of institutions.
 - **Society** – which conversely represents **spatially broader** institutions.
- In the process, this framework highlights the importance of the geographical context when examining institutional models of growth.
- Both community and society are considered to influence economic development through the expectations and incentives provided to economic agents (Farole et al., 2011).

The Spatiality of Institutions (2): From Institutional 'Thickness' to Institutional 'Stickiness'

- Institutions introduced *indigenously*, and which evolve endogenously, are most likely to *persist over time*.
- Endogenously evolved institutions are in this sense relatively '*sticky*' because they are founded on the existing institutions and beliefs (Boettke et al., 2008).
- In contrast, institutions *exogenously* introduced by, for example, national government are likely to be *less sticky*.
- Institutional change implemented by foreign or supranational government entities is least likely to stick, since members of *foreign* and *supranational* governments may be unfamiliar with the indigenous institutions and beliefs (Boettke and Fink, 2011).
- ***Spatio-relational approach***: Regional institutions can be considered to consist of those that either spatially inward or outward looking.

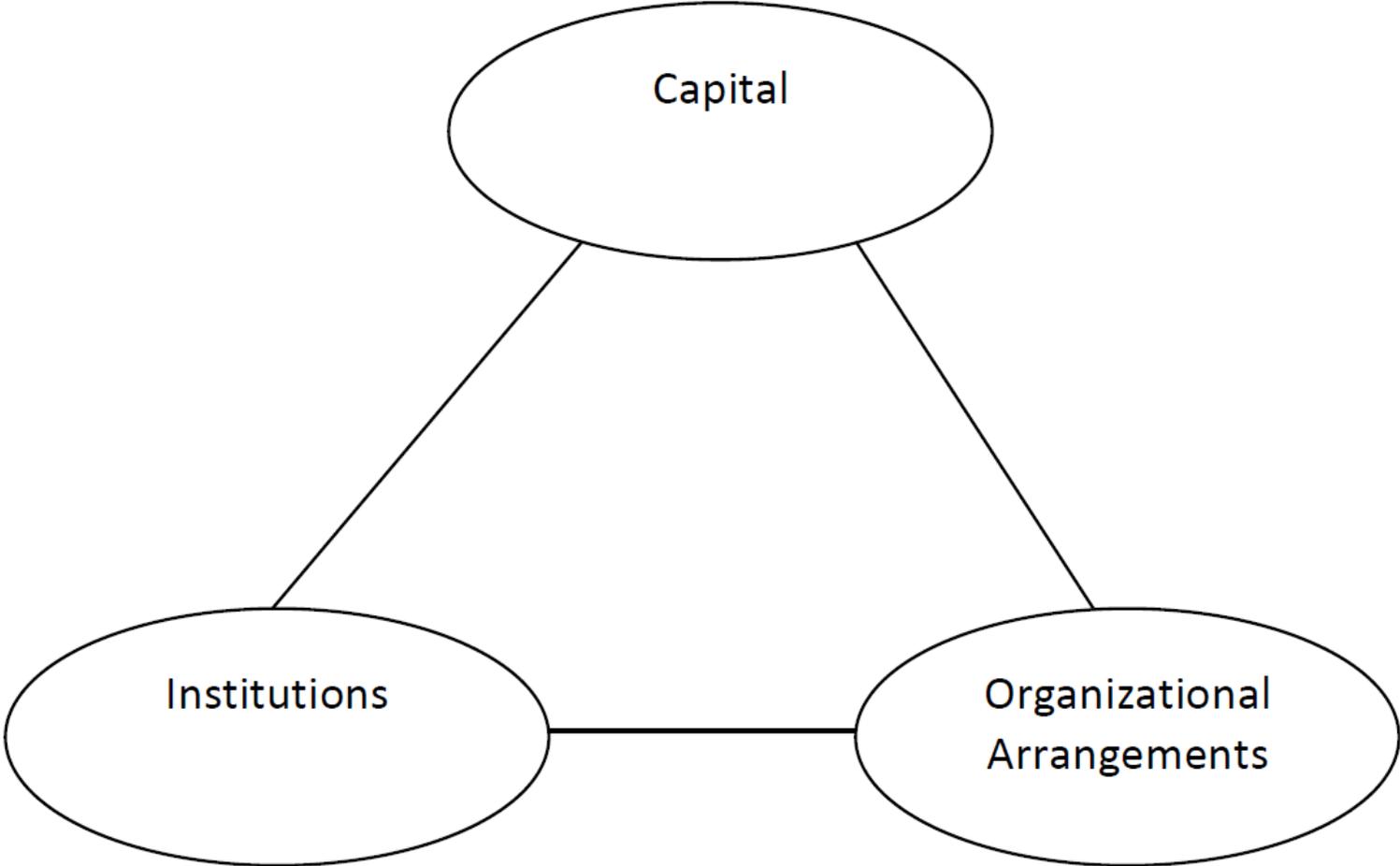
Organizational Arrangements

- Organizational arrangements are the different modes of governance that agents implement to support production and exchange.
- These include:
 - (i) markets, firms, and the various combinations of forms that economic actors develop to facilitate transactions.
 - (ii) contractual agreements that provide a framework for organizing activities.
 - (iii) the behavioural traits that underlie the arrangements chosen (Ménard and Shirley, 2005).

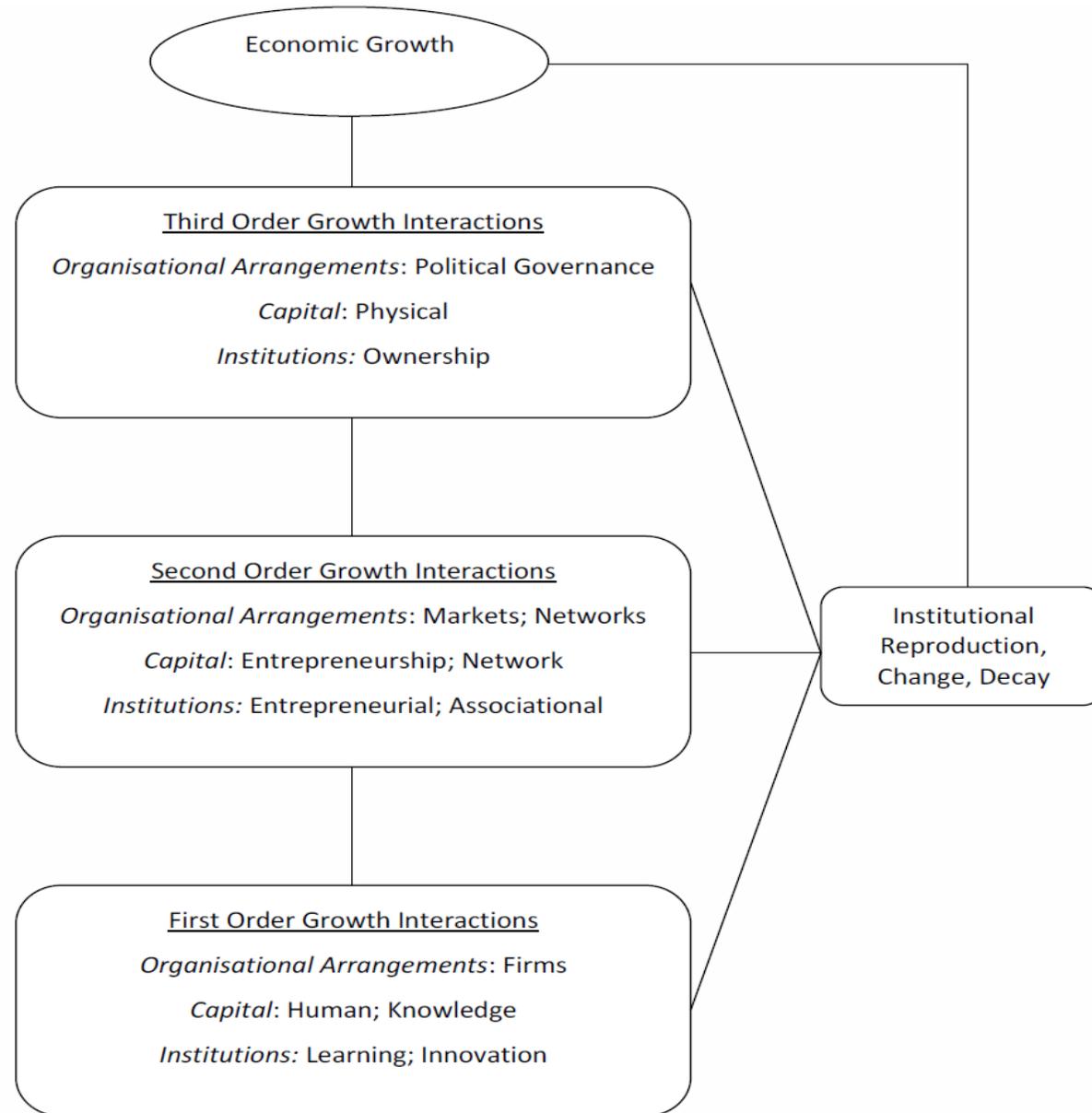
Organizational Arrangements in Urban Growth Systems

- (1) firms
- (2) markets and networks
- (3) governance of the political economy.

Key Components of Economic Growth



Framing Urban Growth Systems



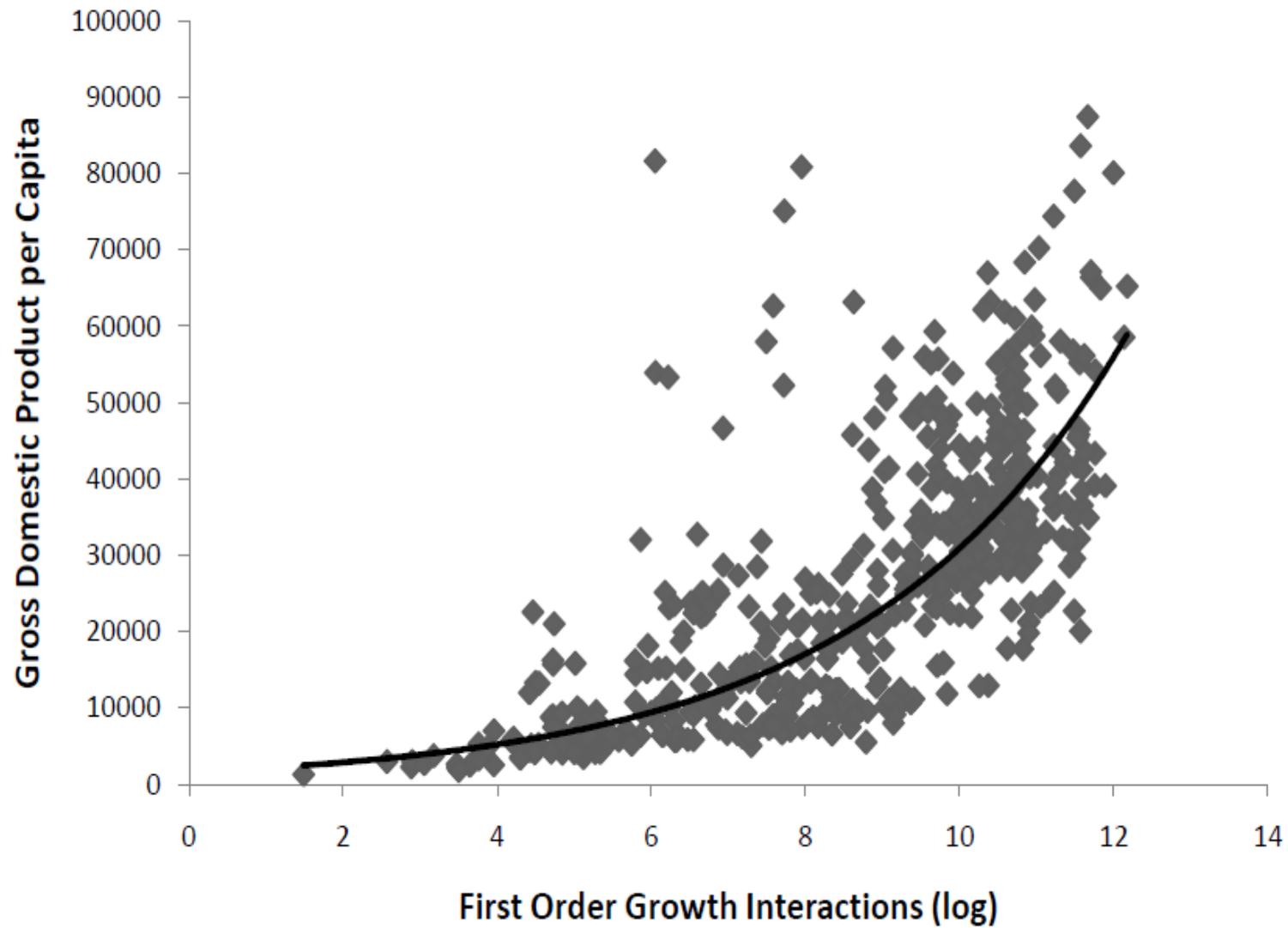
Three Urban Growth Order Interactions

- Firms form the basis of *first order urban growth interactions*, entailing the role of *human capital* and *knowledge capital* and the *learning* and *innovation institutions* that constrain or incentivise the accumulation of these forms of capital.
- *Second order urban growth interactions* concern the transactions and interactions between firms, as well as other economic agents, through the markets and networks they form, and the role of *entrepreneurship capital* and *entrepreneurial institutions* in market processes, and *network capital* and *associational institutions* in network formation principally relating to knowledge flows.
- *Third order urban growth interactions* relate to the overall governance of urban political economies, especially with regard to the *institutions of ownership* and *physical capital*.

First Order Growth Interactions

- Human capital – in the form of the skills base of a city - and knowledge capital – in the form the technology and research expertise available for innovation.
- Learning institutions such as intra-regional and inter-regional labour markets create incentives and constraints to the type of human capital formed in particular a city, as well as the conventions in relation to workforce development and city education systems.
- Institutions in the form of labour markets enable human capital, in form of skilled and talented individuals, to take advantage of the benefits of specialisation, encouraging economic growth.
- With regard to knowledge capital, there is a need to consider innovation institutions in the form of the incentives and constraints to creating and/or embracing new technology, as well as conventions in relation to the financing of innovation and norms regarding the 'restriction' or 'freedom' of ideas.
- Alongside formal institutions, less formal institutions in the shape of the nature of inter-firm competition is likely to play an equally, if not stronger role, in shaping the knowledge capital capacity of city.

Figure 2: First Order Growth Interactions and Gross Domestic Product per Capita for a Selection of 546 Regions across the Globe

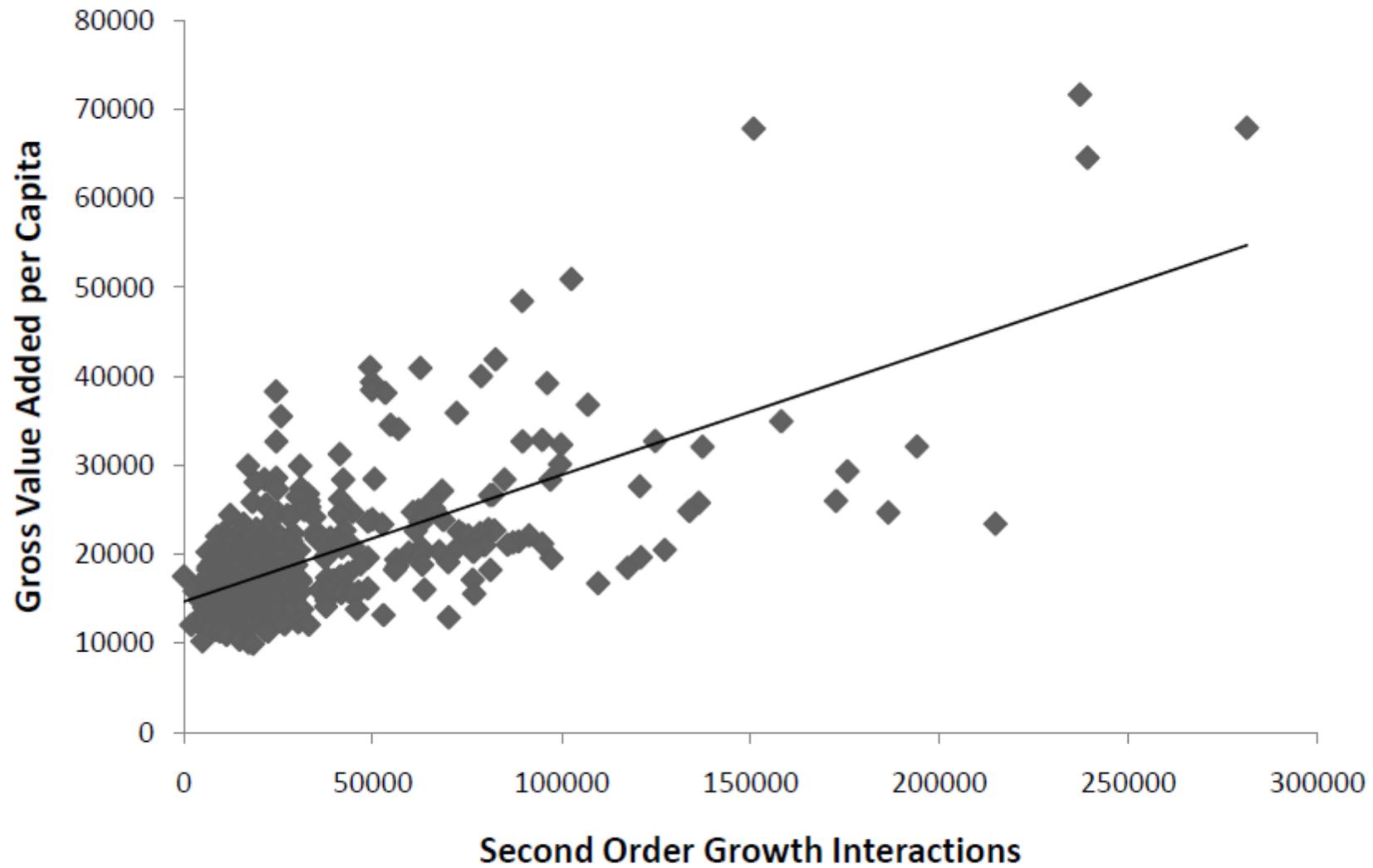


Source: Based on data sourced from Huggins et al. (2014a)

Second Order Growth Interactions

- Cities and regions with a high density of firms capable of engaging in high value and tradable markets tend to be those with high rates of entrepreneurial capital.
- Entrepreneurial institutions encompass a wide range of incentives, constraints and conventions, with a growing school of research identifying the particular role of localised and regional institutions in shaping entrepreneurial capital and the subsequent market orientation of firms.
- In the UK, the spatial unevenness of financial institutions across regions has been recognised as potentially a key impediment to economically weaker cities and regions being unable to improve either their entrepreneurial or growth prospects.
- Research suggests that both inter and intra-city networks are themselves a type of capital shaping urban growth processes, i.e. network capital, in the form of investments through which firms gain access to knowledge to enhance expected economic returns.
- Associational institutions in the form of conventions with regard to inter-organizational collaboration and cooperation, especially associational business behaviour and norms of trust and collective action.

Figure 3: Second Order Growth Interactions and Gross Value Added per Capita for UK Local Authority Areas

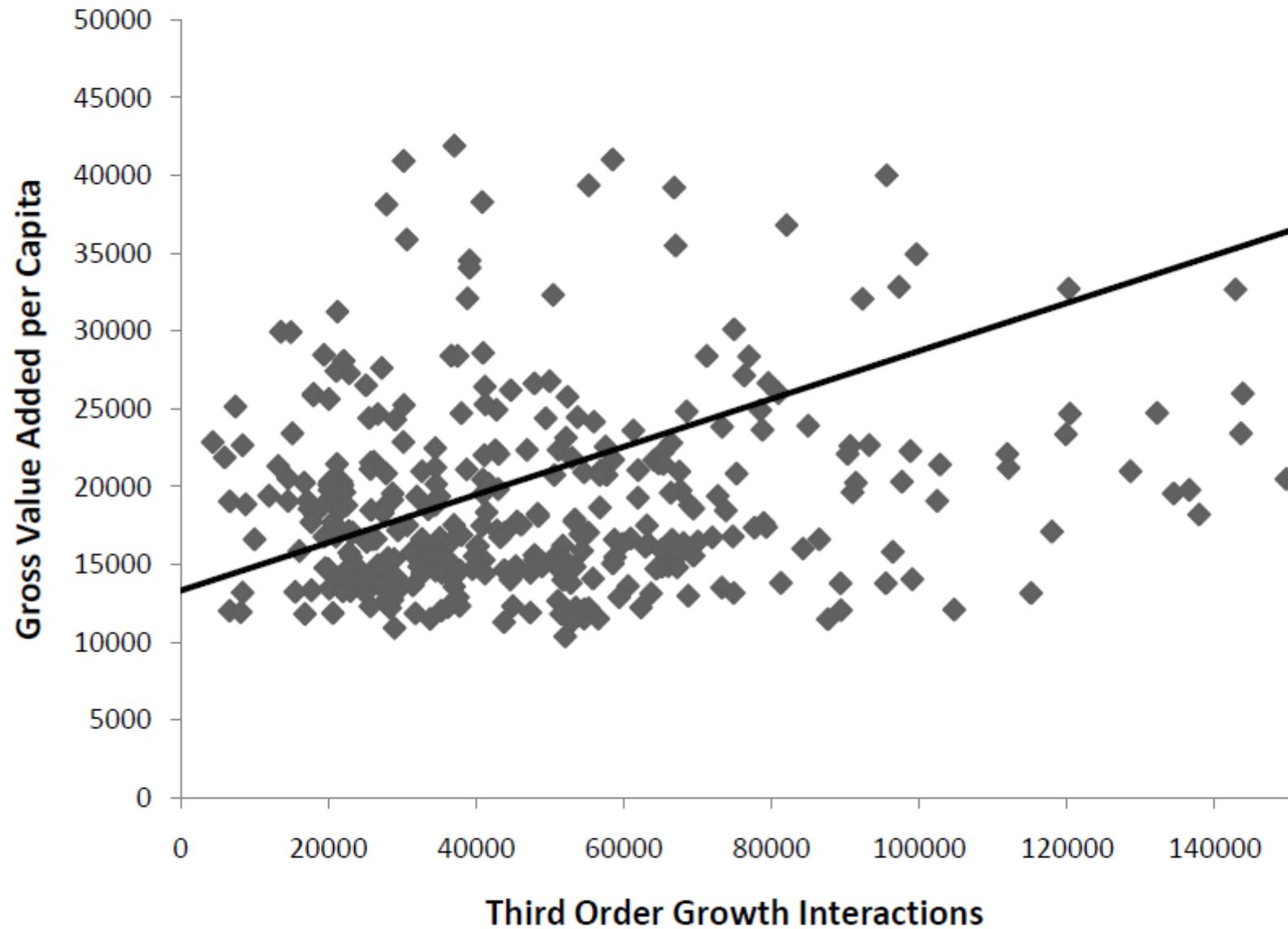


Source: Based on data sourced from Huggins and Thompson (2013)

Third Order Growth Interactions

- Third order urban growth interactions relate to organisational arrangements concerning the overall governance of urban political economies, especially with regard to institutions concerning the ownership of urban and regional assets, in particular physical capital.
- In general, there is a growing recognition that the institutions impacting upon the ownership of capital play an increasingly important role in determining economic outcomes.
- Although a plethora of factors are highlighted in the emerging literature, those with relevance to the urban context include: the public or private ownership of land and infrastructure; the provision of public services; the provenance of public and private business and home ownership; as well as rules with regard to industrial relations, corporate governance and rent seeking behaviour.
- As well as infrastructure projects that directly impact upon a city's economic prospects, a more indirect role of urban and regional government is its role in determining physical capital as manifest by the housing stock of a city.
- The decisions of urban and regional political governance with regard to housing and land use policy may impact on the savings and consumption propensities of its local communities through its role in determining housing patterns and prices.

Figure 4: Third Order Growth Interactions and Gross Value Added per Capita for Local Authority Areas in England and Wales

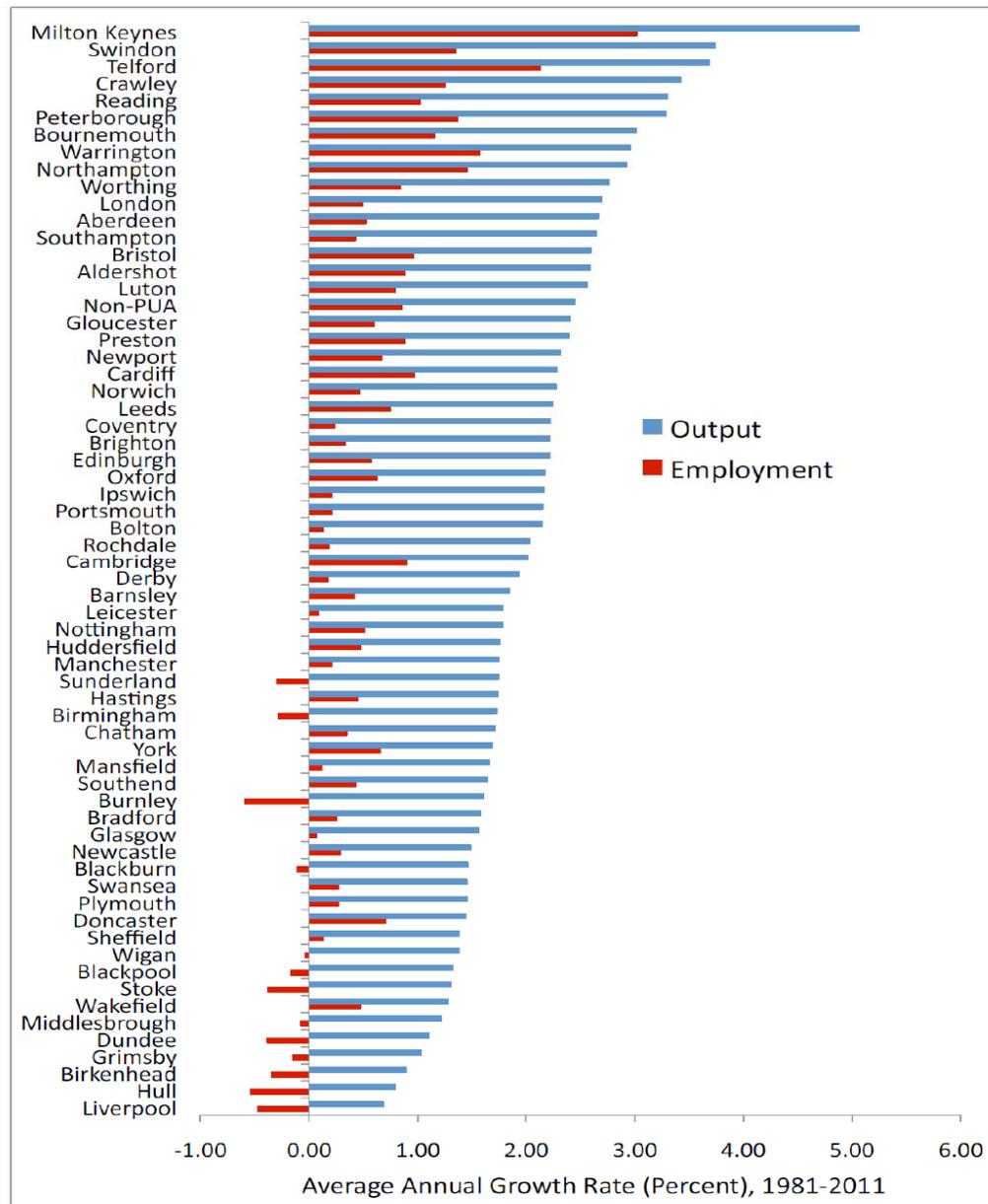


Source: Based on data from the UK Office for National Statistics and Huggins and Thompson (2015b)

Table 1: Forms of Urban Growth System

		Economic Growth	
		Low Growth Cities and Regions	High Growth Cities and Regions
Growth System	Balanced Growth Systems	<p>Low rate of capital accumulation and low quality institutions.</p> <p>Low rate of capital accumulation and low quality institutions across each growth order.</p> <p>Low rate of capital accumulation and low quality institutions within each growth order.</p>	<p>High rate of capital accumulation and high quality institutions.</p> <p>High rate of capital accumulation and high quality institutions across each growth order.</p> <p>High rate of capital accumulation and high quality institutions within each growth order.</p>
	Unbalanced Growth Systems	<p>Low and unbalanced rates of capital accumulation and institutional quality.</p> <p>Low and unbalanced rates of capital accumulation and institutional quality across each growth order.</p> <p>Low and unbalanced rates of capital accumulation and institutional quality within each growth order.</p>	<p>High/low rate of capital accumulation and low/high quality institutions.</p> <p>High rate of capital accumulation and high quality institutions across one or two growth orders</p> <p>High/low rate of capital accumulation and low/high quality institutions within one or more growth order.</p>

**Figure 2.2 Economic Growth (Output and Employment) Across UK Cities
(63 PUAs), 1981-2011
(Average Annual Percentage Change)**



Source: Martin, R., Gardiner, B. and Tyler, P. (2014) The evolving economic performance of UK cities: city growth patterns 1981-2011, Future of cities: working paper, London: Foresight, Government Office for Science.

Table 2: General Features of Economic Growth Systems in High and Low Growth Cities of the UK

	High Growth Cities	Low Growth Cities
<i>First Order Interactions (Firms)</i>		
Human Capital	Evolving global talent centre, fuelled by 'brain attraction'	Stagnant and relatively low skills base, compounded by 'brain drain'
Knowledge Capital	Rich base of knowledge workers, technology, and expertise	Lack of knowledge workers and associated technology and expertise
Learning Institutions	Dense and flexible labour markets	Weak labour markets
Innovation Institutions	High density of public and private sector engagement in innovation	Low density of public and private sector engagement in innovation
<i>Second Order Interactions (Markets and Networks)</i>		
Entrepreneurship Capital	High rates of entrepreneurship and associated venture finance	Below average (national) rates of entrepreneurship and venture finance
Network Capital	High incidence of business network formation and knowledge flows	Relatively low rates of business network formation and knowledge flows
Entrepreneurial Institutions	Plentiful opportunity to access entrepreneurial support mechanisms	Lack of opportunity to access entrepreneurial support mechanisms
Associational Institutions	Strong industrial clustering, especially among firms operating in highly tradable markets	Lack of strong industry clusters
<i>Third Order Interactions (Political Governance)</i>		
Physical Capital	Strong infrastructure, transport systems and built environment	Weak and dated infrastructure
Institutions of Ownership	History of inclusive institutions - centre of public ownership, especially since 1970s, key location for the head-quarters of large domestic and international firms	History of extractive institutions - extractive industries, dependency on the branch plant activity of international firms

Conclusion

- This paper has presented an evolutionary systems based approach to connecting endogenous capital accumulation and institutional theories of urban and regional growth as a means of delineating a framework to better understand how investment in capital assets, especially intangible assets, are related to the institutions underlying the economic functioning of cities and regions.
- In the past, both capital accumulation and institutional theories of growth and development have been criticised by some scholars for their lack of explanatory power, which is perhaps a result of each theory being viewed somewhat in isolation.
- A meshing of these theoretical approaches, however, indicates that urban and regional growth is a highly endogenous, recursive and evolutionary process whereby the interaction between capital and institutions at a number of different, yet interdependent, layers of organisational arrangement may offer more explanatory power.

Thank you