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# Conceptualizing Financial Resilience: The Challenges for Urban Theory

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# Conceptualizing Financial Resilience: The Challenges for Urban Theory*

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**Abstract**

This chapter outlines an urban theory of 'financial resilience' that accounts for the fact that the concurrent processes of urbanization and financialization render the economic system at once resilient and unstable. The notion of financial resilience thus conceived helps to advance our understanding of the processes of globalized urbanization in an era of financialized capitalism. Rejecting the classical notion of 'monetary neutrality', such a theory of resilience highlights that the particular behavioral attributes of a capitalist economy evolve around the (spatial) impact of money, credit and finance upon system behavior. One of my central claims in this regard is that the resilience of the monetary-financial system is an enduring theme that characterizes the historical reality of the American metropolis. The position outlined here envisions establishing 'financial resilience' as an analytical concept for urban theory that captures the systemic behavior of capitalist development in terms of the historical and institutional co-evolution of the process of urbanization and the monetary-financial system as a whole. In relating financial resilience to modes of urban capitalist governance and regulation, the discussion of the spatial aspects of financial resilience is cast both in terms of an *institutional view of resilience* (the resilience of both micro- and macro-level entities) and, in terms of a *functional view of resilience* (the resilience of funding flows and asset flows).

*Keywords*: Financial resilience, non-neutrality of money, monetary-financial system, urbanization, financialization.
*JEL classification*: B52, E42, G28, R1.

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# Short author bio

David Bieri is Associate Professor in the School of Public and International Affairs. His current research examines the dynamics of financialization and its role in the process of urbanization. He also writes about regulatory aspects of international finance and global monetary governance. Previously, Dr. Bieri was a faculty member at Taubmann College at the University of Michigan. Prior to returning to academia, Dr. Bieri held various positions in central banking at the Bank for International Settlements in Switzerland and in investment banking in London. Personal website: www.david-bieri.com

> "To analyze how financial commitments affect the economy it is necessary to look at economic units in terms of their cash flows. The cash flow approach looks at all units – be they households, corporations, state and municipal governments, or even national governments – as if they were banks." – Hyman Minsky (2008, p.221)

# 1 The 'resilience turn' in urban theory

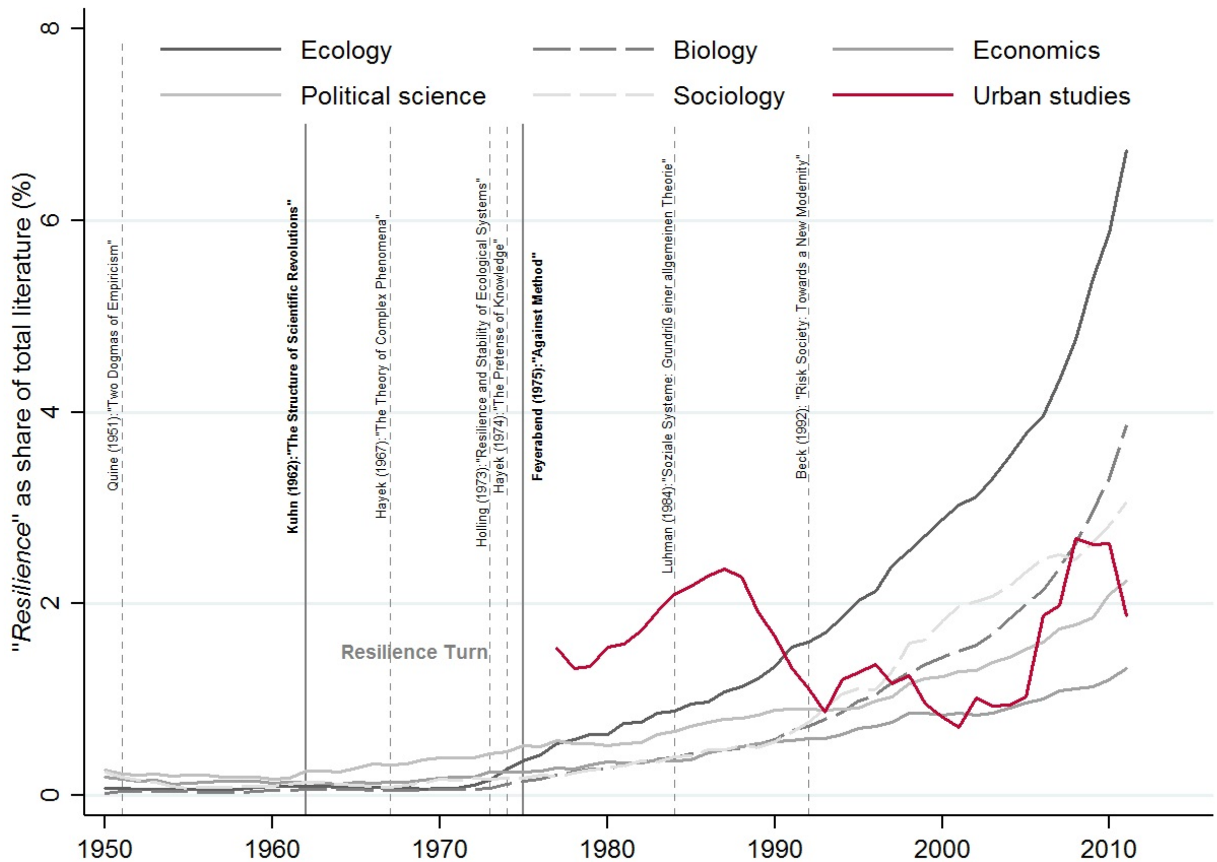
In the wake of the recent financial crisis, the notion of 'resilience' has become firmly established in a wide range of academic and political discourses as well as in contemporary practice. 'Resilience thinking' has emerged as a palatable vignette that is readily accessible to a broad variety of urban scholars, promising to open up a truly pluralistic discourse among otherwise deeply fragmented social science disciplines and sub-disciplines. Paradoxically, perhaps, much of the idea of resilience's wide appeal is rooted in its own conceptual fuzziness. In most instances, it remains difficult to define what precisely is meant by resilience, what its components are, how it is measured, how it relates to the long-term trajectory of global, regional, and local development, and what it offers as a means of understanding inter- and intra-regional social disparities. Indeed, despite such a wide-spread embedding of resilience in the conceptual framework and analytical toolkit of urban and regional research, considerable ambiguity about key ontological dimensions of resilience continues to persist.[1] Resilience of *what*? Resilience towards *what*?

Instead of being a panacea for a unifying common ground, the ostensibly intuitive qualities of the concept of resilience may yet turn out to contain the seeds of its own demise as far as 'scientific usefulness' is concerned. Resilience is thus at risk of the same academic profusion that has rendered 'sustainability' by and large an unhelpful analytical category. What then are the prospects for resilience not to morph into an ideational Trojan horse for urban and regional theory? This raises the deeper question of whether the 'metaphysical ambiguity' in the conventional resilience discourse itself presents an insurmountable, latent hazard, capable of undermining any project to develop an internally consistent theory of urban and regional resilience.

In dealing with these challenges, this chapter proposes the argument that resilience's future as a useful theoretical and empirical concept depends entirely on its precise ontological and epistemological grounding in the intellectual tradition of a specific class of urban and regional theory. More specifically, I suggest that resilience as an analytical concept can play a pivotal role in advancing our understanding of the *process of globalized urbanization in an era of financialized capitalism*. As such, this chapter introduces the notion of '*financial resilience*' as a particular lens for reading the spatio-temporal evolution of financially sophisticated capitalist economy – a lens that above all engages with the question of why the concurrent processes of urbanization and financialization render such an economy at once *resilient* and *unstable*.

[1] In the context of 'regional resilience', see Hassink (2010) and Martin (2012) for some recent conceptual and empirical progress in terms of identifying epistemological pitfalls and addressing the definitional fuzziness of the concept.

Figure 1: **The 'resilience turn' in the social sciences**




*Notes*: Bibliometric frequency analysis for the share of journal articles that have 'resilience' in the title, abstract or as keyword. Vertical lines mark the publication of an influential text in the literature on resilience. *Source*: Author's calculations from JSTOR data.

However, before engaging with the main thesis of this chapter, it is helpful to situate our discussion of resilience and urban theory within a broader conceptual genealogy of the idea of 'resilience' in the social science literature.[2] A cursory tracing of the origins of resilience thinking suggests that it emerged rapidly after a period of deep epistemological and methodological introspection in the philosophy of science during the 1960s and early 1970s – a period that I will henceforth refer to as the 'resilience turn'. Thus delineated, the 'resilience turn' roughly coincides with the publication of Kuhn's (1962) seminal *Scientific Revolutions* and fully takes off around the time of Feyerabend's (1975) radical manifesto *Against Method*. Figure 1 documents the remarkable rise of resilience thinking in the academic literature after the resilience turn. In particular, the graph highlights the concept's importance in a rapidly expanding literature in ecology from where it first rose to prominence and eventually spread to other disciplines – a development that is commonly attributed to Holling's (1973) seminal article "Resilience and Stability of Ecological Systems".

[2]See Walker and Cooper (2011) for an alternative, more comprehensive reading of the genealogy of resilience.

While ecological notions of resilience would have certainly appealed to social theory in their own right, the rapid absorption into the social sciences was undeniably precipitated by Hayek's (1967, 1974) foundational work on complexity in economic systems. It was this novel thinking and its theoretical focus on the behavior of complex adaptive systems that provided much of the intellectual accelerant that allowed the resilience literature to spread into economics, sociology, and political science. In the urban studies literature, notions of resilience first rose to prominence during the late 1970s in the context of more planning-oriented problems that dealt with issues in the realm of traditional disaster risk management, such as flooding, earth quakes, or other natural disaster. This remains one of the predominant strands of the urban resilience literature today, particularly as it pertains to climate change adaptation.

At the same time, however, the last decade or so has also seen the emergence of important alternative bodies of work on urban resilience around normative dimensions of *resilience as (neoliberal) governance* on the one hand, and around *resilience in urban political ecology* on the other.[3] As such, resilience thinking offers an attractive conceptual bridge that spans much of the vast interdisciplinary grounds among spatially-inclined social scientists - an exceptionally appealing feature of the concept in light of rapid disciplinary specialization. Indeed, it is arguably for these very reasons that resilience thinking has regained much of its original appeal as an organizing principle in post-crisis theorizing today, particularly among urban theorists (cf. Figure 1).

In the wake of the financial crisis, a third strand of literature on urban and regional resilience has established itself, focusing on the concept's relevance with regard to the economic performance of cities and regions. This literature tends to be broadly organized around public policy efforts of 'constructing' or 'building' *regional and urban economic resilience* in the face of unanticipated shocks.[4] In the next section, I begin to develop the idea of 'financial resilience' in more detail against the backdrop of this specific strand of literature on regional resilience, while, at the same time, recognizing the specific relevance of institutional and functional elements of the governance discourse on resilience.

## 2 Conceptualizing financial resilience

In what follows, I attempt to outline a theory of financial resilience that is relevant for a financially sophisticated capitalist economy. One of the key tasks of such a theory is to engage with the concurrent processes of urbanization and financialization that render the economic system at once *resilient* and *unstable*. As I explore in more detail elsewhere (Bieri, 2016), the notion of financial resilience might help advance in important ways our understanding of the *processes of globalized urbanization* in an era of *financialized capitalism*. At the core of this argument stands the Post-Keynesian (and

[3]See Chandler (2014) and Pough (2014) for accessible summaries of the recent literature on resilience as governance, and Angelo and Wachsmuth (2015) for the resilience literature on urban political ecology.

[4]Martin and Sunley (2015) provide a comprehensive overview of the recent resilience literature on regional economic development.

to some extent Marxian) notion that capitalism is essentially a financial system in which money is not 'neutral'.[5] Such a theory of resilience rejects the classical notion that the monetary sector is merely a proverbial veil behind which the fundamental exchange processes of a barter economy take place. Instead of assigning money and financial interrelations at best a role for short-term frictions, the view developed here theorizes money as a particular form of credit that is created by government ('outside money') and the banking sector ('inside money'), thus assigning it direct relevance for the determination of real sector phenomena.[6] In fact, in a remarkable flouting of the conjecture of monetary neutrality, the financial crisis was powerful proof that money and credit are also – always and everywhere – local phenomena with real effects.

Consequently, the particular behavioral attributes of a capitalist economy evolve around the (spatial) impact of money, credit and finance upon system behavior. One of my central claims in this regard is that money is *non-neutral with regard to space*, principally because the institutional arrangements of finance matter for how the built environment evolves (Bieri, 2013, 2014b, forthcoming). In particular, the resilience of the monetary-financial system is an enduring theme that characterizes the historical reality of the American metropolis.[7] Focusing on the spatial consequences of the U.S. financial system since the 1830s, I argue elsewhere that a general theory of urban rise and decline must establish explicit linkages between money, credit and banking and urban spatial structure (Bieri, 2014a).

## 2.1 Dimensions of financial resilience

The project of theorizing 'financial resilience', then, is not limited to simply describing the behavior of financial characteristics of singular actors - such as, e.g., the indebtedness of households, the solvency of firms, or the liquidity of government - in terms of a specific temporal trend of an accounting ratio or an economic benchmark. Nor should conceptualizations of financial resilience be reduced to mere illustrative exercises that document the changing dimensions of fiscal, financial or monetary relations among various spatial aggregates (cities, regions or nations). Instead, the position outlined here envisions establishing 'financial resilience' as an analytical concept that captures the systemic behavior of capitalist development in terms of the historical and institutional co-evolution of the process of urbanization and the monetary-financial system as a whole. In relating financial resilience to modes of capitalist governance and regulation, it will be useful to cast the discussion of the spatial aspects of finan-

[5]The notion of 'monetary neutrality' is a central tenet of neoclassical mainstream economics, suggesting that the spheres of money and production are analytically distinct. By contrast, heterodox monetary theories – including Marxian, Institutional, and Post-Keynesian – emphasize the importance of the financial sector as a source of fluctuations in the real sector, thus opening up a pathway for the non-neutrality of money.

[6]The distinction between 'outside money' and 'inside money' goes back to seminal work of Gurley and Shaw (1960). In this context, 'outside money' is either of a fiat nature or backed by some asset that is not in zero net supply within the private sector (e.g. gold), whereas 'inside money' is an asset backed by any form of private credit that circulates as a medium of exchange.

[7]The term 'monetary-financial system' reflects the view that monetary institutions and financial markets now overlap to such a degree that they are best viewed as parts of a larger whole (cf. Chandler, 1979; Bieri, 2009).

cial resilience both in terms of an *institutional view* of resilience (i.e. the resilience of both micro- and macro-level entities, from households, financial intermediaries and governments to monetary arrangements and financial markets) and, perhaps more importantly, in terms of a *functional view* of resilience (i.e. the resilience of funding flows and asset flows).[8]

Table 1: **Dimensions of financial resilience**

| | *Micro-financial resilience* | *Macro-financial resilience* |
|---|---|---|
| *Institutional focus* | Liquidity and solvency of individual firms, households, or (local) governments; rate of profit, financial leverage | Aggregate sectors of the economy (financial corporations, non-financial corporations, households, government) |
| *Functional focus* | (Spatial) flow of funds (credit, assets) | Distribution of income (macro-importance of financial industry; 'financialization') |
| *Resistance*: Reaction to a shock | Volatility of profit margins; financial leverage | Amplitude of financial cycle, financial fragility |
| *Recovery*: Speed of 'bounce-back' | Adjustment of corporate profit margins; de-leveraging of individual balance sheets | Length of financial cycle |
| *Re-orientation*: Change post-shock composition | Profitability of financial vs. non-financial corporations; post-crisis leverage | Increasing or decreasing financialization, regime of accumulation |
| *Renewal*: Re-direction of (growth) path | Level of corporate profitability; fiscal sustainability | Financial stability, 'secular stagnation' |

*Source*: Bieri (2016).

As a baseline for what follows, Bieri (2016) distinguishes between 'micro-financial resilience' and 'macro-financial resilience' in applying this institutional and functional approach to Martin's (2012) four dimensions of resilience (resistance, recovery, re-orientation and renewal). The cornerstones of this approach are summarized in Table 1 below. Beyond the straightforward scalar dimensions of financial resilience implied by Table 1, financial resilience emerges as an inherent quality of the capitalist process, simultaneously operating in various guises as the system evolves. In addition to a differentiated treatment of the *spatial dimensions* of money and finance, the discourse on financial resilience also needs to grapple with the phenomenon of *temporality*, rising above the wide-spread conflation of historical and logical time that plagues much the conventional treatment of resilience.[9] This requires analytical clarity about the concept of time in so far as it matters for how economic systems evolve

[8]Institutional notions of 'financial resilience' are increasingly gaining traction as a policy target among central bankers in the context of a broadening of the scope of what macro-prudential policy ought to focus on. As a policy target, the term 'financial resilience' offers as alternative to 'financial stability', capturing systemic interconnectedness and tail risks (e.g. Berry, Ryan-Collins, and Greenham, 2015; Mester, 2015). See Bieri (2016) for a more detailed treatment of this literature and its relation to the broader notion of 'financial resilience' introduced in this chapter.

[9]Economic theory generally distinguish between 'logical', 'mechanical' and 'historical' time. See Setterfield (1995) for an overview of these different concepts of time in the history of economic analysis. Most relevant for

and for their tendency to exhibit (in)stability or to revert to a specific development trajectory in particular. Time is indispensable in the discussion of all phenomena related to equilibrium, resilience, and path-dependent development, precisely because all economic activity – as Joan Robinson (1969, p.23) puts it – "takes place in the present, firmly inserted between an uncertain future and an immutable past". Taking seriously the implications of historical time as analytical device that famously "prevents everything from happening at once", a theory of financial resilience offers the prospect for advancing a framework that reconciles Post-Keynesian and Marxian perspectives on money, credit and banking as spatial theories of the medium term and long term, respectively.[10]

Overall, then, financial resilience is a scale-dependent spatio-temporal property of financialized capitalism, providing a framework through which to theorize the spatial consequences of notions of governance, (dis)equilibrium, and regulation. A prospective urban research agenda on financial resilience has to be deeply anchored in the analytical tradition of political economy, rendering it compatible with a critical discourse on resilience more broadly conceived. Without overemphasizing the contemporary relevance of C.P. Snow's (1961) 'two cultures' in this regard, notions of financial resilience rooted in social science thought thus ought to be theorized in ways that prioritize nuances among different *ideas*, the evolution of socioeconomic *institutions*, and the particularities of historical *events*. Not in terms of imported metaphors such as 'entropy', 'exaptation', and 'metabolism'.

## 2.2 Resilience = $f$(equilibrium, regulation, complexity, governance)

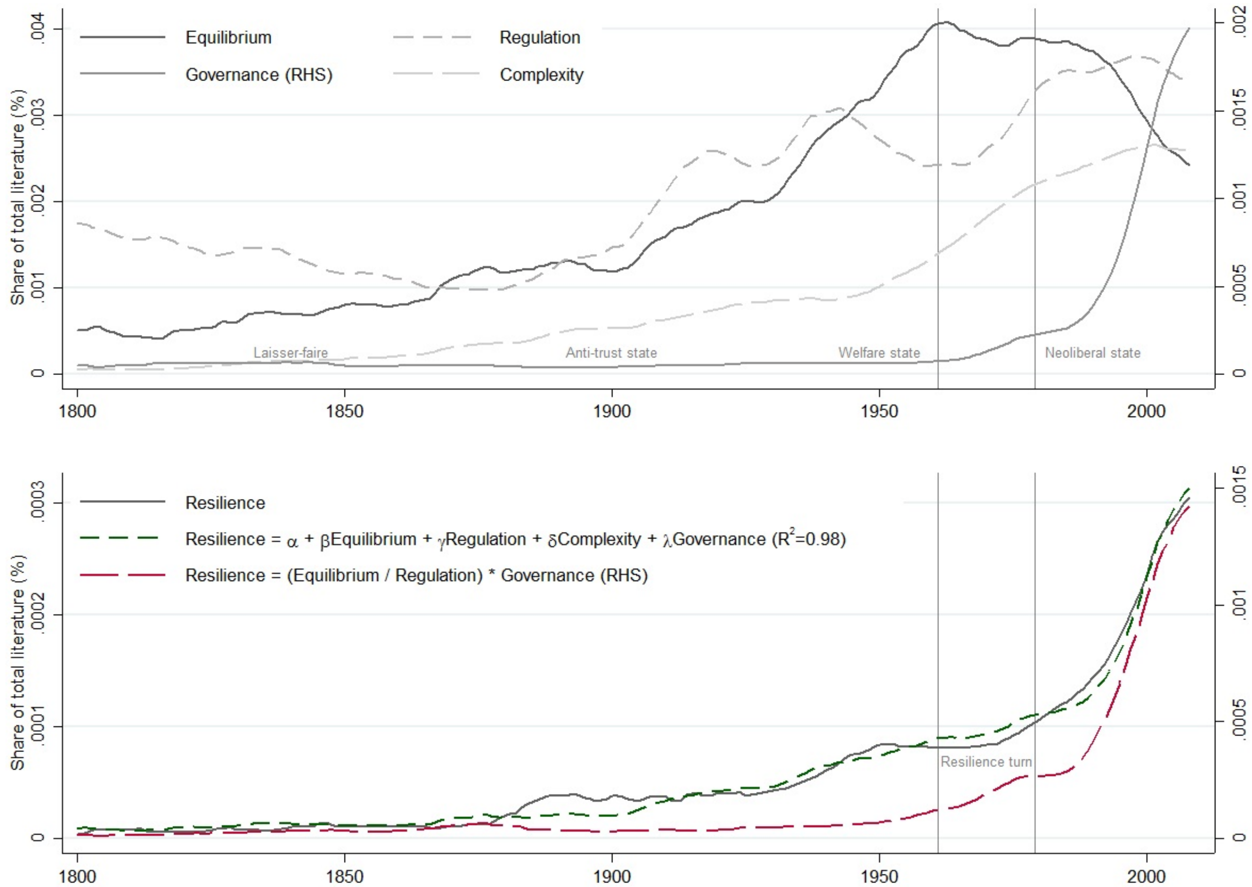
In our conceptualization of resilience as part of urban theory thus far, this chapter argues that financial resilience offers a particular analytical lens through which to view the spatial development of cities as inextricably linked to the evolution of the modern monetary-financial system. In this context, it becomes necessary to sketch out some latent ontological issues related to the term 'resilience' itself that deserve a broader engagement when employing the term for the purposes outlined above. Above all, the definitional uncertainty of resilience is many ways is very reminiscent of a few other terms that are central to the structure and substance of how related disciplines in the social sciences conduct their discourse on the nature and evolution of capitalist regimes. These concepts are 'equilibrium' and 'regulation' in economics and 'governance' and 'complexity' in political science and its sub-disciplines. In some ways, tracking the changing focus on and prevalence with which that each of these concepts appears in the literature permits some limited inference on the larger shifts and turning points among the basic tenors of specific disciplinary discourses.

One appealing way of substantiating this claim is by a simple lexical analysis of the terms 'equilibrium', 'regulation', 'complexity, and 'governance' across major his-

our discussion here is the concept of 'historical time' and key attribute that "past, present and future are qualitatively different, linked by expectations and plan" (Termini, 1981, p.10).

[10]See also Duménil and Lévy (1999, 2012) for recent efforts that focus on the role of historical time as a means for reconciling Post Keynesian and Marxian perspectives.

Figure 2: **The rise of 'resilience' as a 'derived concept'**




*Notes*: Bibliometric frequency analysis for the share of English language books that contain the respective search works in the text. The bottom panel visualizes the rise of 'resilience' in the literature as a simple linear transformation of the concepts of 'equilibrium', 'regulation', 'complexity' and 'governance'. The parameterized version of the linear prediction for resilience is Resilience $= -0.001 + 0.016 *$ Equilibrium $+ 0.004 *$ Regulation $+ 0.011 *$ Complexity $+ 0.121 *$ Governance (with all parameters are significant at the 1% level; adjusted $R^2 = 0.983$). *Source*: Author's calculations from Google Books Ngram data set.

torical epochs of capitalist development.[11] The top panel of Figure 2 visualizes the frequency with which each of the four concepts has evolved in the literature over the past two centuries or so.[12] Among the most striking features of this graph, perhaps, is the fact that the occurrence of the term 'governance' is a much more recent phenomenon than the long-standing uses of 'equilibrium' and 'regulation'. In fact, the widespread use of the term 'governance' broadly coincides with the rise of the neoliberal state and the market-based public policy recommendations that are commonly

[11] Pechenick, Danforth, and Dodds (2015) discuss the scope and limitations to inference in the use of the frequency trends from the Google Books data sets as indicators of the popularity of various words.

[12] The year 1800 is used as an arbitrary cut-off point as it loosely represents the beginning of the industrial revolution and its associated rise the writings of the Classics in the history of economic thought, straddling the publication of Smith's (1776) *Wealth of Nations* and Ricardo's (1817) *Principles of Political Economy and Taxation*.

associated with the 'Washington Consensus'.[13]

In a similar sense, relative usage of the term 'regulation' maps fairly neatly into different thought paradigms in terms of the state-market nexus – ebbing for much of the Golden Age of 'laisser-faire' during the 19th century, then rising rapidly at the dawn of the age of the antitrust movement during the Progressive Era in the early 20th century until reaching a temporary peak as the Western liberal democracies and their welfare states emerge triumphantly from World War II. As 'regulation' becomes the norm during the early post-war period, its cultural usage declines until – in the wake of the collapse of Bretton Woods, the OPEC oil shocks, and stagflation – the crisis of Keynesianism ushers in a new age of de- and re-regulatory thinking which sees both the emergence of the French Regulation School and its North American pendent, the 'social structure of accumulation' theory.[14]

With regard to the term 'equilibrium', the monotonic rise of its usage peaks during what can be best described as the beginning of the 'end of history' in orthodox economics. This is an epoch where Samuelson's (1947) *Foundations of Economic Analysis* – the origins of the neoclassical synthesis – sets the general tone for how economic theory was undertaken for many years after the World War II, reaching its intellectual climax with the Arrow-Debreu characterization of general equilibrium.[15] Figure 2 also suggests that the period we have identified above as the 'resilience turn' is a particularly pivotal epoch of socio-cultural and linguistic evolution in terms of the four expressions 'equilibrium', 'regulation', 'complexity, and 'governance'.

One way to visualize the close connection between the rise of 'resilience' and the ideational trajectory of the social sciences is by mapping the use of 'resilience' as a function of the above four terms. The bottom panel of Figure 2 emphasizes that the lexical frequency pattern of the term 'resilience' can be almost perfectly expressed as a linear projection of these four concepts. In fact, the remarkably tight fit of a simple linear model suggests that almost 99 percent in the variability of the textual usage of 'resilience' can be explained by a weighted average of the other four concepts. Put differently, 'resilience' constitutes a '*derived concept*' whose principal components – 'equilibrium', 'regulation', 'complexity and 'governance' – are deeply and unequivocally rooted in the social sciences.

Beyond its simple arithmetic appeal, this remarkable facet in the emergence of resilience underlines a deeper ontological point, namely that – in the sense of Durkheim – the sociological importance of any concept is tied to an underlying explanatory structure of related ideas. The theoretical conceptualization of resilience appears therefore at its most productive if conducted within an intellectual space that is spanned

[13]See, e.g., Bevir (2010) for an intellectual history of the concept of governance, and critical assessment of how governance fits into contemporary political theory.

[14]See Kotz (1990) for a comparative analysis of the theory of 'régulation' and the social structure of accumulation theory.

[15]In this regard, it might be somewhat surprising, even to economists, how contentious a concept 'equilibrium' has been in the history of thought in economics. It is not an overstatement to suggest that there is more disagreement over the nature of equilibrium in economics than there is agreement. The oft-asserted dominance of Arrow-Debreu Walrasian general equilibrium thinking is historically exaggerated and the apparent hegemony of equilibrium thinking thus largely a result of the post-war reign of orthodoxy of the neoclassical synthesis (Setterfield, 1997).

by the vectors of ‘equilibrium’, ‘regulation’, ‘complexity and ‘governance’.

## 3 Financial resilience and the process of urbanization

Against the background of resilience as a derived concept, I now briefly outline some specific example where important inroads in theorizing the notion of financial resilience in urban theory are to be made, particularly with regard to *monetary disequilibrium*, *financial instability* à la Minsky (2008), and *fiscal imbalances* along the lines of the recent federal ‘fiscal cliff’ in the U.S. and the urban austerity regimes of Detroit-like cities. To be sure, the engagement of ‘financial resilience’ within an urban context ought to incorporate all aspects of the monetary-financial system (theoretical and empirical) much more so than is currently the case. For example, because the hierarchy of money matters for the hierarchy of cities in important ways, money and finance are never ‘neutral’ (in the [neo]classical sense) with regard to space.[16] Consequently, the relational importance of money and finance in an urbanized society – from crowdfunded real estate to securitized mortgages – pins down central aspects of real-financial linkages (Bieri, 2015).

In this sense, Batty’s (2014) recent editorial on “Money and the City” and Peck’s (2012) “Austerity Urbanism” fall short of much needed theoretical and empirical engagement with core aspects of money, credit and banking. In fact, much of what Batty and Peck outline – while very timely – is a case of “Hamlet without the Prince”: Monetary theory plays no more than a superficial role in their argument. Successful theorizing in this regard must move beyond Harvey’s (1985) dominant reading of Marx on the urbanization of capital. We need a spatialized interpretation of modern credit theories of money and their implications for financial resilience in an urban setting. My own work on this subject suggests that we must treat the trajectory of spatial development and the advancement of the monetary-financial system as a joint historical process Bieri (2009, 2013, 2016). Specifically, this work develops an ‘institutional-evolutionary’ perspective in documenting how different regulatory regimes shape the international and interregional flow of funds across space. This research also engages with the fact that the modern monetary system is not only inherently hierarchical in finance, but it is also hierarchical in power. Revisiting August Lösch’s analysis of the spatial consequences of monetary-financial arrangements, I argue that these lesser-known aspects of Lösch work are consistent with a spatialized version of central tenets of Post Keynesian monetary theory (Bieri, 2014b, forthcoming).

Financial resilience thus conceived must also not be a conceptual Robinson Crusoe; it has to relate to existing discourses on ‘financial stability’ and ‘financial fragility’ within a theoretical setting that emphasizes the systemic importance of the monetary-financial system for all sectors of the urban economy. Across different historical regimes, the intrinsic instability of the financial system has governed a dialectical re-

[16] In a related sense, Taylor, Hoyler, and Verbruggen (2010) underline the increasing importance of global (financial) flows within urban networks as opposed to hierarchies, proposing ‘central flow theory’ as a complement to conventional location choice models anchored by Central Place Theory.

lationship between financial regulation and government intervention, in turn leading to financial innovation, which opens up new frontiers across financial space. As part of this dynamic in the wake of financial crisis, politicians and members of the public have attributed much of the blame for a lack of economic resilience to a general breakdown in the (financial) regulatory system, both in the U.S. and elsewhere (Bieri, forthcoming). In this regard, our engagement with financial resilience as part of urban theory offers the opportunity to add to the growing discourse on the social consequences of finance. Given the complex nature of the modern monetary-financial system, much of this discourse exposes researchers to broad variety of seemingly intractable phenomena, ranging from the technical intricacies of financial engineering to the institutional architecture of money and the political economy of its regulatory governance.

A good example of the challenge of theorizing complex monetary phenomena is the continued wide acceptance – particularly among non-economists – of the 'loanable funds doctrine' which maintains that the arrow of causation flows from savings to investments, i.e. bank deposits create loans. Yet, a central insight in the modern monetary thought of Keynes is the observation that the reversal of causality between savings and investments is a historical process whereby the banks in a mature banking system create credit 'at the stroke of a pen' (Chick, 1997). In other words, the historical evolution and resilience of the monetary-financial system determine its operational realities!

Summing up, my central thesis here again is that the long-term survival of resilience as a meaningful term for urban theory must be more closely linked to a rigorous discussion about social science methodology and epistemology. Indeed, a more careful reading and examination of both the intellectual histories of 'equilibrium' and that of 'governance' are indispensable to the future fruitful existence of the term resilience as both an analytical and synthetic concept in the Kantian sense. Additionally, as already discussed before, any attempt to develop a political economy of regional resilience along the lines traced out above would be incomplete without the element of 'regulation', both in the boarder sense of a specific regime of capitalist production and social accumulation and in the narrow sense of the actual (i.e. financial and commercial) rules of the game.

Above all, the study of financial resilience of ought to be part of Walker's (2015) project of 'building a better theory of the urban' by relating explicitly to how scale and space are moderating the relationship between markets, institutions and the state. There is no theory of financial resilience without the clear internal coherence of a theory of the state and a theory of capitalist regulation (classical, Marxian, institutional or post-Keynesian). More generally, discourses on resilience, then, can only break the current ontological deadlock if they manage to relate resilience to theoretically anchored notions of governance, (dis)equilibrium and complexity. In this regard, the ultimate validation of a theory of resilience lies in the extent to which it can address, theoretically or empirically, questions regarding the *spatio-temporal distribution of income from the factors of production*, i.e. the distribution of wages and of rents from land and capital. Such a theory of resilience will be broadly consistent with the scope and limits of contemporary urban theory identified by Scott and Storper (2015).

Barring that, resilience is not an analytic (nor a synthetic) concept with a productive future in urban and regional research. Anything short of a political economy of financial resilience in the full meaning of the term will reduce treatises on the topic to a set of tautological theoretical speculations that are built on the quicksand of metaphysical abstraction. In more concrete terms, the challenge that we should accept is to develop a theoretical framework of resilience that can be expressed in terms of ideas of social science thought, institutional behavior and evolution, specific historical events, and *space*.

# 4 More challenges for urban theory

In light of the above challenges associated with the development of a coherent conceptualization of financial resilience, I wish to return to broader question of the extent to which conceptual ambiguity and definitional fuzziness present a latent hazard to engage resilience as part of a discourse on the scope and limits of urban theory – a topic that remains as hotly contested as ever, despite – or perhaps because of – separate recent efforts to examine the possibility of a 'unified theoretical urban framework' (cf. Marcuse and Imbroscio, 2014; Mould, 2015; Roy, 2015; Schafran, 2014; Scott and Storper, 2015). Whatever the nuanced differences of individual positions in this regard might be, even the most fervent advocates of 'particularism and polycentrism' in urban studies increasingly acknowledge the risks of their own position, especially if this impedes constructive dialogue across theoretical traditions (e.g. Peck, 2015).

While theorizing resilience might indeed be an inherently pluralistic endeavor, such a project must resist the temptation of academic eclecticism without bounds, a feature that is still all too deeply embedded in the ostensibly post-modern, post-structural character of much of contemporary urban theory. The interdisciplinary promise of the literature on resilience plays an instrumental role in this regard in so far as it ought to place more, and not less, emphasis on the need for conceptual grand narrative – in particular, a grand narrative that is faithful to the intellectual tradition of comparative political economy, including a growing '(regional) varieties of capitalism' literature and the (re)discovery of traditional business cycle analysis among urban and regional scholars.[17]

Moreover, the resilient city-region is both a process and an object; not just an all-encompassing totalizing concept that is everything and nothing in particular. Without the prospect for some modicum of dialectical tension between different aspects and categories of the process-object entanglements of resilience, there is not much worth saving. And grand theorizing is also not sufficient – there needs to be some empirical content, not matter how difficult. Much like Brenner and Schmid (2015) flawed theses in their recent postulate for a 'new epistemology of the urban', reflex-

[17] As one of the consequences of the neoclassical orthodoxy's firm grip on much of regional science, the recent literature has generally paid little attention to regional applications to 'business cycle analysis' in the traditional sense of Spiethoff or Schumpeter – except for, perhaps, in the case of the latter, countless references to a superficial understanding of the concept, often relating economic resilience to the cyclicality of activity that is fuelled by 'creative destruction'.

ively theorizing resilience without empirical verification is an intellectual dead-end. To be sure, the particular challenges that arise in this regard are formidable; for example, in dealing with the correlational complexities of inherently interwoven historical and spatial processes. In the age of cheap computational power and 'big data', sound urban empirics are not a foregone conclusion. Instead, empirical work must heed the 'caveat computor!' that has long been standard in the natural sciences – just because we can compute something, does not mean that we should.

### 4.1 Of untested hypotheses and untestable slogans

An alternative way of framing the challenge of conceptualizing (financial) resilience as a useful analytical lens in urban and regional theory is by 'taking Joan Robinson seriously'. While mainstream economists barely remember the relevance of Joan Robinson's (1933) *Economics of Imperfect Competition* other than for what its title implies, the famously provocative, chain-smoking Cambridge economist is perhaps familiar to some urban scholars by the occasional, perfunctory reference in David Harvey's (2006, 2011) writing; mostly to *The Accumulation of Capital* (1969), or the seemingly more accessible – at least to urban scholars – *Essay on Marxian Economics* (1966). My position here is guided by the belief that a discussion of the topic of resilience in urban and regional theory ought to be subjected to the same scrutiny that Robinson exposed the meandering discourse on the philosophy of thought and methodology in economics almost half a century ago. In her own words,

> "Economics has always been partly a vehicle for the ruling ideology of each period as well as partly a method of scientific investigation. It limps along with one foot in untested hypotheses and the other in untestable slogans. Here our task is to sort out as best we may this mixture of ideology and science." – Robinson (1962, p.23)

> "In economics, arguments are largely devoted, as in theology, to supporting doctrines rather than testing hypotheses." – Robinson (1977, p.1318)

In the setting of our discussion here, our task is then defined by seeking to determine how much of the theoretical discourse on resilience is 'untested hypotheses' as opposed to simply 'untestable slogans' that propagate further 'sloppy habits of thought' (Robinson, 1955, 1972) in urban theory in line with a ruling ideology. In order to provide an informative lens that is brought to bear on the analysis of capitalism, resilience thinking must be guarded against what Colander (2014) has recently criticized as the 'wrong type of pluralism' in the social sciences – performative efforts of scholastic introspection that are preoccupied with the gerrymandering of intellectual boundaries, instead of advancing our understanding of the subject matter at hand.

Indeed, one of the biggest intellectual fallacies in this regard emanates from the appeal of translational thinking whereby a loose concept like resilience – by the simple powers of abstraction and naïve hopes of unifying theorizing – is rendered applicable to a broad host of settings. The resulting theoretical fuzziness must not just be viewed as an inevitable cost of this exercise of intellectual cross-fertilization that can be chalked-up against the seemingly endless benefits of hybrid varieties of new urban theory. On the contrary, the common-sense process of simple abstraction and re-application of hard-to-define concepts runs the risk of turning resilience into a 'powerful instrument of miseducation', in staying with Robinsonian (1955) terminology. Both untested hypotheses and untestable slogans at once, such abstractions then propagate 'sloppy habits of thought' as they are handed on from one generation of academics to the next. In this regard, contemporary theories of resilience are silent about definitional aspects that would render the concept more analytically precise. Yet at the same time, empirical quantifiability and measurability are necessary but not sufficient conditions for analytical precision.

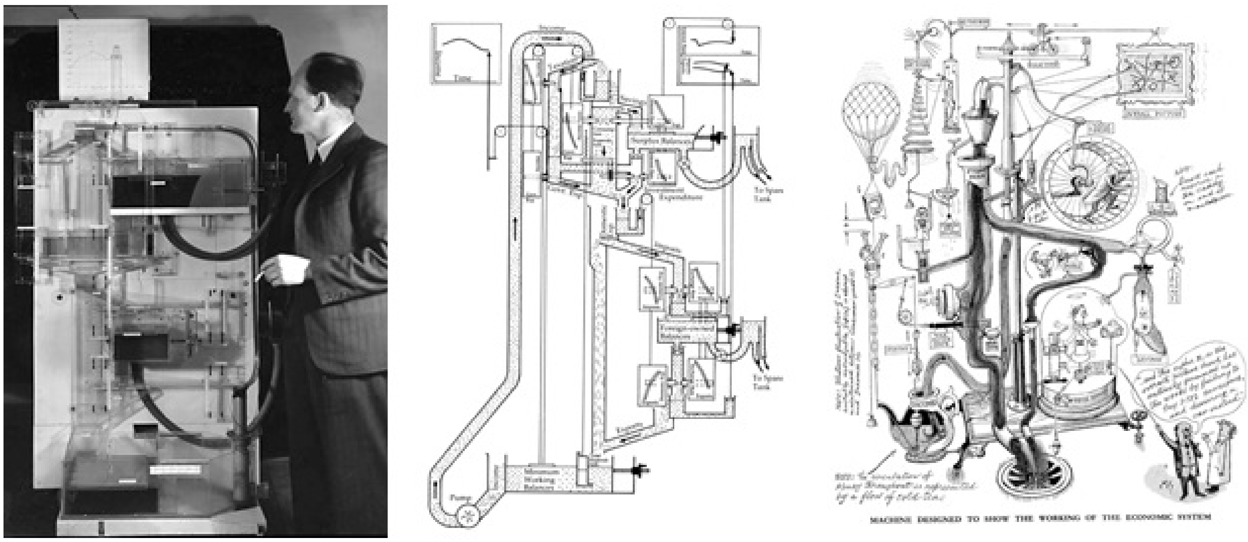
In much of the very practice-oriented discussions on disaster risk management, for example, 'methodological cityism' seems alive and well (Angelo and Wachsmuth, 2015), fuelled by a desire to pin down resilience as the 'innate properties' of a city or region that – if modeled with sufficient accuracy – could advise policy makers by linking cost-benefit ranked outcomes to the optimal distribution of policy decisions (Hansen, 2012; Folke, Carpenter, Walker, Scheffer, Chapin, and Rockström, 2010). Even in work that assumes an outwardly critical attitude towards the concept of resilience (e.g. Weichselgartner and Kelman, 2015), the fuzziness of post-modern splinter narratives continues to undermine the emergence of the resilience discourse from a perennial state of self-incurred intellectual minority.

## 4.2 Against disciplinary amnesia

As Robinson (1962, p.21) reminds us in *Economic Philosophy*, "it is the business of economists, not to tell us what to do, but show why what we are doing anyway is in accord with proper principles". In establishing such proper principles for 'financial resilience' in light of the conceptual complexities outlined above, we are then compelled to overcome a certain sloppiness of thought in precisely how we intellectually engage with both the idea of resilience and the institutions of money and finance in urban and regional theory. Only a combination of theoretical rigor, epistemological clarity and methodological discipline will do. As urban scholars (and social scientists), we must both abandon the well-established pursuit of 'machine dreams' – a tradition that is particularly engrained among mainstream economists (see Figure 3) – and resist the impulse of 'Gaian speculation' that all too readily invokes biologism.

Our engagement with resilience thus has to transcend the conventional dichotomy of resilience as a trait of adaptive complex systems that is rooted in ecosystem thinking or resilience as adjustment to a system's static position prevalent in engineering methodology. Such theorizing smorgasbord-style does not strengthen the case of resilience as a useful concept. In fact, much of the current discourse on resilience is cast in the urgent rhetoric of pragmatist eclecticism that rejects large-scale models in order to argue for complexity and indeterminacy. Denying an explicit role to hypothetico-deductive or dialectical arguments, such thinking obfuscates important distributional aspects resulting from specific policy choices that are justified in the name of resilience (Fainstein, 2015).

Figure 3: **'Machine dreams': Resilience, complexity and equilibrium**




*Notes*: William Phillips' (1914-1975) pioneering efforts to demonstrate the role of circuits of flows and their corresponding economic stocks culminated in the construction of a fully-working, mechanical model of the macroeconomy, the MONIAC (Monetary National Income Analogue Computer), assembled from the spare parts of WWII fighter airplanes (left and middle). Cartoon of the "Phillips Machine" (right). *Sources*: Punch Magazine (1953); Barr (1988).

As we have seen, one core set of questions in this regard is how the discourse on resilience relates to the traditional foci of political economy – the relationships between markets, institutions and the state – and how these relationships are challenged by the scale and complexity of contemporary socio-economic processes that are inherently spatially uneven. From cumulative urbanization to regional imbalances in the flow of capital, the path-dependent trajectories of regional development are inextricably linked to an increasingly financialized character of the global economy. In such a conceptualization of resilience, institutional, network, and political dimensions of resilience are brought to bear on a diverse set of problems such as the organizational transformation of industrial clusters or the adaptation of governance in the context of instability that might emanate from financial markets, political change, or socioeconomic inequality.

Epistemologically, then, it is simply not enough to point out that the narrow origins of the concept of resilience might begin with Holling's (1973) systems approach to ecology. Nor does it suffice, without deeper reflection, to invoke Hayek's (1937) seminal *Economics and Knowledge* as the origin of all neoliberal evil of resilience-based governance. At a minimum, a deeper engagement with the history of thought would reveal just how much of the existing literature on resilience that readily invokes concepts like 'complex adaptive systems', 'dispersed knowledge', and 'emergent properties of self-organization', incidentally draws on the intellectual tradition of Hayek's, von Mises' and Schumpeter's 'Austrian School' – the very tradition that many urban scholars would give a wide berth for its perceived synonymy with 'methodological individualism'.

Such theorizing smorgasbord-style does not strengthen the case of financial resilience as a useful concept. It simply reflects the disciplinary amnesia that permeates much of contemporary urban theory. But for meaningful insights to emerge, we must more readily resist the temptation of simply propagating novel theorizing for its own sake, almost always at the cost of rendering visible and engaging with the longer historical arc of the intellectual development of our own disciplines (cf. Cox, 2014). All too often – and this is simply another aspect of the dangers for the continued relevance of the notion of resilience outlined above – are new theoretical insights in urban theory much less the product of innovative thinking on the proverbial shoulders of giants, but merely an artifact of the trans-disciplinary amnesia induced by the haze of post-modern speculation.

# 5 Concluding thoughts

Every discipline has a set of stories that it tells itself about its own coming into being, about its own intellectual history. It is not unusual that these internal narratives often deviate quite significantly from the observations that a commentator external to the discipline might make. In many ways, comparing the perceived discrepancies and incongruities of the internal versus the external histories might bring to light the greatest insights about the pressing issues in a given discipline.[18] All too often, unfortunately, the well-worn grooves of our own disciplinary association prevent us from making such productive insights. In addition to introducing the notion of financial stability as lens for our understanding of the process of globalized urbanization in an era of financialized capitalism, it has been the immodest ambition of this chapter to offer an alternative set of external observations on the resilience discourse and urban theory. In doing so, I have attempted to outline, however cursorily, a theory of a political economy of resilience as conceptual alternative to what I perceive to be an impasse of resilience thinking in contemporary urban theory – a condition that, and this is an alternative reading of the main argument put forward in this chapter, has hitherto permitted too much sloppy thinking around the concept of resilience.

The relationship of markets and government – a topic of utmost relevance for any theory of resilience (or so one would think) – provides a final case in point in support of this claim. While it would be surprising to find many among the readers of this book who would subscribe to the view that markets have been in decline over the last two centuries or so, this is, however, precisely the view that a notable group of economists espouse, particularly in organizational theory and economic sociology. For example, Herbert Simon (1955), the 1978 Nobel Laureate in economics, famously argued that markets have been in decline since the time of Adam Smith as in the modern economy the bulk of activities take place *inside* of corporations. That is the boundary between two of the central social institutions for solving problems of economic coordination, i.e. organizations and markets, has continually been

[18] A great case in point of such divergent accounts of disciplinary evolution is Scott's (2000) formidable intellectual chronicle of economic geography's rise as a field after WWII.

shifting away from markets, to the extent that the invisible hand is now largely very visible. While this interpretation of the evolution of markets might give some of us pause, it might at the same time simply be the opposite side of the argument of marketization under neoliberalism, whereby an increasing entanglement of markets and the state leads to ways to provide public goods by involving the private sector in the planning, financing, building and operating of a range of services, facilities, infrastructure (Birch and Siemiatycki, 2015).

Contributing to a grand narrative on the nature of finance-led capitalist development, a theory of financial resilience as sketched out in this chapter thus aims to provide an inductive counterbalance to the proliferation of language games, scholasticism, and deconstructive manœuvres that dominates much of contemporary urban theory on the one hand, and to the excessive rationalism of deductive abstraction of some of the dominant contemporary thinking in (regional) economics, on the other hand. In this sense, such an endeavor shares much intellectual common grounds with McCloskey's (1994) 'interpretive economics' where the social construction of the subject at hand is viewed as a process that is institutionally anchored and constantly reconstituted by the forces of power and knowledge.

Financial resilience theorized thus does not reject rationality outright – it keeps a rational core that explains the functioning of a particular system while relying on descriptive components to explain the totality of economic activities. With a historical focus similar to that of the work of Weber and Schumpeter, a political economy of financial resilience – in the true sense of the term – depends on context and aims to marry economic analysis with political, sociological or cultural insights. Beyond the 'partial cognition' of much of the dominant discourse on resilience, our project aims high to visualize the urbanized *Gestalt* of financialized capitalism, in all its spatio-temporal guises. In this sense, financial resilience can contribute to the study of capitalism as a totality that neither resulted from a concentration of experience nor from hypothetical abstractions of some logical principle alone – neither empirical phenomena nor constructed ideal types are capable of exhausting the term 'capitalism'. They just constitute a limited understanding, whereas resilience thinking relies on a synthesis of these elements to achieve 'total cognition' (*Gesammterkenntnis*). Synthesizing urban and regional context with value-rationality allows a well-developed theory of financial resilience to be strong where natural science is weak, equally grounded in the original traditions of Marx and Ricardo or Schumpeter and Keynes, with the political economy as *the* focal point of social science inquiry.

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